Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2023

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 000-21617

ProPhase Labs, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**23-2577138**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
711 Stewart Avenue, Suite 200 **Garden City, New York**	**11530**
(Address of principal executive offices)	(Zip Code)

(215) 345-0919
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $0.0005 par value per share	**PRPH**	**Nasdaq Capital Market**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "large accelerated filer", "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes☐ No ☒

The aggregate market value of the registrant's voting and non-voting common stock held by non-affiliates was $100,240,301 as of June 30, 2023, based on the closing price of the common stock on The Nasdaq Capital Market on such date.

As of March 15, 2024, there were 18,045,209 shares outstanding of the registrant's common stock, par value $0.0005 per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement relating to its 2024 annual meeting of stockholders (the "2024 Proxy Statement") are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The 2024 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

TABLE OF CONTENTS

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("Annual Report") contains "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of historical facts, included in this Annual Report, including statements related to future events and our future financial performance are forward-looking statements. Forward-looking statements typically are identified by use of terms such as "anticipate", "believe", "plan", "expect", "intend", "may", "will", "should", "estimate", "predict", "potential", "continue" and similar words although some forward-looking statements are expressed differently. Forward-looking statements include, but are not limited to, statements concerning:

- our anticipated expenses, ability to obtain funding for our operations and the sufficiency of our cash resources;
- our strategic plans for our businesses, product candidates and research programs;
- our anticipated timelines for clinical trials, regulatory filings and regulatory approvals for our product candidates, dietary supplements and diagnostics;
- the beneficial characteristics, therapeutic effects, and potential advantages of our product candidates, dietary supplements and diagnostics;
- our efforts to augment internal manufacturing capabilities and operation of our manufacturing facility;
- anticipated developments related to our competitors and our industry; and
- estimates regarding the sufficiency of our existing capital resources to fund our future operating expenses and capital expenditure requirements.

You are cautioned that forward-looking statements are not guarantees of performance and are subject to known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance, achievements or prospects to be materially different from any future results, levels of activity, performance or achievements expressed or implied by the forward-looking statements. Many of these factors are beyond our ability to predict.

You should also consider carefully the statements under other sections of this Annual Report, including the Risk Factors included in Item 1A, which are summarized below, which address risks that could cause our actual results to differ from those set forth in any forward-looking statements. Our forward-looking statements speak only as of the date of this Annual Report. We undertake no obligation to publicly update or review any forward-looking statements, whether as a result of new information, future developments or otherwise except as otherwise required by law.

SUMMARY OF RISK FACTORS

You should consider carefully the risks described under the "Risk Factors" section and elsewhere in this Annual Report. These risks, which include the following, could materially and adversely affect our business, financial condition, operating results, cash flow, and prospects, and cause the trading price of our common stock to decline:

Risks Related to Our Business Generally

- We have incurred significant net losses and accounts receivable that could materially, adversely affect our results.
- We have limited cash on hand and may need substantial additional funding by incurring indebtedness or issuing common stock or other securities to finance our operations.
- Our failure to manage our growth successfully could harm our growth and operating results.
- Our businesses are subject to significant competitive pressures.
- Unfavorable global economic conditions could adversely affect our business.
- Disruptions to our supply chain or increases in the price of materials could materially, adversely affect our results.
- The adulteration of materials could materially and adversely affect our business.
- We may be subject to product liability claims.
- Additional capital to support our businesses may not be available.
- System failures, security breaches or cyberattacks could adversely affect our business.
- We may not be successful without our key personnel.
- We may not be successful in executing our growth strategy.
- We may not be successful with our expansion in the Middle East and North Africa ("MENA") region.

Risks Related to Our Diagnostics Business

- We may be unable to substitute the revenues from our lab diagnostic services ortests with new business segments.
- Our ability to reduce our accounts receivable depends on our collection of payment for the diagnostic tests we delivered, which we may not be able to do successfully as the process is complex and time-consuming, and any delay in collecting claims could have an adverse effect on our revenue.

Risks Related to Our Personal Genomics Business

- We may not successfully establish our presence in the personal genetics market. Our estimate of total market for personal genomic services may be inaccurate
- Concerns regarding privacy and use of genetic information may decrease consumer demand for our product.
- If we lose a significant or sole supplier, our business and operations could be materially adversely affected.
- Any significant disruption in service could harm our reputation and may result in a loss of customers.
- Our personal genomics business is subject to seasonal fluctuations.

Risks Related to our Contract Manufacturing and Dietary Supplement Business

- Disruptions at the manufacturing facilities, loss of certifications or other problems between customers and, our wholly owned subsidiary, Pharmaloz Manufacturing, Inc. (“PMI”) could adversely affect our business.
- Our PMI manufacturing business is subject to seasonal fluctuations.
- Our contract manufacturing and dietary supplement businesses are subject to extensive governmental regulation.
- Our product development and commercialization efforts may be unsuccessful.
- If our products do not have the effects intended or cause undesirable side effects, our business may suffer.
- We may fail to meet market demand, and regulatory authorities may not accept our facilities.

Risks Related to Our Drug Development Operations

- Our product candidates are still in pre-clinical development, and it will be many years before our wholly owned subsidiary, ProPhase BioPharma, Inc. (“PBIO”), is able to commercialize a product candidate, if ever.

- We may expend our resources to pursue particular product candidates while failing to capitalize on other candidates or indications that may be more profitable or have a greater likelihood of commercial success.
- If we experience delays or enrollment difficulties in clinical trials, our ability to advance our product candidates through development and the regulatory process could be delayed or prevented.
- Clinical trials are expensive, time consuming, and subject to uncertainty.
- We may fail to demonstrate the safety and efficacy of our product candidates.
- If our product candidates cause serious adverse events or undesirable side effects, including injury and death, their commercial potential may be limited or extinguished.
- Even if we complete the necessary preclinical studies and clinical trials, we may be unable to obtain the regulatory approvals necessary for the commercialization of our product candidates or may face delays.
- If we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate product revenue.
- Our products may not gain market acceptance and the market may be smaller than we believe.
- Even if we are able to commercialize our product candidates, such products may be subject to unfavorable pricing regulations, third-party reimbursement practices, or healthcare reform initiatives, which could harm our business.

Risks Related to Our Intellectual Property

- Failure to protect our trademarks and other intellectual property could impact our business.
- With sufficient IP rights we may not be able to compete effectively in our markets.
- Claims of IP infringement may expose us to substantial liability and prevent our business efforts.
- Share our trade secrets or confidential information, which increases the possibility that our trade secrets or other confidential information will be misappropriated or disclosed.

Risks Related to Governmental Regulation

- Laws and regulations regarding direct selling may prohibit or restrict our ability to sell our products in some markets or require us to make changes to our business model in some markets.
- We depend on third party service providers to comply with laws and regulations.
- We must comply with complex laws protecting privacy and security of health information and personal data.

Risks Related to Our Common Stock, Internal Controls and Governance Matters

- We have identified material weaknesses in our internal controls over financial reporting, which may adversely affect investor confidence in us, our business, results of operations and financial condition, and the trading price of our common stock.
- Sales of our common stock could adversely affect its trading price of and our ability to raise funds.
- If analysts don’t publish reports about us or they issue an adverse opinion, our stock price could decline.
- Our CEO and Chairman owns a substantial amount of our common stock.
- Our Certificate of Incorporation and amended and restated bylaws ("Bylaws") contain certain provisions that may be barriers to a takeover.
- Our Bylaws provides that the Delaware Court of Chancery and the federal district courts are the exclusive forums for substantially all disputes with our stockholders.
- We have agreed to indemnify our officers and directors from liability.

PART I

Item 1. Business

Overview

We are a growth oriented and diversified next generation biotech, genomics and diagnostics company that develops and commercializes novel drugs, dietary supplements, and compounds, and contract manufacturing.

We offered a broad array of COVID-19 related clinical diagnostic and testing services including polymerase chain reaction ("PCR") testing for COVID-19 and Influenza A and B and rapid antigen testing for COVID-19 through our wholly-owned subsidiary, ProPhase Diagnostics, Inc. ("ProPhase Diagnostics") up until August 2023.

We offer whole genome sequencing and related services through our wholly-owned subsidiary, Nebula Genomics, Inc. ("Nebula").

Our wholly owned subsidiary, PBIO is focused on the licensing, development and commercialization of novel drugs, dietary supplements, and compounds.

Our wholly-owned subsidiary, PMI, is a full-service contract manufacturer and private label developer of a broad range of non-GMO, organic and natural-based cough drops and lozenges and over-the-counter ("OTC") drug and dietary supplement products.

We also develop and market dietary supplements under the TK Supplements® brand.

ProPhase Diagnostics

Our wholly-owned subsidiary, ProPhase Diagnostics, which was formed in October 2020, offered a broad array of COVID-19 related clinical diagnostic and testing services including PCR testing for COVID-19 and Influenza A and B at its two Clinical Laboratory Improvement Amendments ("CLIA") certified laboratories, located in Old Bridge, New Jersey and Garden City, New York. We also offered rapid antigen testing for COVID-19.

In March 2020, the CARES Act was enacted, providing for reimbursement to healthcare providers for COVID-19 tests provided to uninsured individuals, subject to continued available funding. On March 22, 2022, the Health Resources & Services Administrations ("HRSA") uninsured program stopped accepting claims for COVID-19 testing and treatment due to the lack of sufficient funds. Despite requests from the Acting Director of the Office of Management and Budget and the White House Coordinator for COVID-19 Response for additional emergency funding for the uninsured program, emergency funding has not been allocated to the HRSA uninsured program. The expiration of the federal Public Health Emergency on May 11, 2023 changed regulatory guidelines around COVID-19 testing including billing codes and reimbursement rates of in and out of network laboratories.

Due to the significant decrease in demand and reimbursement rate for our diagnostic testing service, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future.

Nebula Genomics

Nebula focuses on genomics testing technologies, a comprehensive method for analyzing entire genomes, including the genes and chromosomes in deoxyribonucleic acid ("DNA"). The data obtained from genomic sequencing may help to identify inherited disorders and tendencies, help predict disease risk, help identify expected drug response, and characterize genetic mutations, including those that drive cancer progression. We currently offer Nebula whole genome sequencing products direct-to-consumers online with plans to sell in food, drug and mass ("FDM") retail stores and to provide testing for universities conducting genomic research.

Nebula provides consumers access to affordable and secure whole genome sequencing. It also provides customers with access to over 300 personalized reports based on their genomic profile. These reports are created utilizing the latest scientific research and provide individual genetic commentary on a broad range of traits and characteristics. Customers can

access their reports via Nebula's secure online portal. As new scientific discoveries are made, customers receive new reports, as well as regular updates to their existing reports, through Nebula's subscription model. In addition to the personalized reports, Nebula provides customers with access to a suite of exploration tools including a gene browser and a gene analysis tool. These tools allow customers to browse their data, search for genetic variants, and analyze their genes.

Nebula's solution was initially powered by the innovations of George Church, Ph.D., Professor of Genetics at Harvard Medical School and Chairman of Nebula's Scientific Advisory Board. Dr. Church has pioneered the development of multiple DNA sequencing methods, including molecular multiplexing approaches that enable next generation sequencing as well as nanopore sequencing.

Nebula's whole genome sequencing DNA test decodes approximately 6.4 billion base pairs of the human genome, generating significant amounts of data, which exceeds the amount and quality of data widely offered by most competing services. Through the use of additional tools, the data that is generated can help identify rare genetic mutations and provide consumers other valuable insights into their genes and overall health and wellness. Nebula also provides consumers with weekly educational content to further their knowledge about the use of their genetic data.

Based on our internal research, Nebula was the first company to bring the cost of sequencing a human genome below $300 and became one of the largest direct-to-consumer whole genome sequencing companies. Our goal is to dramatically increase Nebula's sales by decreasing price, decreasing turnaround times and increasing distribution to both businesses and consumers, including universities conducting genetic research. We plan to accomplish this by integrating Nebula' genomic sequencing into our CLIA-certified labs.

Nebula is currently in ongoing negotiations with numerous businesses to expand from direct to consumer to business to business ("B2B") operations.Nebula plans to utilize its state of the art in house clinical lab to receive and process thousands of B2B samples every year. The Company is currently working with other labs, doctors' offices, health clinics, longevity clinics, and many other potential business consumers.

We are also actively collaborating with G42 Healthcare, a leading Abu Dhabi-based artificial intelligence ("AI") health-tech company, to explore genomic sequencing and other potential opportunities.

ProPhase BioPharma

We formed PBIO in June 2022 for the licensing, development and commercialization of novel drugs, dietary supplements and compounds. Licensed compounds under development currently include Equivir (a dietary supplement candidate) and Equivir G (prescription drug ("Rx") candidate), two broad-based anti-viral candidates, and Linebacker LB-1 and LB-2, two small molecule proviral integration site for moloney murine leukemia virus ("PIM") kinase inhibitors product candidates. We also own the exclusive rights to the BE-Smart Esophageal Pre-Cancer Diagnostic Screening test, which is in development, and related intellectual property ("IP") assets.

Equivir (dietary supplement candidate) and Equivir G (Rx candidate)

We have exclusive worldwide rights to develop and commercialize Equivir (a dietary supplement candidate) and Equivir G (a Rx candidate) pursuant to a license agreement with Global BioLife, Inc. ("Global BioLife"), a wholly-owned subsidiary of DSS, Inc.

Equivir is a blend of polyphenols, which are substances found in many nuts, vegetables and berries. The composition, which contains polyphenols that we believe are generally recognized as safe, is projected to come in capsule form and be taken much like a multivitamin. The composition is believed to work by helping to improve proper immune function. We plan to pursue commercialization of Equivir as a dietary supplement, leveraging our distribution in over 40,000 FDM retail stores and online direct to consumers.

In March 2023, we commenced patient enrollment in a randomized, placebo-controlled clinical trial of Equivir to evaluate its effect on upper respiratory tract infections. Vedic Lifesciences, a leading clinical research organization, was contracted to run the multi-arm trial. Vedic produced interim results in February of 2024 which showed enough data to continue the trial to completion. The trial is expected to be completed by the end of the second quarter 2024.

Equivir G is a blend of polyphenols similar to Equivir (dietary supplement) with the addition of Gallic acid. We are in the process of formulating its composition and preparing clinical studies. We are pursuing the development of Equivir G as a prescription based antiviral treatment based on data related to the polyphenol formulation in Equivir. Evidence suggests that the blend of polyphenols in Equivir has the potential to block the entry of a virus into host cells, thereby preventing infection and replication in those host cells. Through our development of Equivir G, we believe a

similar polyphenol formulation can be developed for the treatment of infection caused by various serotypes of influenza and Rhinovirus, a common viral infectious agent predominantly associated with the common cold in humans. We believe this formulation may also have the potential to block the entry of Ebola virus into host cells, which could prevent Ebola Virus Disease and Ebola Hemorrhagic fever. These diseases are rare, but severe and often fatal in humans, particularly in sub-Saharan Africa. Ebola has a 90% death rate, according to the World Health Organization. Equivir has also shown in in-vitro studies to combat SARS-COV2. We plan to apply for an Investigational New Drug Application ("IND") for Equivir G as a prescription-based antiviral treatment. Planned antiviral applications include SARS-COV2, Influenza and Ebola, among others.

Linebacker (LB-1 and LB-2)

We have exclusive worldwide rights to develop and commercialize LB-1 and LB-2 for the treatment of cancer, inflammatory diseases or symptoms and memory-related syndromes, diseases or symptoms, including dementia and Alzheimer's disease, pursuant to a license agreement with Global BioLife.

LB-1 and LB-2 were initially developed by Global BioLife in partnership with Global Research and Development Group Sciences ("GRDG"). GRDG and Global BioLife created Linebacker, a multi-faceted therapeutic platform targeting metabolic, neurologic, cancer, and infectious diseases, to mirror the Panacea Project, a U.S. Defense Advanced Research Projects Agency program that provides novel, multi-target therapeutics for unmet physiological needs. Linebacker is a modified polyphenol. Linebacker compounds are modified Myricetin, which is a common plant-derived flavonoid. Myricetin exhibits a wide range of activities that include strong antioxidant, anticancer, antidiabetic and anti-inflammatory activities. It displays activities that are related to the central nervous system. Anecdotal evidence suggests that it may be beneficial to protect against diseases such as Parkinson's and Alzheimer's.

LB-1 is being developed as a potential co-therapy to down-regulate PIM (proviral integration site for moloney murine leukemia virus) kinase, which plays a key role as an oncogene in various cancers including myeloma, leukemia, prostate and breast cancers. In preclinical laboratory studies, LB-1 inhibited PIM, which could potentially slow the growth of the cancer and allow for better efficacy of the co-therapy drug or treatment being used.

Chemotherapy drugs alone, like TAXOL® (paclitaxel) injection, kill healthy cells alongside tumorous ones. LB-1 is being developed to focus directly on the PIM expressions potentially rendering the cancer cell transcription and replication significantly less effective, so that chemotherapy drugs such as paclitaxel can effectively kill the existing tumor cells. LB-1 may also be developed as a potential standalone post therapy to ensure cancer cells do not regenerate.

Our initial focus for LB-1 is as a potential co-therapy for the following four drugs:

- *Paclitaxel*: a drug used to treat breast, ovarian, lung, bladder, prostate, melanoma, esophageal, as well as other types of solid tumor cancers.
- *Doxorubicin*: a drug used to treat used to treat various forms of cancer, including breast cancer, bladder cancer, Kaposi's sarcoma, lymphoma, and acute lymphocytic leukemia.
- *Topotecan*: a drug used to treat ovarian cancer.
- *Cisplatin*: a drug used to treat testicular, ovarian, bladder, head and neck, lung and cervical cancer.

In vitro studies completed in the fourth quarter of 2023 from the initial LB-1 cell line demonstrated the following findings:

- *LB-1 Co-Therapy with Paclitaxel*
  - LB-1 alone inhibited cell proliferation at 69.94% at 100uM
  - TAXOL alone inhibited cell proliferation at 41.96% at 200nM
  - LB-1 and TAXOL combined inhibited cell proliferation at 75.5% (100uM of LB1 + 200nM Taxol)

- *LB-1 Co-Therapy with Doxorubicin*
  - LB-1 alone inhibited cell proliferation at 69.66% at 100uM
  - Doxorubicin alone inhibited cell proliferation at 51.6% at 2000nM
  - LB-1 and Doxorubicin combined inhibited cell proliferation at 86.95% (100uM of LB1 + 2000nM Doxorubicin)

- *LB-1 Co-Therapy with Topotecan*
  - LB-1 alone inhibited cell proliferation at 69.54% at 100uM
  - Topotecan alone inhibited cell proliferation at 58.27% at 2000nM
  - LB-1 and Topotecan combined inhibited cell proliferation at 97.18% (100uM of LB1 + 2000nM Topotecan)

- *LB-1 Co-Therapy with Cisplatin*
  - LB-1 alone inhibited cell proliferation at 72.33% at 100uM
  - Cisplatin alone inhibited cell proliferation at 22.74% at 30uM
  - LB-1 and Cisplatin combined inhibited cell proliferation at 82.48% (100uM of LB1 + 30uM Cisplatin)

In January 2023, REPROCELL completed an independent review of LB-1, which included testing of 25 cell lines with LB-1, and confirmed previous*in vitro* studies conducted by Charles River. These cell lines confirmed efficacy of LB-1 on ovarian, kidney, colon and lung adenocarcinoma/small cells.

In November 2022 PBIO entered into a two-year collaborative agreement with Dana-Farber Cancer Institute and Harvard Medical School to further the research LB-1. This collaboration provides for year 1 and year 2 research plans, which were initiated in the first and second quarter of 2023. The ongoing studies are focused on identifying the most effective combination of cancer cell lines and agents with LB-1. Initial focus areas include hepatic, colon and breast cancer, and initial therapy agents include Topotecan and Doxorubicin.

In August 2023, we teamed up with Certis oncology to use their proprietary CertisAI Predictive Oncology Intelligence to determine what, if any,cancers Linebacker would be most effective against. The Company has generated significant data and continues to administer testing models in the first and second quarter of 2024 to pinpoint the best cancers to target.

BE-Smart Esophageal Pre-Cancer Diagnostics Screening Test

We own the worldwide exclusive rights to the BE-Smart Esophageal Pre-Cancer diagnostics screening test and related intellectual property assets. The BE-Smart test is aimed at early detection of esophageal cancer. It remains under development but has already been tested by an independent test lab, mProbe, Inc. (“mProbe”), on over 200 human samples and has shown greater than 99% sensitivity and specificity to detect protein expressions in cells that are at high risk of becoming cancerous. mProbe, a precision health and medicine company utilizing clinical proteomics in the oncology space in conjunction with Dr. Christopher Hartley of the prestigious Mayo Clinic, has been utilizing a small sample of tissue collected during endoscopies to help us confirm and optimize the BE-Smart Test. The initial data appears to demonstrate accuracy and reproducibility as well as identification of potential biomarkers for therapeutic drug discovery to treat esophageal cancer.

In March 2023, we announced a collaboration with mProbe and Dr. Christopher Hartley of Mayo Clinic for the continued development of its BE-Smart Esophageal Pre-Cancer diagnostic screening test. We plan to commercialize the BE-Smart test as a Laboratory Developed Test (“LDT”) in the second half of 2024 with full commercialization backed by insurance expected by the end of 2024. We may, in certain cases, provide the BE-Smart test for research-use only (“RUO”) purposes, in which case the test may not be subject to certain regulatory requirements of the U.S. Food and Drug Administration (the "FDA"), provided that the test, its labels, and labeling are done in accordance with FDA’s regulatory requirements.

According to the National Institute of Health Chapter 24: Indications and Outcomes of Gastrointestinal Endoscopy, over 20 million endoscopies are performed every year in the United States; approximately 2 million of these procedures are done on patients with Barret’s Esophagus, which is a condition in which the flat pink lining of the swallowing tube that connects the mouth to the stomach (esophagus) becomes damaged by acid reflux, which causes the lining to thicken and become red. In patients with Barrett’s Esophagus, one in two hundred will develop esophageal adenocarcinoma. Esophageal cancer is highly lethal and deemed as the sixth cause of cancer death worldwide according to Cancer State Facts, the overall five-year survival rate was less than 20%.

The BE-Smart test is being developed to provide health care providers and patients with data to help determine treatment options, including whether patients not believed to be at risk for esophageal cancer should continue to be monitored or, alternatively, to provide patients who might otherwise have been undiagnosed early treatment before esophageal cells become cancerous. The goal of widespread adoption of the BE-Smart test would allow health care providers to initiate potentially lifesaving early treatment processes such as an ablation procedure to remove the

precancerous cells. This diagnostic test, once fully validated, could also significantly reduce unnecessary endoscopies as well as offer peace of mind to patients who are suffering with Barret's syndrome who are at greater risk of esophageal cancer.

Pharmaloz Contract Manufacturing

PMI is a full-service contract manufacturer and private label developer of a broad range of non-GMO, organic and natural-based cough drops and lozenges and OTC drug and dietary supplement products. PMI provides product development, pre-commercialization services, production, warehousing and distribution services for its customers. Our manufacturing facility, which is located in Lebanon, Pennsylvania, is registered with the FDA and is certified organic and kosher.

As part of the sale of our former Cold-EEZE® business in March 2017, PMI entered into a manufacturing agreement with Mylan Consumer Healthcare Inc. and Mylan Inc. (collectively, "Mylan") to supply various Cold-EEZE® lozenge products to Mylan following the sale for a period of five years with annual renewal options.Pursuant to the terms of the manufacturing agreement, PMI agreed to manufacture certain products for Mylan, as described in the manufacturing agreement, at prices that reflect current market conditions for such products and include an agreed upon mark-up on our costs. On May 1, 2021, the manufacturing agreement was assigned by Mylan to Meda Consumer Healthcare, Inc. ("Meda") in connection with Meda's acquisitions of certain assets from Mylan, including the Cold-EEZE® brand and product line. Meda is currently within Vespyr Brands and the manufacturing contract with PMI is expected to be renewed by the end of the second quarter of 2024.

In February 2023, we acquired new equipment and doubled the capacity for pouch packaging, to meet the growing demand for our products and services. PMI also acquired new automation equipment that is expected to double capacity in the second half of 2024. PMI is also planning for expansion of its lozenge manufacturing business and is projected to add a second line that should be operational by the beginning of the third quarter of 2024. PMI added multiple new customers throughout the second half of 2023 and remains positioned for growth.

TK Supplements

Our TK Supplements® product line is dedicated to supporting better health, energy and sexual vitality. Each of our herbal supplements is researched to determine the optimum blend of ingredients to ensure our customers receive premium quality products. To achieve this, we formulate with the highest quality ingredients derived from nature and ingredients enhanced by science. Our TK Supplements® product line includes Legendz XL®, a male sexual enhancement and Triple Edge XL®, an energy and stamina booster.

Legendz XL® has distribution in Rite Aid, Walgreens, CVS, Walmart and other retailers, and via ecommerce.

In 2022, we restaged Triple Edge XL from a 56 count ("ct") to a 20 ct at CVS, making the retail price more in line with competition. The result was a double digit increase in consumer sales and a 40% expansion increase in the number of stores carrying the item between the restaging of the product in September 2022 and January 2023. In January 2024, Triple Edge XL was reviewed by CVS and, based on its 2022 and 2023 sales, CVS has determined to maintain authorization for its fiscal year ending December 31, 2024. We also presented and marketed Triple Edge XL 20 ct to Walgreens and other major pharmacies, and we are waiting on final decisions on whether those pharmacies will agree to carry Triple Edge XL 20 ct. In the event all of the pharmacies at which we presented Triple Edge XL 20 ct accept the same of such product, we believe that such acceptances will increase demand for product inventory by over 100% in the 12 month period following all of the acceptances.

Fluctuations in our Business

Our diagnostic services revenues were subject to fluctuations in COVID-19 testing demand. The demand for COVID-19 tests was highly volatile, primarily driven by the emergence and severity of new variants. The demand for COVID-19 tests significantly decreased in 2023 and as a result, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future.

Our personal genomics kit sales are impacted by seasonal holiday demand. We expect to generate greater revenues from this business during the first quarter of our fiscal year. While kits sales increase during the holiday season (fourth quarter), we will generally recognize revenue when the customer sends in their kit to our laboratory for processing and a genetic report is delivered, which we expect will occur in the following fiscal quarter.

Our contract manufacturing revenues are subject to seasonal fluctuations. As the majority of products that we manufacture for our customers are OTC healthcare and cold remedy products, our revenues tend to be higher in the first, third and fourth quarters during the cold season. Generally, a cold season is defined as the period from September to March when the incidence of the common cold rises as a consequence of the change in weather and other factors. Revenues are generally at their lowest levels during the second quarter when contract manufacturing demand generally declines.

Intellectual Property

We do not currently own any patents. We maintain various trademarks for our TK Supplements® products including Legendz XL® and Triple Edge XL®. We maintain a trademark for our genomic testing, Nebula Genomics®.

Licensing Agreements

Licensing Agreement with Global BioLife, Inc. for Equivir and Equivir G

We are party to a license agreement with Global BioLife, dated March 17, 2022 ("Equivir License Agreement"), pursuant to which we acquired from Global BioLife a worldwide exclusive right and license under certain patents identified in the license agreement and know-how (collectively, the "Equivir Licensed IP") to exploit any product comprising or containing Equivir Licensed Compound (as defined in the license agreement) ("Equivir Licensed Products") for all uses (the "Equivir Field").

Under the terms of the Equivir License Agreement, Global BioLife reserves the right, solely for itself to use the Equivir Licensed IP to research and develop, including modify, enhance, improve, Equivir Licensed Products in the Equivir Field.

Subject to certain conditions set forth in the license agreement, we may grant sublicenses to our rights under the license agreement to any of our affiliates or any third party. We may assign our rights under the license agreement without consent (i) to our affiliates or (b) to an acquirer of all or substantially all of our assets to which this agreement relates. Under the terms of the license agreement, we or our affiliates have a fully-paid up, irrevocable, exclusive right of first refusal to obtain exclusive global rights to certain patents identified in the license agreement.

Licensing Agreement with BioLife, Inc. for Linebacker LB-1 and LB-2

We are also party to a license agreement with Global BioLife, dated July 19, 2022 ("Linebacker License Agreement"), pursuant to which we acquired from Global BioLife a worldwide exclusive right and license under certain patents identified in the License Agreement (the "Linebacker Licensed Patents") and know-how (collectively, the "Linebacker Licensed IP") to exploit any compound covered by the Linebacker Licensed Patents (the "Linebacker Licensed Compound"), including Linebacker LB-1 and LB-2, and any product comprising or containing a Linebacker Licensed Compound ("Linebacker Licensed Products") in the treatment of cancer, inflammatory diseases or symptoms, memory-related syndromes, diseases or symptoms including dementia and Alzheimer's Disease (the "Linebacker Field"). Under the terms of the Linebacker License Agreement, Global BioLife reserves the right, solely for itself and for GRDG Sciences, LLC to use the Linebacker Licensed Compound and Linebacker Licensed IP solely for research purposes inside the Linebacker Field and for any purpose outside the Linebacker Field.

Subject to certain conditions set forth in the license agreement, we may grant sublicenses (including the right to grant further sublicenses) to our rights under the license agreement to any of our affiliates or any third party with the prior written consent of Global BioLife, which consent may not be unreasonably withheld. Either party to the license agreement may assign its rights under the license agreement (i) in connection with the sale or transfer of all or substantially all of our assets to a third party, (b) in the event of a merger or consolidation with a third party or (iii) to an affiliate; in each case contingent upon the assignee assuming in writing all of the obligations of its assignor under the license agreement.

Under the terms of the Linebacker License Agreement, we were required to pay to Licensor a one-time upfront license fee of $50,000 within 10 days of the effective date and must pay an additional $900,000 following the achievement

of a first Phase 3 study which may be required by the FDA for the first Linebacker Licensed Product and an additional $1 million upon the receipt of regulatory approval of a New Drug Application ("NDA") for the first Licensed Product.

During the term of the Linebacker License Agreement, we are also required to pay to Global BioLife 3% royalties on Net Revenue (as defined in the license agreement) of each Linebacker Licensed Product, but no less than the minimum royalty of $250,000 of net revenue per year minus any royalty payments for any required third party licenses.

Under the terms of the Linebacker License Agreement, the development of the Linebacker Licensed Compound and the first Linebacker Licensed Product for the United States will be governed by a clinical development plan, including anticipated timeline goals in connection with the clinical trials for the first Linebacker Licensed Product (the “Linebacker Development Plan”). The Linebacker Development Plan may be amended by the mutual written agreement of the parties to the Linebacker License Agreement based upon results of preclinical studies or clinical trials, including safety and effectiveness, guidance by the FDA, or upon the agreement of the parties.

The Linebacker License Agreement will expire automatically on a country-by-country basis upon the last to occur of the expiration of the last to expire Linebacker Licensed Patents (the “Term”). Following the expiration of the Term, and on a country-by-country basis, the license will become non-exclusive, perpetual, fully-paid, unrestricted, royalty-free and irrevocable.

The Linebacker License Agreement may be terminated by us for any reason or for convenience in our sole discretion: (i) on a Linebacker Licensed Product-by-Linebacker Licensed Product or a country-by-country basis or (ii) in its entirety, in either case ((i) or (ii)) for convenience upon 180 days prior written notice to Global BioLife. Global BioLife may terminate the license agreement solely for a material breach of the license agreement by us, which is not cured within 60 days’ of written notice to us of such breach.

Government Regulation

Our business is subject to extensive governmental regulation by various federal, state, and local agencies as described below.

U.S. Food and Drug Administration

Diagnostic Testing Services

The FDA has regulatory responsibility for diagnostic testing instruments, test kits, reagents and other devices used by clinical laboratories. The FDA enforces laws and regulations that govern the development, testing, manufacturing, performance, labeling, advertising, marketing, distribution and surveillance of diagnostic products, including COVID-19 diagnostics authorized by the FDA under and Emergency Use Authorizations (“EUA”), and it regularly inspects and reviews the manufacturing processes and product performance of diagnostic products.

Since 2014, there have been ongoing discussions and advocacy between stakeholders, including the clinical laboratory industry, the FDA, and Congress, about potential FDA regulation of LDTs, which are assays developed and performed in-house by clinical laboratories that can be made available to the public without pre-market review by the FDA (although COVID-19 LDTs are currently subject to FDA pre-market requirements, as a consequence of the national health emergency). Various regulatory and legislative proposals are under consideration, including some that could increase general FDA oversight of clinical laboratories and LDTs. The outcome and ultimate impact of such proposals on our business is difficult to predict at this time.

Pharmaceutical Regulation

The manufacturing and distribution of pharmaceutical products are subject to extensive regulation by the federal government, primarily through the FDA and the Drug Enforcement Administration, and to a lesser extent by state and local government agencies. The Food, Drug, and Cosmetic Act (“FFDCA”) and other federal statutes and regulations govern or influence the manufacture, labeling, testing, storage, record keeping, approval, advertising and promotion of OTC pharmaceutical products.

Facilities used in the manufacture, packaging, labeling and repackaging of drug products, including OTC drug products, must be registered with the FDA and are subject to FDA inspection to ensure that drug products are manufactured in accordance with current Good Manufacturing Practice (“cGMPs”).

FDA approval is required before any "new drug" may be marketed, including new formulations, strengths, dosage forms and generic versions of previously approved drugs. Generally, to obtain FDA approval of a "new drug" a company must file a NDA or Abbreviated New Drug Application ("ANDA").

Under the OTC monograph system, selected OTC drugs are generally recognized as safe and effective and do not require the submission and approval of an NDA or ANDA prior to marketing.

The FDA OTC monographs include well-known ingredients and specify requirements for permitted indications, required warnings and precautions, allowable combinations of ingredients and dosage levels. Drug products marketed under the OTC monograph system must conform to specific quality, formula and labeling requirements; however, these products can be developed and marketed without prior FDA approval unlike products requiring a submission and approval of an ANDA or NDA. In general, it is less costly to develop and bring to market a product regulated under the OTC monograph system. From time to time, adequate information may become available to the FDA regarding certain prescription drug products that will allow the reclassification of those products as no longer requiring the approval of an ANDA or NDA prior to marketing. For this reason, there may be increased competition and lower profitability related to a particular OTC-switch product should it be reclassified to the OTC monograph system.

Noncompliance with applicable requirements can result in product recalls, seizure of products, injunctions, suspension of production and/or distribution, refusal of the government or third parties to enter into contracts with us, withdrawal or suspension of the applicable regulator's review of our drug applications, civil penalties and criminal fines, and disgorgement of profits.

Dietary Supplement Regulation

The FDA regulates dietary supplements under a different set of regulations than those covering "conventional" foods and drug products (prescription and OTC). Under the Dietary Supplement Health and Education Act (the "DSHEA"), which was passed in 1994, dietary supplements that were in commerce prior to 1994 are broadly presumed safe. For these supplements, manufacturers do not need to register their products with the FDA nor get FDA approval before producing or selling them. Manufacturers must make sure that product label information is truthful and not misleading. For these products, the FDA is responsible for taking action against any unsafe or misbranded dietary supplement product after it reaches the market. All new ingredients marketed within dietary supplements after 1994 that are not found in food must meet a stricter set of regulations and notification prior to release in the marketplace.

In June 2007, pursuant to the authority granted by the FFDCA as amended by DSHEA, the FDA published detailed cGMP regulations that govern the manufacturing, packaging, labeling, and holding operations of dietary supplement manufacturers. The cGMP regulations, among other things, impose significant recordkeeping requirements on manufacturers. The cGMP requirements are in effect for all manufacturers, and the FDA is conducting inspections of dietary supplement manufacturers pursuant to these requirements. The failure of a manufacturing facility to comply with the cGMP regulations renders products manufactured in such facility "adulterated" and subjects such products and the manufacturer to a variety of potential FDA enforcement actions.

In addition, under the Food Safety Modernization Act, (the "FSMA"), which was enacted on January 2, 2011, the manufacturing of dietary ingredients contained in dietary supplements are subject to similar or even more burdensome manufacturing requirements. The FSMA requires importers of food, including dietary supplements and dietary ingredients, to conduct verification activities to ensure that the food they might import meets applicable domestic requirements. The FSMA also expands the reach and regulatory powers of the FDA with respect to the production and importation of food, including dietary supplements. The expanded reach and regulatory powers include the FDA's ability to order mandatory recalls, administratively detain domestic products, require certification of compliance with domestic requirements for imported foods associated with safety issues and administratively revoke manufacturing facility registrations, effectively enjoining manufacturing of dietary ingredients and dietary supplements without judicial process. The regulation of dietary supplements may increase or become more restrictive in the future.

Under FFDCA, dietary supplements are subject to both adulteration and misbranding provisions. Adulterated products are those that contain unlisted ingredients or are not prepared or packaged under the FDA cGMPs for dietary supplements and misbranded products are those with false or misleading labels. Adulterated or misbranded products are subject to the full range of civil and criminal enforcement measures under the FFDCA and all violations of FFDCA are subject to criminal enforcement at the FDA's discretion.

We are also subject to the Dietary Supplement and Nonprescription Drug Consumer Protection Act, which was passed in 2006 to amend the FFDCA with respect to serious adverse event reporting for dietary supplements and nonprescription drugs, among other things. The law requires that the manufacturer, packer or distributor of a dietary supplement or OTC drug notify the FDA of all serious adverse events it receives associated with their dietary supplement or OTC product within 15 business days. Serious adverse events are defined as those that result in death, a life-threatening experience, in-patient hospitalization, a persistent or significant disability or incapacity, congenital anomaly or birth defect, as well as situations where medical/surgical intervention is required to prevent the previously listed events.

Consumer Product Safety Commission

Under the Poison Prevention Packaging Act, the Consumer Product Safety Commission ("CPSC") has authority to require that certain dietary supplements and certain pharmaceuticals have child-resistant packaging to help reduce the incidence of accidental poisonings. The CPSC has published regulations requiring iron-containing dietary supplements and various pharmaceuticals to have child resistant packaging and has established rules for testing the effectiveness of child-resistant packaging and for ensuring senior adult effectiveness. The manufacturer of any product that is subject to any CPSC rule, ban, standard or regulation must also certify that, based on a reasonable testing program, the product complies with CPSC requirements.

Federal Trade Commission

Advertising of our products in the United States is subject to regulation by the Federal Trade Commission (the "FTC") under the Federal Trade Commission Act. Under the FTC's Substantiation Doctrine, an advertiser is required to have a "reasonable basis" for all objective product claims before the claims are made. Failure to adequately substantiate claims may be considered either deceptive or unfair practices. Pursuant to this FTC requirement, we are required to have adequate substantiation for all material advertising claims that we make for any products sold in the United States.

In recent years, the FTC has initiated numerous investigations of and actions against companies that sell dietary supplements. The FTC has issued guidance to assist companies in understanding and complying with its substantiation requirement. We believe that we have adequate substantiation for all material advertising claims that we make for our products in the United States, and we believe that we have organized the documentation to support our advertising and promotional practices in compliance with these guidelines. However, no assurance can be given that the FTC would reach the same conclusion if it were to review or question our substantiation for our advertising claims in the United States.

The FTC may enforce compliance with the law in a variety of ways, both administratively and judicially, using compulsory process, cease and desist orders, and injunctions. FTC enforcement can result in orders requiring, among other things, limits on advertising, corrective advertising, consumer redress, divestiture of assets, rescission of contracts, and such other relief as the agency deems necessary to protect the public. Violation of these orders could result in substantial financial or other penalties. Although we have not been the subject of any action by the FTC, no assurance can be given that the FTC will not question our advertising or other operations in the United States in the future. Any action in the future by the FTC could materially and adversely affect our ability to successfully market our products in the United States.

Clinical Laboratory Improvement Act of 1967 and the Clinical Laboratory Improvement Amendments of 1988 (CLIA)

The performance of laboratory diagnostic services is subject to extensive U.S. regulation, and many of these statutes and regulations have not been interpreted by the courts. CLIA extends federal oversight to virtually all physician practices performing clinical laboratory testing and to clinical laboratories operating in the United States by requiring that they be certified by the federal government or, in the case of clinical laboratories, by a federally approved accreditation agency. Standards for testing under CLIA are based on the complexity of the tests performed by the laboratory, with tests classified as "high complexity," "moderate complexity," or "waived." Laboratories performing high-complexity testing are required to meet more stringent requirements than moderate-complexity laboratories. The sanction for failure to comply with CLIA requirements may be suspension, revocation or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, as well as significant fines and/or criminal penalties.

State and Laboratory Licensure

We are subject to regulation under state law. State laws, including those of New Jersey and New York, require that laboratories and/or laboratory personnel meet certain qualifications, specify certain quality controls or require maintenance of certain records. For example, New York laws and regulations establish standards for: quality management systems; qualifications, responsibilities, and training; facility design and resource management; pre-analytic, analytic

(including validation and quality control), and post-analytic systems; and quality assessments and improvements. The New York state laboratory laws and regulations are more stringent than CLIA. New York law mandates proficiency testing for laboratories licensed under New York law, regardless of whether such laboratories are located in New York. If a laboratory is out of compliance with New York statutory or regulatory standards, the New York State Department of Health("NYSDOH") may suspend, limit, revoke or annul the laboratory's New York license, censure the holder of the license or assess civil money penalties. Statutory or regulatory noncompliance may result in a laboratory's operator being found guilty of a misdemeanor under New York law. NYSDOH also must approve laboratory developed tests before the test is offered in New York. Should we be found out of compliance with New York or any other applicable laboratory standards of practice, we could be subject to such sanctions, which could harm our business. Applicable statutes and regulations could also be interpreted or applied by a prosecutorial, regulatory or judicial authority in a manner that would adversely affect our business. Potential sanctions for violation of these statutes and regulations include significant fines and the suspension or loss of various licenses, certificates and authorizations, which could have a material adverse effect on our business. In addition, compliance with future legislation could impose additional requirements on us, which may be costly.

Health Insurance Portability and Accountability Act

The Health Insurance Portability and Accountability Act ("HIPAA") was designed to address issues related to the security and confidentiality of health information and to improve the efficiency and effectiveness of the healthcare system by facilitating the electronic exchange of information in certain financial and administrative transactions. These regulations apply to health plans and healthcare providers that conduct standard transactions electronically and healthcare clearinghouses (covered entities). Six such regulations include: (i) the Transactions and Code Sets Rule; (ii) the Privacy Rule; (iii) the Security Rule; (iv) the Standard Unique Employer Identifier Rule, which requires the use of a unique employer identifier in connection with certain electronic transactions; (v) the National Provider Identifier Rule, which requires the use of a unique healthcare provider identifier in connection with certain electronic transactions; and (vi) the Health Plan Identifier Rule, which required the use of a unique health plan identifier in connection with certain electronic transactions. We believe that we are in compliance in all material respects with each of the HIPAA Rules identified above.

The Privacy Rule regulates the use and disclosure of protected health information ("PHI") by covered entities. It also sets forth certain rights that an individual has with respect to his or her PHI maintained by a covered entity, such as the right to access or amend certain records containing PHI or to request restrictions on the use or disclosure of PHI. The Privacy Rule requires covered entities to contractually bind third parties, known as business associates, in the event that they perform an activity or service for or on behalf of the covered entity that involves the creation, receipt, maintenance, or transmission of PHI. We believe that we are in compliance in all material respects with the requirements of the HIPAA Privacy Rule.

On December 12, 2018, the U.S. Department of Health and Human Services ("HHS") issued a request for information ("RFI") seeking input from the public on how the HIPAA regulations and the Privacy Rule, in particular, could be modified to amend existing, or impose additional, obligations relating to the processing of PHI. Subsequent to the RFI, on January 21, 2021, HHS published a notice of proposed rulemaking ("NPRM") containing potential modifications to the Privacy Rule addressing standards that may impede the transition to value-based health care. We are monitoring the NPRM process. If modifications to the Privacy Rule are adopted, they may impact our compliance obligations under HIPAA.

The U.S. Health Information Technology for Economic and Clinical Health Act ("HITECH"), which was enacted in February 2009, with regulations effective on September 23, 2013, strengthened and expanded the HIPAA Privacy and Security Rules and their restrictions on use and disclosure of PHI. HITECH includes, but is not limited to, prohibitions on exchanging PHI for remuneration and additional restrictions on the use of PHI for marketing. HITECH also fundamentally changes a business associate's obligations by imposing a number of Privacy Rule requirements and a majority of Security Rule provisions directly on business associates that were previously only directly applicable to covered entities. Moreover, HITECH requires covered entities to provide notice to individuals, HHS, and, as applicable, the media when unsecured PHI is breached, as that term is defined by HITECH. Business associates are similarly required to notify covered entities of a breach. We believe our policies and procedures are fully compliant with HIPAA as modified by the HITECH requirements.

The administrative simplification provisions of HIPAA mandate the adoption of standard unique identifiers for healthcare providers. The intent of these provisions is to improve the efficiency and effectiveness of the electronic transmission of health information. The National Provider Identifier Rule requires that all HIPAA-covered healthcare providers, whether they are individuals or organizations, must obtain a National Provider Identifier ("NPI") to identify themselves in standard HIPAA transactions. NPI replaces the unique provider identification number and other provider

numbers previously assigned by payers and other entities for the purpose of identifying healthcare providers in standard electronic transactions. The Company believes that it is in compliance with the HIPAA National Provider Identifier Rule in all material respects.

The Health Plan Identifier ("HPID") is a unique identifier designed to furnish a standard way to identify health plans in electronic transactions. The Centers for Medicare and Medicaid Services ("CMS") published the final rule adopting the HPID for health plans required by HIPAA on September 12, 2012. Effective October 31, 2014, CMS announced a delay, until further notice, in enforcement of regulations pertaining to health plan enumeration and use of the HPID in HIPAA transactions adopted in the HPID final rule. On October 28, 2019, CMS published a final rule rescinding the adopted standard unique HPID and implementation specifications and requirements for its use and other entity identifier and implementation specifications for its use, effective December 27, 2019. This delay remains in effect. We will continue to monitor future developments related to the HPID and respond accordingly.

Violations of the HIPAA provisions could result in civil and/or criminal penalties, including significant fines and up to 10 years in prison. HITECH also significantly strengthened HIPAA enforcement by increasing the civil penalty amounts that may be imposed, requiring HHS to conduct periodic audits to confirm compliance and authorizing state attorneys general to bring civil actions seeking either injunctions or damages in response to violations of the HIPAA privacy and security regulations that affect the privacy of state residents.

The total cost associated with meeting the ongoing requirements of HIPAA and HITECH is not expected to be material to our operations or cash flows. However, future regulations and interpretations of HIPAA and HITECH could impose significant costs on us.

In addition to the HIPAA regulations described above, numerous other data protection, privacy and similar laws govern the confidentiality, security, use, and disclosure of personal information. These laws vary by jurisdiction, but they most commonly regulate or restrict the collection, use, and disclosure of medical and financial information and other personal information. In the U.S., some state laws are more restrictive and, therefore, are not preempted by HIPAA. Penalties for violation of these laws may include sanctions against a laboratory's licensure, as well as civil and/or criminal penalties.

Congress and state legislatures also have been considering new legislation relating to privacy and data protection. For example, on June 28, 2018, the California legislature passed the California Consumer Privacy Act ("CCPA"), which became effective January 1, 2020. The CCPA created new transparency requirements and granted California residents several new rights with regard to their personal information. In addition, in November 2020, California voters approved the California Privacy Rights Act ("CPRA") ballot initiative, which introduced significant amendments to the CCPA and established and funded a dedicated California privacy regulator, the CPPA. The amendments introduced by the CPRA went into effect on January 1, 2023, and new implementing regulations are expected to be introduced by the CPPA. Failure to comply with the CCPA may result in, among other things, significant civil penalties and injunctive relief, or potential statutory or actual damages. In addition, California residents have the right to bring a private right of action in connection with certain types of incidents. These claims may result in significant liability and potential damages. We have implemented processes to manage compliance with the CCPA and continue to assess the impact of the CPRA on our business as additional information and guidance becomes available.

Effective August 14, 2020, the Substance Abuse and Mental Health Services Administration of HHS announced the finalization of proposed changes to the Confidentiality of Substance Use Disorder Patient Records regulation, 42 Code of Federal Regulations Part 2. This regulation protects the confidentiality of patient records relating to the identity, diagnosis, prognosis, or treatment that are maintained in connection with the performance of any federally assisted program or activity relating to substance use disorder education, prevention, training, treatment, rehabilitation, or research. Under the regulation, patient identifying information may only be released with the individual's written consent, subject to certain limited exceptions. The latest changes to this regulation seek to better facilitate care coordination, while maintaining more stringent confidentiality of substance use disorder information. We have adopted changes to our policies and procedures necessary for compliance.

Genetic Privacy and Testing Laws

We are subject to myriad laws designed to establish safeguards regarding the conduct of genomic testing and analysis and to protect against the misuse of genetic information and human biological specimens, collectively, "samples", from which genetic information can be derived. These laws vary in their scope and in the nature of their requirements and restrictions. For example, certain genetic privacy laws prohibit the retention of samples after performing a genomic

analysis in addition to prohibiting the use or disclosure of genetic information for certain purposes, such as research, without appropriate informed consent from the individual or without sufficient anonymization. The applicability of such informed consent requirements may also depend on the identifiability of the genetic information or sample and the purposes of which it is used. Other laws may impose additional requirements, including requirements regarding institutional review board review and approval for certain research uses of genetic information or samples requirements to implement certain security controls in connection with the transfer of genetic information. We must comply with such genetic privacy and testing laws in our collection, use, disclosure, and retention of genetic information and samples.

Other Regulatory Oversight

We are also subject to regulation under various state, local, and international laws that include provisions governing, among other things, the formulation, manufacturing, packaging, labeling, advertising, and distribution of dietary supplements and OTC drugs. For example, Proposition 65 in the State of California is a list of substances deemed to pose a risk of carcinogenicity or birth defects at or above certain levels. If any such ingredient exceeds the permissible levels in a dietary supplement, cosmetic, or drug, the product may be lawfully sold in California only if accompanied by a prominent warning label alerting consumers that the product contains an ingredient linked to cancer or birth defect risk. Private attorney general actions as well as California attorney general actions may be brought against non-compliant parties and can result in substantial costs and fines.

Reimbursement

Billing for diagnostic services is complex and subject to extensive and non-uniform rules and administrative requirements. Depending on the billing arrangement and applicable law, we bill various payers, such as patients, insurance companies, Medicare, Medicaid, other government agencies and employer groups. Failure to accurately bill for our services could have a material adverse effect on our business.

We bill third-party payors, both commercial and government, using Current Procedural Terminology (“CPT”) codes, which are published by the American Medical Association. In April 2014, Congress passed the Protecting Access to Medicare Act of 2014 (“PAMA”), which included substantial changes to the way in which clinical laboratory services are priced and paid under Medicare. On June 23, 2016, CMS published the final rule implementing the reporting and rate-setting requirements. Under PAMA, laboratories that receive the majority of their Medicare revenue from payments made under the CLFS or the Physician Fee Schedule are required to report to CMS, beginning in 2017 and every three years thereafter (or annually for an advanced diagnostic laboratory test (“ADLT")), private payor payment rates and volumes for clinical diagnostic laboratory tests, or CDLTs. Laboratories that fail to report the required payment information may be subject to substantial civil monetary penalties. We do not believe that any of our tests meet the current definition of ADLTs. We therefore report private payor rates for our tests every three years.

As required under PAMA, CMS uses the data reported by laboratories to develop Medicare payment rates for laboratory tests equal to the volume-weighted median of the private payor payment rates. For tests furnished on or after January 1, 2019, Medicare payments for CDLTs are based upon reported private payor rates. For a CDLT that is assigned a new or substantially revised CPT code, the initial payment rate is assigned using the gap-fill methodology, as under prior law.

On December 20, 2019, President Trump signed the Further Consolidated Appropriations Act, which included the Laboratory Access for Beneficiaries Act (“LAB Act”). The LAB Act delayed by one year the reporting of payment data under PAMA for CDLTs that are not ADLTs until the first quarter of 2021. The Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”), which was signed into law on March 27, 2020, delayed the reporting period by an additional year, until the first quarter of 2022. On December 10, 2021, the Protecting Medicare and American Farmers from Sequester Cuts Act (S. 610) further delayed the reporting requirement. On December 29, 2022, Section 4114 of Consolidated Appropriations Act, 2023 again delayed the next data reporting period for CDLTs that are not ADLTs. The next data reporting period of January 1, 2024 through March 31, 2024, will be based on the original data collection period of January 1, 2019 through June 30, 2019.

In addition, under PAMA, as amended by the LAB Act, any reduction to a particular payment rate resulting from the new methodology is limited to 10% per test per year in 2020 and to 15% per test per year in each of the years 2021 through 2023. The CARES Act delayed the 15% cut scheduled to take effect on January 1, 2021, for one year.

Fraud and Abuse Laws and Regulations

Existing U.S. laws governing federal healthcare programs, including Medicare and Medicaid, as well as similar state laws, impose a variety of broadly described fraud and abuse prohibitions on healthcare providers, including clinical laboratories. These laws are interpreted liberally and enforced aggressively by multiple government agencies, including the U.S. Department of Justice, OIG and various state agencies. Historically, the clinical laboratory industry has been the focus of major governmental enforcement initiatives. The U.S. government's enforcement efforts have been conducted under regulations such as HIPAA, which includes several provisions related to fraud and abuse enforcement, including the establishment of a program to coordinate and fund U.S., state and local law enforcement efforts, and the Deficit Reduction Act of 2005, which includes requirements directed at Medicaid fraud, including increased spending on enforcement and financial incentives for states to adopt false claims act provisions similar to the U.S. False Claims Act. Amendments to the False Claims Act, and other enhancements to the U.S. fraud and abuse laws enacted as part of the ACA, have further increased fraud and abuse enforcement efforts and compliance risks. For example, the ACA established an obligation to report and refund overpayments from Medicare or Medicaid within 60 days of identification (whether or not paid through any fault of the recipient); failure to comply with this requirement can give rise to additional liability under the False Claims Act and Civil Monetary Penalties statute.

The U.S. Anti-Kickback Statute prohibits knowingly providing anything of value in return for, or to induce the referral of, Medicare, Medicaid or other U.S. healthcare program business. Violations can result in imprisonment, fines, penalties, and/or exclusion from participation in U.S. healthcare programs. The OIG has published "safe harbor" regulations that specify certain arrangements that are protected from prosecution under the Anti-Kickback Statute if all conditions of the relevant safe harbor are met. Failure to fit within a safe harbor does not necessarily constitute a violation of the Anti-Kickback Statute; rather, the arrangement would be subject to scrutiny by regulators and prosecutors and would be evaluated on a case-by-case basis. Many states have their own Medicaid anti-kickback laws, and several states also have anti-kickback laws that apply to all payers (*i.e.*, not just government healthcare programs).

From time to time, the OIG issues alerts and other guidance on certain practices in the healthcare industry that implicate the Anti-Kickback Statute or other fraud and abuse laws. OIG Special Fraud Alerts and Advisory Opinions relevant to the Company set forth a number of practices allegedly engaged in by some clinical laboratories and healthcare providers that raise issues under the U.S. fraud and abuse laws, including the Anti-Kickback Statute. These practices include: (i) providing employees to furnish valuable services for physicians (other than collecting patient specimens for testing) that are typically the responsibility of the physicians' staff; (ii) offering certain laboratory services at prices below fair market value in return for referrals of other tests that are billed to Medicare at higher rates; (iii) providing free testing to physicians' managed care patients in situations where the referring physicians benefit from such reduced laboratory utilization; (iv) providing free pickup and disposal of biohazardous waste for physicians for items unrelated to a laboratory's testing services; (v) providing general-use facsimile machines or computers to physicians that are not exclusively used in connection with the laboratory services; (vi) providing free testing for healthcare providers, their families and their employees (i.e., so-called "professional courtesy" testing); (vii) compensation paid by laboratories to physicians for blood specimen processing and for submitting patient data to registries; and (viii) the provision of discounts on laboratory services billed to customers in return for the referral of U.S. healthcare program business.

In addition to the Anti-Kickback Statute, in October 2018, the U.S. enacted the Eliminating Kickbacks in Recovery Act of 2018 ("EKRA"), as part of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act (the "SUPPORT Act"). EKRA is an all-payer anti-kickback law that makes it a criminal offense to pay any remuneration to induce referrals to, or in exchange for, patients using the services of a recovery home, a substance use clinical treatment facility, or laboratory. Although it appears that EKRA was intended to reach patient brokering and similar arrangements to induce patronage of substance use recovery and treatment, the language in EKRA is broadly written. As drafted, an EKRA prohibition on incentive compensation to sales employees is inconsistent with the federal anti-kickback statute and regulations, which permit payment of employee incentive compensation, a practice that is common in the industry. Only one court has addressed the application of EKRA. That case was decided by the United States District Court of Hawaii and involved a lawsuit between a laboratory and an employee. The Court ruled that the commission-based compensation provisions of the laboratory employee's contract did not violate EKRA. Although this may be a favorable interpretation of EKRA for laboratory compensation structures, we cannot be assured that courts in our jurisdiction will reach the same conclusion or that the decision will not be overturned if there is an appeal. Significantly, EKRA permits the U.S. Department of Justice to issue regulations clarifying EKRA's exceptions or adding additional exceptions, but such regulations have not yet been issued. We are working through our trade association to address the scope of EKRA and are seeking clarification or correction.

Enrollment and re-enrollment in U.S. healthcare programs, including Medicare and Medicaid, are subject to certain program integrity requirements intended to protect the programs from fraud, waste, and abuse. In September 2019,

CMS published a final rule implementing program integrity enhancements to provider enrollment requiring Medicare, Medicaid, and Children's Health Insurance Program ("CHIP") providers and suppliers to disclose on an enrollment application or a revalidation application any current or previous direct or indirect affiliation with a provider or supplier that (1) has uncollected debt; (2) has been or is subject to a payment suspension under a federal health care program; (3) has been or is excluded by the OIG from Medicare, Medicaid, or CHIP; or (4) has had its Medicare, Medicaid, or CHIP billing privileges denied or revoked. This rule permits CMS to deny enrollment based on such an affiliation when CMS determines that the affiliation poses an undue risk of fraud, waste, or abuse. CMS is phasing in this new affiliation disclosure requirement.

Under another U.S. statute, known as the Stark Law or "physician self-referral" prohibition, physicians who have a financial or a compensation relationship with a commercial laboratory may not, unless an exception applies, refer Medicare or Medicaid patients for testing to the laboratory, regardless of the intent of the parties. Similarly, laboratories may not bill Medicare or Medicaid for services furnished pursuant to a prohibited self-referral. There are several Stark Law exceptions that are relevant to arrangements involving clinical laboratories, including: (i) fair market value compensation for the provision of items or services; (ii) payments by physicians to a laboratory for commercial laboratory services; (iii) ancillary services (including laboratory services) provided within the referring physician's own office, if certain criteria are satisfied; (iv) physician investment in a company whose stock is traded on a public exchange and has stockholder equity exceeding $75.0 million; and (v) certain space and equipment rental arrangements that are set at a fair market value rate and satisfy other requirements. Many states have their own self-referral laws as well, which in some cases apply to all patient referrals, not just government reimbursement programs.

In December 2020, the OIG and CMS published final rules to amend the regulations implementing the Anti-Kickback Statute and the Stark Law, respectively. The amendments are primarily intended to alleviate perceived impediments to coordinated care and value-based compensation arrangements through new safe harbors to the Anti-Kickback Statute and new exceptions to the Stark Law and have varying degrees of applicability to laboratories. The CMS final rule incorporates laboratories and permits support for value-based arrangements, under certain conditions for purposes of the Stark Law. However, the OIG final rule excludes laboratories from protection under the Anti-Kickback Statute safe harbors for value-based arrangements.

There are a variety of other types of U.S. and state fraud and abuse laws, including laws prohibiting submission of false or fraudulent claims. We seek to conduct our business in compliance with all U.S. and state fraud and abuse laws. We are unable to predict how these laws will be applied in the future, and no assurances can be given that our arrangements will not be subject to scrutiny under such laws. Sanctions for violations of these laws may include exclusion from participation in Medicare, Medicaid, and other U.S. or state healthcare programs, significant criminal and civil fines and penalties, and loss of licensure. Any exclusion from participation in a U.S. healthcare program, or material loss of licensure, arising from any action by any federal or state regulatory or enforcement authority, would likely have a material adverse effect on our business. In addition, any significant criminal or civil penalty resulting from such proceedings could have a material adverse effect on our business.

Competition

Our principal competition for our lab diagnostic services are commercial laboratories, such as Quest Diagnostics Incorporated and Laboratory Corporation of America Holdings, both of which have significant infrastructures and resources to support their diagnostic processing services. In addition, we compete with large, multispecialty group medical clinics and health systems. Academic medical university-based clinics may also provide in-house clinical laboratories offering COVID-19 and other RPP Molecular tests. Additionally, we compete against regional clinical laboratories providing diagnostic services, including Interpace Biosciences, Inc.

The number of companies entering the personal genomics market has increased in recent years. We face competition from other companies attempting to capitalize on the same, or similar, opportunities as we are, including those with existing diagnostic, laboratory services and other companies entering the personal genetics market with new offerings such as direct access and/or consumer self-pay tests and genetic interpretation services. Some of our current and potential competitors have longer operating histories and greater financial, technical, marketing and other resources than we do. These factors may allow our competitors to respond more quickly or efficiently than we can to new or emerging technologies. These competitors may engage in more extensive research and development efforts, undertake more far-reaching marketing campaigns and adopt more aggressive pricing policies, which may allow them to build larger customer bases than we will be able to achieve. Our competitors may develop products or services that are similar to our products

and services or that achieve greater market acceptance than our products and services. This could attract customers away from our services and reduce our market share.

The pharmaceutical industry is characterized by intense competition and rapid innovation. Our potential competitors include major multi-national pharmaceutical established biotechnology companies, specialty pharmaceutical companies, and universities and other research institutions. Many of our competitors have substantially greater financial, technical, and other resources, such as larger research and development staffs, established manufacturing capabilities and facilities, and experienced marketing organizations with well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies that have greater resources. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated on our competitors. Competition may increase further as a result of advances in the commercial applicability of genome editing or other new technologies and greater availability of capital for investment in these industries. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient enrollment for participation in clinical trials, as well as in acquiring technologies complementary to, or necessary for, our development programs. Our commercial opportunities could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient to administer, have broader acceptance and higher rates of reimbursement by third-party payors, or are less expensive than any product candidates that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, new technologies developed by our competitors may render our product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitor products. The key competitive factors affecting the success of our product candidates are likely to be their efficacy, safety, and availability of reimbursement.

We compete with other contract manufacturers of OTC drug and dietary supplement products. These suppliers range widely in size. We compete primarily on the basis of price, quality and service. Management believes that our manufacturing capacity and abilities offer a significant advantage over many of our competitors in the full-service contract development and manufacturing industry. We have over 20 years of manufacturing experience and industry know how in large scale batch production of OTC lozenge products. To the extent that any of our competitors are able to offer better prices, quality and/or services, however, we could lose customers and our sales and margins may decline.

The OTC healthcare products and dietary supplements industries are highly competitive. Many of the participants in these industries have substantially greater capital resources, technical staffs, facilities, marketing resources, product development, and distribution experience than we do. We believe that our ability to continue to compete in these industries will depend on a number of factors, including product quality and price, availability, speed to market, consumer marketing, reliability, credit terms, brand name recognition, delivery time and post-sale service and support. However, our failure to appropriately and timely respond to consumer preferences and demand for new products could significantly harm our business, financial condition and results of operations. Furthermore, unfavorable publicity or consumer perception of products we develop and commercialize could have a material adverse effect on our business and operations.

Human Capital Management

We consider talent attraction, development, engagement and retention a key driver to our business success. We are committed to developing a comprehensive, cohesive and positive company culture and employee experience. At December 31, 2023, we employed 113 full-time employees, of which 47 were engaged in our contract manufacturing operations and 82 employees were providing diagnostic services.

We emphasize a number of measures and objectives in managing our human capital assets, including, among others, employee safety and wellness, talent acquisition and retention, employee engagement, development and training, diversity and inclusion, and compensation. None of our employees are represented by a labor organization or under any collective-bargaining arrangements. We consider our employee relations to be good.

We are committed to fostering an environment where all employees can grow and thrive. A diverse workforce results in a broader range of perspectives, helping drive our commitment to innovation. Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our cash and equity incentive plans are to attract, retain and reward personnel through the granting of cash-based and stock-based compensation awards, in order to increase

stockholder value and the success of our Company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

The success of our business is fundamentally connected to the well-being of our employees. We understand that good health leads to better performance. We provide our employees and their families with access to a variety of flexible and convenient health and wellness programs, health reimbursement accounts and retirement savings plan Our health and wellness programs include benefits that provide support to manage events that may require time away from work or that impact their financial well-being and that support their physical and mental health by providing tools and resources to help them improve or maintain their health status and encourage engagement in healthy behaviors. We regularly evaluate our benefits package to make modifications that are aligned with the competitive landscape, legislative changes, and the unique needs of our business and culture.

Corporate Information

We were initially organized in Nevada in July 1989. Effective June 18, 2015, we changed our state of incorporation from the State of Nevada to the State of Delaware. Our principal executive offices are located at 711 Stewart Avenue, Suite 200, Garden City, New York 11530 and our telephone number is 215-345-0919.

Where You Can Find Other Information

We file periodic and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). We make available on our website (www.ProPhaseLabs.com) free of charge our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to or exhibits included in those reports as soon as reasonably practical after we electronically file such materials with or furnish them to the SEC. Information appearing on our website is not part of this Annual Report. In addition, the SEC maintains an Internet site (www.sec.gov) that contains reports, proxy and information statements regarding issuers that file electronically with the SEC, including the Company.

Item 1A. Risk Factors

The following discussion addresses risks and uncertainties that could cause, or contribute to causing, actual results to differ from our expectations in material ways. In evaluating our business, investors should pay particular attention to the risks and uncertainties described below and in other sections of this Annual Report and in our subsequent filings with the SEC. These risks and uncertainties, or other events that we do not currently anticipate or that we currently deem immaterial, may also affect our results of operations, cash flows and financial condition. The trading price of our common stock could also decline due to any of these risks. The following information should be read in conjunction with Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes included in Part II, Item 8, "Financial Statements and Supplementary Data" of this Annual Report.

Risks Related to Our Business Generally

We have incurred significant losses and accounts receivable, have limited cash on hand, and anticipate that we may continue to incur losses for the foreseeable future.

We have had limited history of profitability. While we were profitable for years ended December 31, 2022 and 2021 due to the diagnostic services that we provided, there is no certainty that we will be profitable in future years. We incurred net losses of approximately $16.8 million as of December 31, 2023 and expect to continue to incur significant operating and capital expenditures. We anticipate that our expenses will increase substantially if, and as we:

- continue our current research programs and our preclinical and clinical development of product candidates;
- initiate preclinical studies and clinical trials for any other product candidates we identify and choose to develop;
- expand, maintain, enforce and/or defend our intellectual property;
- seek marketing approvals for any of our product candidates that successfully complete clinical trials;
- hire additional clinical, quality control and scientific personnel;
- establish, expand or contract for manufacturing capabilities;
- add operational, financial and management information systems and personnel, including personnel to support our product candidate development; and

- acquire or in-license other technologies.

Because of the numerous risks and uncertainties associated with our business, we are unable to predict the extent of any future losses or when we will become profitable, if at all. Even if we do become profitable, we may not be able to sustain or increase our profitability on a quarterly or annual basis.

With the significant reduction of our diagnostic services and as we fund capital expenditures, we also expect to experience limited cash flow for the foreseeable future. We cannot guarantee that revenues from the genomics business and the contract manufacturing business will be sufficient to supplant the reduction in the diagnostic services revenues. If these revenues are not sufficient to replace the revenues from our diagnostic services, then the Company may continue to suffer yearly losses. As a result, we will need to generate significant revenues in order to achieve profitability or raise significant capital. We may not be able to generate these revenues or raise capital in the future. Our failure to achieve or maintain profitability could negatively impact the value of our common stock. *Refer to risk factors under the section titled "Risks Related to Our Diagnostic Business" for more information relating to risks associated with our diagnostic services and the significant reduction of such services.*

We have limited cash on hand, and we will need substantial additional funding and if we are unable to raise additional capital when needed, we may need to incur indebtedness or issue common stock or other securities to finance our operations.

As of December 31, 2023, year-to-date cash used by operating activities was approximately $11.3 million and cash and cash equivalents and marketable securities available for sale were approximately $4.7 million. The Company believes that it has sufficient cash on hand to fund its operations into March of 2025. The exact duration that our liquidity will be sufficient to fund operations depends upon many factors, some of which are outside the control of the Company and is difficult to predict. Our future capital requirements will depend on, and could increase significantly as a result of, many factors, including:

- the scope, progress, results and costs of clinical trials, drug discovery, preclinical development, and laboratory testing for our wholly owned and partnered product candidates;
- the scope, prioritization and number of our research and development programs;
- the costs, timing and outcome of regulatory review of our products or product candidates;
- the costs of establishing and maintaining a supply chain for the development and manufacture of our customer's or our product candidates;
- the success of our collaborations with our third-party collaborators;
- our ability to establish and maintain additional collaborations on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any additional collaboration agreements we obtain;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, clinical trial costs under future collaboration agreements, if any;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the costs of fulfilling our obligations under licensing agreements;
- the extent to which we acquire or in-license other product candidates and technologies;
- the costs of expanding our manufacturing capabilities;
- the costs of establishing or contracting for sales and marketing capabilities if we obtain regulatory approvals to market our product candidates; and
- our ability to establish and maintain healthcare coverage and adequate reimbursement.

In addition, as of December 31, 2023, we had a total of approximately $36.3 million in accounts receivable. These accounts receivable consist primarily of amounts due from government agencies and healthcare insurers, and there is no guarantee we will ever collect the balances. To the extent that we do not generate sufficient cash from operations or do not collect our accounts receivable, our cash balances will decline.

In the event our available cash is insufficient to support such initiatives, we may need to incur indebtedness or issue common stock or other securities to finance our operations. Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our products or product candidates or expand our manufacturing capabilities. We cannot guarantee that future financing will be available in sufficient amounts or on terms acceptable to us, if at all. Moreover, the terms of any financing may adversely affect the holdings or the rights of our stockholders and the issuance of additional securities, whether equity or debt, by us, or the possibility of such issuance, may cause the market price of our shares to decline. The sale of additional equity or

convertible securities would dilute all of our stockholders and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a stockholder. The incurrence of indebtedness would result in increased fixed payment obligations and we may be required to agree to certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. We could also be required to seek funds through arrangements with collaborators or otherwise at an earlier stage than otherwise would be desirable and we may be required to relinquish rights to some of our technologies or product candidates or otherwise agree to terms unfavorable to us, any of which may have a material adverse effect on our business, operating results and prospects.

If we are unable to obtain funding on a timely basis, we may be required to significantly curtail, delay or discontinue one or more of our research or development programs or the commercialization of any product or product candidate, or be unable to expand our manufacturing capabilities or operations or otherwise capitalize on our business opportunities, as desired, which could materially affect our business, financial condition and results of operations.

We will face legal, reputational, and financial risks if we fail to protect our customer data from security breaches or cyberattacks. Changes in laws or regulations relating to privacy or the protection or transfer of data relating to individuals, or any actual or perceived failure by us to comply with such laws and regulations or any other obligations relating to privacy or the protection or transfer of data relating to individuals, could adversely affect our business.

We receive and store a large volume of personally identifiable information, genetic information, and other data relating to our customers, as well as other personally identifiable information and other data relating to individuals such as our employees. Security breaches, employee malfeasance, or human or technological error could lead to potential unauthorized disclosure of our customers' personal information. Even the perception that the privacy of personal information is not satisfactorily protected or does not meet regulatory requirements could inhibit sales of our solutions and any failure to comply with such laws and regulations could lead to significant fines, penalties or other liabilities.

Increased global information technology security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability, and integrity of our data. There have been several recent, highly publicized cases in which organizations of various types and sizes have reported the unauthorized disclosure of customer or other confidential information, as well as cyberattacks involving the dissemination, theft, and destruction of corporate information, IP, cash, or other valuable assets.

There have also been several highly publicized cases in which hackers have requested "ransom" payments in exchange for not disclosing customer or other confidential information or for not disabling the target company's computer or other systems.

A security compromise of our information systems or of those of businesses with whom we interact that results in confidential information being accessed by unauthorized or improper persons could harm our reputation and expose us to regulatory actions, customer attrition, remediation expenses, disruption of our business, and claims brought by our customers or others for breaching contractual confidentiality and security provisions or data protection laws. Breaches of health information and/or personal data may be extremely expensive to remediate, may prompt federal or state investigation, fines, civil and/or criminal sanctions and significant reputational damage. Monetary damages imposed on us could be significant and not covered by our liability insurance. Techniques used by bad actors to obtain unauthorized access, disable or degrade service, or sabotage systems evolve frequently and may not immediately produce signs of intrusion, and we may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, a security breach could require that we expend substantial additional resources related to the security of our information systems and providing required breach notifications, diverting resources from other projects and disrupting our businesses. If we experience a data security breach, it could result in increased costs or loss of revenue; our reputation could be damaged; and we could be subject to additional litigation, regulatory risks and other business losses.

A security breach or privacy violation that leads to unauthorized disclosure or loss of unauthorized use or modification of, or that prevents access to or otherwise impacts the confidentiality, security, or integrity of, sensitive, confidential, or proprietary information we or our third-party service providers maintain or otherwise process, could require us to comply with breach notification laws, and cause us to incur significant costs for remediation, fines, penalties, notification to individuals, media and governmental authorities, implementation of measures intended to repair or replace systems or technology, and to prevent future occurrences, potential increases in insurance premiums, and forensic security audits or investigations. Our failure, or the failure by our third-party providers on our platform, to comply with applicable laws or regulations or any other obligations relating to privacy, data protection, or information security, or any compromise of security that results in unauthorized access to, or use or release of personally identifiable information or other data

relating to our customers, or other individuals, or the perception that any of the foregoing types of failure or compromise have occurred, could damage our reputation, discourage new and existing customers from using our platform, or result in fines, investigations, or proceedings by governmental agencies and private claims and litigation, any of which could adversely affect our business, financial condition, and results of operations. Even if not subject to legal challenge, the perception of privacy concerns, whether or not valid, may harm our reputation and brand and adversely affect our business, financial condition, and results of operations.

Our failure to manage our growth successfully could harm our growth and operating results.

Since our sale of the Cold-EEZE™ business in March 2017, we have actively explored and pursued new product technologies, applications, product line extensions and other new product and business opportunities.

In October 2020, we purchased our first CLIA licensed laboratory in Old Bridge, New Jersey, where we offered a variety of important medical tests, including, among others, COVID-19 diagnostic testing and Influenza A and B. In December 2020, we expanded our diagnostic services to a second location in Garden City, New York. In August 2021, we acquired Nebula, a privately-owned personal genomics company. We have transitioned Nebula's whole genome sequencing services into the area where clinical diagnostic services were offered at our CLIA-certified molecular testing laboratories. In March 2022, we formed ProPhase Biopharma, Inc. for the licensing, development and commercialization of novel drugs, dietary supplements, and compounds. We may in the future consider and pursue investments and acquisitions in other sectors and industries.

We have and will continue to incur significant expenses as we grow our new businesses. In order for us to be profitable, we must generate sufficient revenue to cover our expenses. There can be no assurance that our different business lines will succeed or that we will be successful in initiating or acquiring any new lines of business in the future, or that any such new business lines will achieve profitability.

Our businesses are subject to significant competitive pressures.

The number of companies entering the personal genomics market has increased in recent years. We face competition from other companies attempting to capitalize on the same, or similar, opportunities as we are, including those with existing diagnostic, laboratory services and other companies entering the personal genetics market with new offerings such as direct access and/or consumer self-pay tests and genetic interpretation services. Some of our current and potential competitors have longer operating histories and greater financial, technical, marketing and other resources than we do. These factors may allow our competitors to respond more quickly or efficiently than we can to new or emerging technologies. These competitors may engage in more extensive research and development efforts, undertake more far-reaching marketing campaigns and adopt more aggressive pricing policies, which may allow them to build larger customer bases than we will be able to achieve. Our competitors may develop products or services that are similar to our products and services or that achieve greater market acceptance than our products and services. This could attract customers away from our services and reduce our market share.

The pharmaceutical industry is characterized by intense competition and rapid innovation. Our potential competitors include major multi-national pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, and universities and other research institutions. Many of our competitors have substantially greater financial, technical, and other resources, such as larger research and development staffs, established manufacturing capabilities and facilities, and experienced marketing organizations with well-established sales forces. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies that have greater resources. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated on our competitors. Competition may increase further as a result of advances in the commercial applicability of genome editing or other new technologies and greater availability of capital for investment in these industries. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient enrollment for participation in clinical trials, as well as in acquiring technologies complementary to, or necessary for, our development programs. Our commercial opportunities could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient to administer, have broader acceptance and higher rates of reimbursement by third-party payors, or are less expensive than any product candidates that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market.

Additionally, new technologies developed by our competitors may render our product candidates uneconomical or obsolete, and we may not be successful in marketing any product candidates we may develop against competitor products. The key competitive factors affecting the success of our product candidates are likely to be their efficacy, safety, and availability of reimbursement.

We compete with other contract manufacturers of OTC drug and dietary supplement products. These suppliers range widely in size. We compete primarily on the basis of price, quality and service. Management believes that our manufacturing capacity and abilities offer a significant advantage over many of our competitors in the full-service contract development and manufacturing industry. We have over 20 years of manufacturing experience and industry know how in large scale batch production of OTC lozenge products. To the extent that any of our competitors are able to offer better prices, quality and/or services, however, we could lose customers and our sales and margins may decline.

The OTC healthcare products and dietary supplements industries are highly competitive. Many of the participants in these industries have substantially greater capital resources, technical staffs, facilities, marketing resources, product development, and distribution experience than we do. We believe that our ability to continue to compete in these industries will depend on a number of factors, including product quality and price, availability, speed to market, consumer marketing, reliability, credit terms, brand name recognition, delivery time and post-sale service and support. However, our failure to appropriately and timely respond to consumer preferences and demand for new products could significantly harm our business, financial condition and results of operations. Furthermore, unfavorable publicity or consumer perception of products we develop and commercialize could have a material adverse effect on our business and operations.

Unfavorable global economic conditions, including any adverse macroeconomic conditions or geopolitical events, including a pandemic, epidemic or infectious disease outbreak, the conflict in Ukraine or Gaza Strip, and bank failures affecting the financial services industry, could adversely affect our business, financial condition, results of operations or liquidity, either directly or through adverse impacts on certain of the third parties that we rely upon for our business operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets, including but not limited to a pandemic, epidemic or infectious disease outbreak such as COVID-19 pandemic, the conflict in Ukraine or Gaza Strip, and bank failures affecting the financial services industry. Global economic and business activities continue to face widespread uncertainties, and global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts, rising interest rates, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks, and uncertainty about economic and geopolitical stability. A severe or prolonged economic downturn, or additional global financial or political crises, could result in a variety of risks to our business, including delayed clinical trials or preclinical studies, delayed approval of our product candidates, delayed ability to obtain patents and other intellectual property protection, weakened demand for our product or product candidates, if approved, or our ability to raise additional capital when needed on acceptable terms, if at all. The extent of the impact of these conditions on our operational and financial performance, including our ability to execute our business strategies and initiatives in the expected timeframe, as well as that of third parties upon whom we rely, will depend on future developments which are uncertain and cannot be predicted. A weak or declining economy also could strain our suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business. Furthermore, our stock price may decline due in part to the volatility of the stock market and the general economic downturn.

Disruptions to our supply chain could materially and adversely affect our business, financial condition and results of operations.

Disruptions to our supply chain, including our access to testing supplies and personal protective equipment for our diagnostic services business, materials and equipment (such as our saliva collections kits) necessary for our personal genomics business, and raw materials and product components necessary for our manufacturing operations, could have a material impact on our business, financial condition and results of operations.

We do not have long-term contracts with most of our suppliers. Although we maintain relationships with suppliers with the objective of ensuring that we have adequate supply for the delivery of our products and services, increases in

demand for such items and services can result in shortages and higher costs. Our suppliers may not be able to meet our delivery schedules. Further, we may experience shortages in certain items as a result of limited availability, increased demand, pandemics (such as the COVID-19 pandemic), epidemics or other infectious disease outbreaks, weather conditions and natural disasters, global economic conditions, as well as other factors outside of our control.

The COVID-19 pandemic adversely impacted, and it or another pandemic, epidemic or infectious disease outbreak may in the future adversely impact, third parties that are critical to our businesses, including vendors, suppliers, and business partners. While our businesses have not been significantly negatively impacted up to this point by the COVID-19 pandemic, it is difficult if not impossible to predict whether and how we could be impacted by the COVID-19 pandemic, or another pandemic, epidemic or infectious disease outbreak, in the future.

Increases in the price of testing supplies, equipment and raw materials needed for our businesses and costs associated with doing business could materially and adversely affect our business, financial condition and results of operations.

We purchase certain materials and equipment (such as our saliva collections kits) for our personal genomics business and certain key raw materials and product components for our manufacturing operations.

If the price of these supplies, equipment, raw materials, and components were to increase significantly, we may not be able to pass on such increases to customers who use our services or purchase our products, which could have a material adverse impact on our business, financial condition and results of operations.

Our freight costs may also increase due to factors such as limited carrier availability, increased fuel costs, increased compliance costs associated with new or changing government regulations, pandemics (such as the COVID-19 pandemic), epidemics or other infectious disease outbreaks, or inflation. Higher prices for natural gas, propane, electricity and fuel may also increase our production and delivery costs. The prices charged for our products may not reflect changes in our packaging material, freight, tariff and energy costs at the time they occur, or at all.

The adulteration of key testing materials and raw materials needed for our businesses could materially and adversely affect our business, financial condition and results of operations.

We are reliant upon the supply of genomics testing materials and raw materials that meet our specifications and the specifications of third parties for whom we manufacture. If any genomics testing material or raw material is adulterated and does not meet our specifications or third parties' specifications, it could significantly impact our ability to perform genomic services or manufacture products and could materially and adversely impact our business, financial condition and results of operations.

We may be subject to product liability claims.

As a direct marketer and manufacturer of products designed for human consumption, we are subject to product liability claims if the use of our products or the products that we manufacture for third parties are alleged to have resulted in injury or to include inadequate instructions for use or inadequate warnings concerning possible side effects and interactions with other substances. Our current products and the products that we currently manufacture for third parties are not subject to pre-market regulatory approval in the United States and could contain contaminated substances.

While we currently maintain product liability insurance, a successful claim brought against us related to our branded products or products that we manufacture for third parties in excess of, or outside of, our existing insurance coverage, could result in increased costs and could adversely affect our reputation with customers, which could in turn materially adversely affect our business, financial condition and results of operations.

We may require additional capital to support our growing personal genomics business, product development and commercialization programs, and biopharmaceutical business, but additional funding may not be available to us on acceptable terms, or at all.

The amount of capital that may be needed to support our various businesses will depend on many factors which may include, but are not limited to (i) the revenue we generate from our personal genomics products and services, drug and dietary supplement lines, and contract manufacturing services; (ii) the expenses we incur in growing these businesses and

services; (iii) the cost involved in applying for and obtaining FDA, international regulatory or other technical approvals, if required; and (iv) whether we elect to establish partnering or other strategic arrangements for the development, sales, manufacturing and marketing of our products and services.

Income from our various businesses may not generate all the funds we need to support the growth of these businesses. To the extent that we do not generate sufficient cash from operations, we may, in the short and long-term, seek to raise capital through the issuance of equity securities or through other financing sources. To the extent that we seek to raise additional funds by issuing equity securities, our stockholders may experience significant dilution. Any debt financing, if available, may include financial and other covenants that could restrict our use of the proceeds from such financing or impose other business and financial restrictions on us. In addition, we may consider alternative approaches such as licensing, joint venture, or partnership arrangements to provide long-term capital. Additional funding may not be available to us on acceptable terms, or at all.

Adverse credit market conditions may significantly affect our access to capital, cost of capital and ability to meet liquidity needs.

Disruptions, uncertainty or volatility in the credit markets could adversely impact the availability and cost of credit to us in the future. For example, the credit and financial markets may be adversely affected by the war in Ukraine and measures taken in response thereto. If the credit markets are not favorable, we may be forced to delay raising capital or pay unattractive interest rates, which could increase our interest expense, decrease our profitability and significantly reduce our financial flexibility. Longer-term disruptions in the capital and credit markets as a result of uncertainty, changing or increased regulation, reduced alternatives or failures of significant financial institutions could adversely affect our access to liquidity needed for our business. Any disruption could require us to take measures to conserve cash until the markets stabilize or until alternative credit arrangements or other funding for our business needs can be arranged. Such measures could include deferring capital expenditures or other discretionary uses of cash. Overall, our results of operations, financial condition and cash flows could be materially adversely affected by disruptions in the credit markets.

System failures could adversely affect our results of operations and financial condition.

Like many companies, our business is highly dependent upon our information technology infrastructure (websites, accounting and manufacturing applications, and product and customer information databases) to manage effectively and efficiently our operations, including order entry, customer billing, accurate tracking of purchases and volume incentives and managing accounting, finance and manufacturing operations. The occurrence of a natural disaster, security breach or other unanticipated problem could result in interruptions in our day-to-day operations that could adversely affect our business. A long-term failure or impairment of any of our information systems could have a material adverse effect on our results of operations and financial condition.

We may not be successful without our key personnel.

Our success depends, in part, upon the continued service of key personnel, such as Mr. Ted Karkus, Chairman and Chief Executive Officer, and certain managers and strategists within the Company. The loss of the services of any one of them could have a material adverse effect on us.

In order to be successful, we must retain and motivate executives and other key employees, including those in managerial, technical, marketing and health product positions. In particular, our product generation efforts depend on hiring and retaining qualified health and science professionals. Competition for skilled employees who can perform the services that we require is intense and hiring, training, motivating, retaining and managing employees with the skills required is time-consuming and expensive. If we are not able to hire sufficient professional staff to support our operations, or to train, motivate, retain and manage the employees we do hire, it could have a material adverse effect on our business operations or financial results.

We may not be successful in executing our growth strategy to identify, discover, develop, in-license or acquire additional product candidates or technologies, and our growth strategy may not deliver the anticipated results or we may refine or otherwise alter our growth strategy. We may seek to acquire businesses or undertake business combinations, collaborations or other strategic transactions which may not be successful or on favorable terms, if at all, and we may not realize the intended benefits of such transactions.

We have acquired or in-licensed certain of our existing diagnostic tests, such as BE-Smart Esophageal Pre-Cancer diagnostic screening test, and product candidates, such as Linebacker LB-1 and LB-2. As part of our strategy, we plan to continue to identify products, diagnostic tests, product candidates or technologies that we believe are complementary to our existing products, diagnostic tests, and product candidates. We may do this through our internal discovery program, or by acquiring the rights to products, diagnostic tests, product candidates, and technologies through a variety of transaction types, including in-licensing, strategic transactions, mergers or acquisitions.

Research programs and business development efforts to identify new products, diagnostic tests, product candidates, and technologies require substantial technical, financial, and human resources. We may focus our efforts and resources on potential products, diagnostic tests, product candidates, technologies or businesses that ultimately prove to be unsuccessful. Our research programs and business development efforts, including businesses or technology acquisitions, collaborations or licensing attempts, may fail to yield additional complementary or successful products, diagnostic tests, and product candidates for clinical development and commercialization or successful business combinations for a number of reasons, including, but not limited to, the following:

- our research or business development methodology or search criteria and process may be unsuccessful in identifying potential product candidates or businesses with a high probability of success for development progression;
- we may not be able or willing to assemble sufficient resources or expertise to in-license, acquire or discover additional products, diagnostic tests, and product candidates, acquire businesses or undertake business combinations, collaborations, or other strategic transactions;
- we may not be able to agree to acceptable terms with potential licensors or other partners or with respect to business acquisitions;
- we may incur substantial liabilities as part of an acquisition or merger that may not be offset by the benefits of the acquired assets or the synergies we hope to realize; and
- any product candidates or technologies to which we acquire the rights or that we discover may not allow us to leverage our expertise and our development and commercial infrastructure as currently expected.

In addition, we cannot be certain that such discovery of, or transaction related to, targeted products, diagnostic tests product candidates or technologies will be on favorable terms; or that, following any such discovery or transaction, we will be able to realize the intended benefits of it. The consummation or performance of any acquisition, business combination, collaboration or other strategic transaction we may undertake in furtherance of our growth strategy or any refined or otherwise altered strategy, may involve additional risks, such as difficulties in assimilating different workplace cultures, retaining personnel and integrating operations, which may be geographically dispersed, increased costs, exposure to liabilities, incurrence of indebtedness, or use a substantial portion of our available cash for all or a portion of the consideration or cause dilution to our existing stockholders if we issue equity securities for all or a portion of the consideration. If any of these events occurs or we are unable to meet our strategic objectives for any such transaction, we may not be able to achieve the expected benefits from the transaction and our business may be materially harmed.

Furthermore, in-licensing and acquisitions of products, diagnostic tests, product candidates, technologies or businesses often require significant payments and expenses and consume additional resources. We will need to continue to devote a substantial amount of time and personnel to research, develop and commercialize any such in-licensed or acquired products, diagnostic tests, product candidate or technologies, or integrate any new business, including extensive nonclinical or clinical testing, or both, and approval by the FDA and applicable foreign regulatory authorities, if any. All such products are prone to risks of failure inherent in pharmaceutical product development, including the possibility that the diagnostic tests, product candidate, or product developed based on in-licensed technology, will not be shown to be effective or sufficiently safe for approval by regulatory authorities. If intellectual property related to products, diagnostic tests, product candidates or technologies we in-license or acquire is not adequate, we may not be able to commercialize the affected products even after expending resources on their development. In addition, we may not be able to economically manufacture or successfully commercialize any product, diagnostic test or product candidate that we develop based on acquired or in-licensed technology that is granted regulatory approval, and such products may not gain wide acceptance or be competitive in the marketplace. Moreover, integrating any newly acquired or in-licensed product candidates could be expensive and time-consuming. If we cannot effectively manage these aspects of our business strategy, we may ultimately decide to reprioritize our efforts even after having expended resources on a particular prospect, and our business may be materially harmed.

If we are unable to identify, discover, develop (in-license or otherwise acquire), and integrate new products, diagnostic tests or product candidates, or their related companies, in accordance with this strategy, our growth strategy or strategic transactions may not deliver the anticipated results, our ability to pursue this component of our growth strategy would be limited, and we may need to refine or otherwise alter this strategy. We cannot be certain that we will be successful in such efforts.

We may not be able to successfully develop and commercialize our business units in the MENA region in accordance with our expansion strategy; regulatory requirements vary from country to country, including those in the MENA region; and changes in the value of the relevant currencies used in our operations, including those used in the MENA region, may adversely impact our operations.

In June 2023, we announced our intention to develop our business units in the MENA region, in particular, the Gulf Cooperation Council, an alliance of six Arab states in the Persian Gulf region, which includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Our entry into new markets may place a significant strain on our resources and increase demands on our executive management, personnel and operational systems, and our human, administrative and financial resources may be inadequate to meet these demands. Conducting and launching operations on an international scale requires close coordination of activities across multiple jurisdictions and time zones and consumes significant management resources. If we fail to coordinate and manage these activities effectively, our business, financial condition or results of operations could be adversely affected.

Each jurisdiction in the MENA region that we target for commercialization of our products requires regulatory approvals and compliance with numerous and sometimes varying regulatory requirements. The approval procedures vary among countries and may involve requirements for additional testing, and the time required to obtain approval may differ from country to country in the MENA region and from that required to obtain clearance or approval in the United States. Approval or clearance in the United States does not ensure approval or certification by regulatory authorities in other countries or jurisdictions, and approval or certification by one regulatory authority in the MENA region does not ensure approval or certification by regulatory authorities in other countries in the MENA region or the United States. Any non-U.S. regulatory approval or certification process may include similar risks associated with obtaining clearance or approval in the United States. In addition, some countries only approve or certify a product for a certain period of time, in which case we will be required to re-approve or re-certify our products in a timely manner prior to the expiration of our prior approval or certification. We may not obtain regulatory approvals that we seek on a timely basis, if at all. We may not be able to file for regulatory approvals or certifications and may not receive or maintain necessary approvals to commercialize our products in any MENA market. If we fail to receive or maintain necessary approvals or certifications to commercialize our products in any MENA jurisdiction on a timely basis, or at all, or if we fail to have our products re-approved or re-certified, our business, results of operations and financial condition could be materially and adversely affected.

Even if we successfully receive regulatory approvals and can commercialize our products, diagnostic tests, and product candidates in one or more of the jurisdictions in the MENA region, international sales entail a variety of risks, including longer payment cycles and difficulties in collecting accounts receivable outside of the United States, currency exchange fluctuations, challenges in staffing and managing foreign operations, tariffs and other trade barriers, unexpected changes in legislative or regulatory requirements of foreign countries into which we sell our products, difficulties in obtaining export licenses or in overcoming other trade barriers, laws and business practices favoring local companies, political instability, including conflicts and tensions involving the Israel-Hamas war, economic instability, difficulties protecting or procuring intellectual property rights, and restrictions resulting in delivery delays and significant taxes or other burdens of complying with a variety of foreign laws. In addition, expansion into the MENA markets may be affected by local economic and market as well as geopolitical conditions of each MENA country.

Changes in the value of the relevant currencies in the MENA region may affect the cost of certain items required in our operations. Changes in currency exchange rates may also affect the relative prices at which we are able to sell products in the same market. Our revenue from customers in the MENA region may be negatively impacted as increases in the U.S. dollar relative to such customers' local currency could make our products more expensive, impacting our ability to compete. Our costs of materials from international suppliers may increase if in order to continue doing business with us they raise their prices as the value of the U.S. dollar decreases relative to their local currency. Foreign policies and actions regarding currency valuation could result in actions by the United States and other countries to offset the effects of such fluctuations. The recent global financial downturn has led to a high level of volatility in foreign currency exchange rates

and that level of volatility may continue, which could adversely affect our business, financial condition or results of operations.

Risks Related to Our Diagnostics Business

We may be unable to substitute the revenues from our lab diagnostic services or tests with new business segments.

During years end December 31, 2023 and 2022, the net revenue from diagnostic services was $24.8 million and $108.3 million, respectively, which were 54.9% and 88.3% of our net revenue, respectively. By significantly decreasing our diagnostic services in 2023 and beyond, we will no longer generate the same level of revenues as we did in previous years for this business segment. Unless we are able to increase our revenues from existing or new line of businesses, our overall revenue will be lower than they have been for these historical periods and could adversely impact our business.

Our ability to reduce our accounts receivable depends on our collection of payment for the diagnostic tests we delivered, which we may not be able to do successfully as the process is complex and time-consuming, and any delay in collecting claims could have an adverse effect on our revenue.

Billing for our diagnostic tests was complex, time-consuming and expensive. Depending on the billing arrangement and applicable law, we were required to bill different parties for our tests. This included billing customers directly, as in the case of our hospital and other medical institution customers, as well as billing through Medicare, Medicaid, insurance companies and patients, all of which may have different billing requirements. Collection of receivables from third-party payors and patients is our primary source of cash from our diagnostic testing service and is critical to our results of operations.

Our primary collection risks relate to uninsured patients and the portion of the bill that is the patient's responsibility, which primarily includes co-payments and deductibles. We faced and continue to face increased risk in our collection efforts due to the complexities of billing requirements, long collection cycles and lower collection rates, which adversely affected and could continue to affect our business, results of operations and financial condition. Our collection risks also include the potential for default or bankruptcy by the party responsible for payment and other risks associated with payment collection generally.

We also have substantial receivables due to us from certain government-based funding programs. Our payor base for our COVID-19 and influenza tests were principally comprised of governmental bodies, municipalities, and large corporations who paid us directly or through third-party payors. In March 2020, the CARES Act was enacted, providing for reimbursement to healthcare providers for COVID-19 tests provided to uninsured individuals, subject to continued available funding. On March 22, 2022, the Health Resources & Services Administrations ("HRSA") uninsured program stopped accepting claims for COVID-19 testing and treatment due to the lack of sufficient funds. Despite requests from the Acting Director of the Office of Management and Budget and the White House Coordinator for COVID-19 Response for additional emergency funding for the uninsured program, additional emergency funding were not allocated to the HRSA uninsured program. The expiration of the federal Public Health Emergency on May 11, 2023 also changed regulatory guidelines around COVID-19 testing including billing codes and reimbursement rates of in and out of network laboratories. Approximately 28.0% of our diagnostic services revenue for the year ended December 31, 2022 was generated from the HRSA program for the uninsured. None of our diagnostic revenues for the year ended December 31, 2023 was generated from the HRSA program for the uninsured.

At December 31, 2023, insurers had significantly aged balances that we are continuing to work to collect. For the years ended December 31, 2023 and 2022, our accounts receivable were approximately 89.3% and 95.2%, respectively, from diagnostic testing services. We estimate our provisions for doubtful accounts based on a number of factors such as payer mix, the agings of the receivables, historical collection experience and assessment of probability of future collections. We routinely review accounts receivable balances in conjunction with these factors and other economic conditions that might ultimately affect the collectability of the patient accounts and make adjustments to our allowances as warranted. In addition, in determination of our year-end reserve balance, our management considered the specific facts and circumstances related to each of the individual payors. However, there will inevitably be billings that are rejected by the insurance carriers and associated receivables that will not be collected. While past history is helpful in informing the determination of an appropriate reserve, its utility is somewhat limited by the circumstances underlying a significant portion of these aged balances; specifically, an unprecedented volume of activity related COVID-19 diagnostic testing. Accordingly, the determination of an appropriate year-end reserve balance required significant management judgment, and the year-end reserve balance established may not be sufficient due to the changes in the facts and circumstances set forth

above overtime. We have hired third-party collection providers to assist us with our collection efforts. However, we cannot ensure that we or our third-party collection provider will be successful in collecting outstanding balances. Our inability to collect outstanding balances and reduce our accounts receivable could cause our revenue and ability to achieve profitability to decline and adversely affect our business, prospects and financial condition.

Risks Related to Our Personal Genomics Business

Prior to our acquisition of Nebula, we had no specific experience operating a personal genomics business. Our success in this industry will depend, in large part, on our ability to establish our presence in the personal genetics market, provide customers with a high level of service at a competitive price, achieve sufficient sales volume to realize economies of scale, and create innovative new features, products, and services to offer to our customers. Our failure to achieve any of these outcomes could adversely affect our business.

Prior to our acquisition of Nebula in 2021, we had no specific experience operating a personal genomics business. Our success in this industry will depend, in large part, on our ability to establish and maintain our presence in this market, provide customers with a high level of service at competitive prices, achieve sufficient sales volume to realize economies of scale, and create innovative new features, products and services to offer to our customers. If customers do not perceive our personal genomic reports to be reliable and of high quality, if we fail to introduce new and improved products and services, or if we introduce new products or services that are not favorably received by the market, we may not be able to attract or retain customers.

The growth and expansion of our genomics business and service offerings will place a continuous strain on our management, operational and financial resources. We will be required to manage multiple relationships with various strategic suppliers, customers and other third parties, including regulatory agencies. To effectively manage our growth, we must continue to implement and improve our operational, financial and management information systems and to expand, train and manage our employee base. In the event of further growth of our operations or in the number of our third-party relationships, our supply, systems, procedures or internal controls may not be adequate to support our operations and our management may not be able to manage any such growth effectively.

If our estimates of the total addressable market for personal genomic services and the potential for market growth prove to be inaccurate, our business, financial condition, results of operations and prospects may be negatively affected.

Our estimates and forecasts for the personal genomic service market are based on a number of complex assumptions, internal and third-party estimates, and other business data, including assumptions and estimates relating to our ability to leverage our diagnostic testing facilities to generate revenue from personal genomic services. While we believe our assumptions and the data underlying our estimates are reasonable, there are inherent challenges in measuring or forecasting such information. As a result, these assumptions and estimates may not be correct and the conditions supporting our assumptions or estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors and indicators. Consequently, our estimates of the total addressable market and our forecasts of market growth and future revenue from our products and services may prove to be incorrect. For example, if the annual total addressable market or the potential market growth for our products and services is smaller than we have estimated or if the key business metrics we utilize to forecast revenue are inaccurate, it may impair our sales growth and have an adverse impact on our business, financial condition, results of operations and prospects.

Media reports have in the past reported on consumer privacy concerns and the use of genetic information accessed from other genetic databases by law enforcement and governmental agencies. These reports may decrease the overall consumer demand for personal genetic products and services, including ours.

Companies offering personal genomic services and products have received a high degree of media coverage in recent years. Unfavorable publicity or consumer perception of our product and service offerings, including consumer privacy concerns related to any of our existing or future collaborations, could adversely affect our reputation, resulting in a negative impact on the size of our customer base, the loyalty of our customers, the percentage of our customers that consent to participate in any future research programs, and our ability to attract new customers.

If we lose a significant or sole supplier, our business and operations could be materially adversely affected.

Currently, we rely on a two suppliers to manufacture our saliva collection kits and tubes used by customers who purchase our personal genomics services. Change in the supplier or design of certain of the materials that we rely on, in particular the saliva collection kit, could result in a requirement for additional premarket review from the FDA before making such a change.

Any new laboratory or laboratories that are engaged to support our personal genomics business must first be validated in accordance with certain governmental standards before we are able to utilize their services for our U.S. customers. We cannot be certain that we will be able to secure alternative laboratory processing services, materials and equipment, and bring such alternative materials and equipment online and revalidate them without experiencing interruptions in our workflow, or that any alternative materials will meet our quality control and performance requirements of our current contracted laboratories that support our personal genomics business.

Any significant disruption in service on our website, mobile applications, or in our computer or logistics systems, whether due to a failure with our information technology systems or that of a third-party vendor, could harm our reputation and may result in a loss of customers.

Customers purchase our personal genomics testing services and access Nebula offerings through our website or our mobile applications. Our reputation and ability to attract, retain and serve our customers is dependent upon the reliable performance of our and our partners' websites, mobile applications, network infrastructure and content delivery processes. Interruptions to any of these systems, whether due to system failures, computer viruses or physical or electronic break-ins, could affect the security or availability of our or our partner websites or mobile applications, including our databases, and prevent our customers from accessing and using our services.

Our systems and operations are also vulnerable to damage or interruption from fire, flood, power loss, telecommunications failure, terrorist attacks, acts of war, electronic and physical break-ins, earthquake and similar events. In the event of any catastrophic failure involving our or our partner websites, we may be unable to serve our customer web traffic. The occurrence of any of the foregoing risks could result in damage to our systems or could cause them to fail completely, and our insurance may not cover such risks or may be insufficient to compensate us for losses that may occur.

Additionally, our business model is dependent on our ability to deliver testing kits to customers and have kits processed and returned to us. This requires coordination between our logistics providers and third-party shipping services. Operational disruptions may be caused by factors outside of our control such as hostilities, political unrest, terrorist attacks, natural disasters, pandemics, epidemics and other infectious disease outbreaks affecting the geographies where our operations and customers are located. We may not be effective at preventing or mitigating the effects of such disruptions, particularly in the case of a catastrophic event which could cause failure to deliver pre-implantation genetic screening (PGS) kits. Any such disruption may result in lost revenues, a loss of customers and reputational damage, which would have an adverse effect on our business, results of operations and financial condition.

Our personal genomics business is subject to seasonal fluctuations.

Our personal genomics kit sales are impacted by seasonal holiday demand. We expect to generate greater revenues from this business during the first quarter of our fiscal year, due to seasonal holiday demand and the fact that kits that are ordered during the holiday season (which occurs during the fourth quarter of our fiscal year) will generally be recognized as revenue when the customer sends in their kit to the laboratory to be processed and genetic reports are delivered to the customer, which for holiday purchases we expect will occur in the following fiscal quarter. Purchasing patterns of kit sales may also align with other gift-giving and family-oriented holidays such as Mother’s Day and Father’s Day. This seasonality could cause our operating results to vary considerably from quarter to quarter.

We may also experience an increase in lab processing times and costs associated with shipping orders due to freight surcharges due to peak capacity constraints and additional long-zone shipments necessary to ensure timely delivery for the holiday season. Such delays could lead to an inability to meet advertised estimated lab processing times, resulting in customer dissatisfaction or reputational damage. If too many customers access our website within a short period of time, we may experience system interruptions that make our website unavailable or prevent us from efficiently fulfilling orders, which may reduce the volume of kits sold. Also, third-party delivery and direct ship vendors may be unable to deliver merchandise on a timely basis.

We have integrated, and may continue to integrate in the future, machine learning and AI to help us in relation to production and other areas of our business. Machine learning and AI technology present various operational, compliance and reputational risks and if any such risks were to materialize, our business and results of operations may be adversely affected.

We have integrated AI into our production processes and may continue to integrate machine learning and AI. We may continue to integrate machine learning and AI technology into other aspects of our business. Given that machine learning and AI is a new and rapidly developing technology that is in its early stages of business use, it presents a number of operational, compliance and reputational risks. AI algorithms are currently known to sometimes produce unexpected results and behave in unpredictable ways that can generate irrelevant, nonsensical, deficient or incorrect content and results. We expect that there will continue to be new laws or regulations concerning the use of machine learning and AI technology, which might be burdensome for us to comply with and may limit our use of new tools and features based on machine learning and AI technology. Further, the use of machine learning and AI technology involves complexities and may require specialized expertise. We may not be able to attract and retain top talent to support any machine learning and AI technology initiatives and maintain our systems and infrastructure. A disruption or failure in any machine learning and AI systems or infrastructure could result in delays and operational challenges. If any of the operational, compliance or reputational risks were to materialize, our business and results of operations may be adversely affected.

Risks Related to our Contract Manufacturing and Dietary Supplement Business

Disruptions at our the manufacturing facilities of, or any loss of manufacturing certifications by, or termination or other problems under manufacturing and supply agreements between customers and, our wholly owned subsidiary, PMI, could materially and adversely affect our business, financial condition, results of operations and customer relationships.

Any significant disruption at our manufacturing facility for any reason, including regulatory requirements, an FDA determination that the facility is not in compliance with the applicable cGMP regulations, the loss of certifications, power interruptions, destruction or damage to the facility or disruptions related to the COVID-19 pandemic or another pandemic, epidemic or infectious disease outbreak, could disrupt our ability to manufacture products for our contract manufacturing customers and any of our own branded products. Any such disruption could have a material adverse effect on our business, financial condition and results of operations.

Our PMI manufacturing business is subject to seasonal fluctuations and may fluctuate from cold season to cold season.

Because the majority of sales from our PMI manufacturing facility are from cold remedy products, our sales are subject to seasonal fluctuations and influenced by the timing, length and severity of each cold season. Our revenues tend to be higher in the first, third and fourth quarters during the cold season. Generally, a cold season is defined as the period of September to March, when the incidence of the common cold rises as a consequence of the change in weather and other factors.

Our contract manufacturing and dietary supplement businesses are subject to extensive governmental regulation.

Our contract manufacturing and dietary supplement businesses are subject to laws and regulations that cover:

- the formulation, manufacturing, packaging, labeling, distribution, importation, sale and storage of our products;
- the health and safety of our products;
- trade practice and direct selling laws; and
- product claims and advertising.

Compliance with these laws and regulations is time consuming and expensive. Moreover, new regulations could be adopted that would severely restrict the products we sell or manufacture or our ability to continue our business. We are unable to predict the nature of any future laws, regulations, interpretations or applications, nor can we predict what effect additional governmental regulations or administrative orders, when and if promulgated, would have on our business in the future. These future changes could, however, require the reformulation or elimination of certain products; imposition of additional record keeping and documentation requirements; imposition of new federal reporting and application requirements; modified methods of importing, manufacturing, storing or distributing certain products; and expanded or different labeling and substantiation requirements for certain products and ingredients. Any or all of these requirements could harm our business.

In July 2011, the FDA issued draft guidance governing the notification of new dietary ingredients ("NDIs") and in August 2016, the FDA issued revised draft guidance. Although FDA guidance is not mandatory, it is a strong indication of the FDA's current views, including its position on enforcement. We believe that the draft guidance, if implemented as proposed, could have a material impact on our operations. FDA enforcement of the NDI guidance as written could require us to incur additional expenses, which could be significant, and negatively affect our business in several ways, including, but not limited to, the detention and refusal of admission of imported products, the injunction of manufacturing of any dietary ingredients or dietary supplements until the FDA determines that those ingredients or products are in compliance, and the potential imposition of penalties for non-compliance.

Our failure to comply with FTC regulations could result in substantial monetary penalties and could adversely affect our operating results.

The FTC exercises jurisdiction over the advertising of dietary supplements and has instituted numerous enforcement actions against OTC drug companies for failure to have adequate substantiation for claims made in advertising or for the use of false or misleading advertising claims. Failure by us to comply with applicable regulations could result in substantial monetary penalties, which could have a material adverse effect on our financial condition or results of operations.

Our product development and commercialization efforts may be unsuccessful.

There are numerous risks associated with dietary supplement product development and commercialization. We may be subject to delays and/or be unable to successfully implement our business plan and strategy to develop and commercialize one or more dietary supplements, including Equivir. The successful commercialization and market acceptance of any products we develop will be subject to, among other things, consumer purchasing trends, health and wellness trends, regulatory factors, retail acceptance and overall economic and market conditions. As a consequence, we may suspend or abandon some or all of our proposed new products before they ever become commercially viable. Even if we successfully develop a new product, if we cannot successfully commercialize it in a timely manner, our business and financial condition may be materially adversely affected.

If our products do not have the effects intended or cause undesirable side effects, our business may suffer.

Although many of the ingredients in our current dietary supplement products are vitamins, minerals, and other substances for which there is a long history of human consumption, they also contain innovative ingredients or combinations of ingredients. While we believe that all of these products and the combinations of ingredients in them are safe when taken as directed, the products could have certain undesirable side effects if not taken as directed or if taken by a consumer who has certain medical conditions. In addition, these products may not have the effect intended if they are not taken in accordance with certain instructions, which include certain dietary restrictions. Furthermore, there can be no assurance that any of the products, even when used as directed, will have the effects intended or will not have harmful side effects in an unforeseen way or on an unforeseen cohort. If any of our products or products we develop or commercialize in the future are shown to be harmful or generate negative publicity from perceived harmful effects, our business, financial condition, results of operations, and prospects could be harmed significantly.

We may fail to expand our growing and manufacturing capability in time to meet market demand for our manufacturing service, and regulatory authorities may refuse to accept our facilities. Any problems in our growing or manufacturing process could have a material adverse effect on our business, results of operations, and financial condition.

Our current plan is to build capacity at the manufacturing facilities owned by PMI to meet market demand of large lozenge manufacturing and production. Such build-out requires a successful FDA inspection of the manufacturing facilities. PMI successfully cleared its extensive multi-year FDA inspection in August, 2023. However, due to the complexity of the processes used to manufacture products, we may be unable to continue to pass federal, or state regulatory inspections in a cost-effective manner

The manufacturing of products necessitates compliance with GMPs and other regulatory requirements. Our ability to successfully manufacture products will involve manufacture of finished products and labeling and packaging, which includes product information, tamper proof evidence and anti-counterfeit features, under tightly controlled processes and

procedures. In addition, we will have to ensure chemical consistency among the batches, including clinical trial batches and, if approved, marketing batches. Demonstrating such consistency may require typical manufacturing controls as well as clinical data. We will also have to ensure that the batches conform to complex release specifications. The FDA or other foreign regulatory authorities may not accept our facilities if there are issues with our manufacturing facilities or processes. If we are unable to manufacture products in the future in accordance with regulatory specifications, or if there are disruptions in our manufacturing process due to damage, loss or otherwise, or generally, failure to pass regulatory inspections of our manufacturing facilities, we may not be able to expand the manufacturing facilities and meet demand or supply sufficient product to our customers, and this may also harm our ability to compete with other manufacturing facilities on a timely or cost-competitive basis. In addition, if we are unable to comply with manufacturing regulations, we may be subject to fines, unanticipated compliance expenses, recall or seizure of any approved products, total or partial suspension of production, and/or enforcement actions, including injunctions and criminal or civil prosecution. Any problems in our manufacturing process or facilities or any possible sanctions could adversely affect our business, the results of operations, and financial condition.

Risks Related to Our Drug Development Operations

Our product candidates are still in pre-clinical development and it will be many years before our wholly owned subsidiary, PBIO, is able to commercialize a product candidate, if ever.

Our Equivir G (Rx) product candidate and Linebacker portfolio (LB-1 and LB-2) product candidates are still in pre-clinical development. Our ability to generate revenue from our product candidates, which we do not expect will occur for several years, if ever, will be a result of the successful development and eventual commercialization of these product candidates, which may never occur. Our product candidates may have adverse side effects or fail to demonstrate safety and efficacy. Additionally, our product candidates may have other characteristics that may make them impractical or prohibitively expensive for large-scale manufacturing. Furthermore, our product candidates may not receive regulatory approval or, if they do, they may not be accepted by the medical community or patients or may not be competitive with other products that become available.

We must submit IND applications to the FDA to initiate clinical trials in the United States. The filing of IND applications is subject to additional preclinical research, research-scale and clinical-scale manufacturing, and other factors yet to be identified. In addition, commencing any new clinical trial is subject to review by the FDA based on the acceptability and sufficiency of our chemistry, manufacturing, and controls, and preclinical information provided to support our IND applications. If the FDA or foreign regulatory authorities require us to complete additional preclinical studies or we are required to satisfy other requests for additional data or information, our clinical trials may be delayed. Even after we receive and incorporate guidance from the FDA or foreign regulatory authorities, these regulatory authorities could disagree that we have satisfied all requirements to initiate our clinical trials or they may change their position on the acceptability of our trial design or the clinical endpoints selected. They could impose a clinical hold, which may require us to complete additional preclinical studies or clinical trials. The success of our product candidates will depend on several factors, including the following:

- sufficiency of our financial and other resources;
- completion of preclinical studies;
- clearance of IND applications to initiate clinical trials;
- successful enrollment in, and completion of, our clinical trials;
- data from our clinical trials and support an acceptable risk-benefit profile of our product candidates for our intended patient population and indications and demonstrate safety and efficacy;
- establishment of agreements with contract manufacturing organizations (“CMOs”) for clinical and commercial supplies and scaling up of manufacturing processes and capabilities to support our clinical trials;
- successful development of our internal process development and transfer to larger-scale facilities;
- receipt of regulatory and marketing approvals from applicable regulatory authorities;
- receiving regulatory exclusivity for our product candidates;
- establishment, maintenance, enforcement, and defense of patent and trade secret protection and other intellectual property rights;
- not infringing, misappropriating, or otherwise violating third-party intellectual property rights;
- establishing sales, marketing, and distribution capabilities for commercialization of our product candidates, if and when approved, whether by us or in collaboration with third parties;

- maintenance of a continued acceptable safety profile of products post-approval;
- acceptance of product candidates, if and when approved, by patients, the medical community, and third-party payors;
- effective competition with other therapies and treatment options;
- establishment and maintenance of healthcare coverage and adequate reimbursement; and
- expanding indications and patient populations for our products post-approval.

We may not be successful in our efforts to identify and successfully research and develop additional product candidates and may expend our resources to pursue particular product candidates or indications while failing to capitalize on other product candidates or indications that may be more profitable, or for which there is a greater likelihood of commercial success.

Part of our business strategy involves identifying and developing new product candidates. The process by which we identify product candidates may fail to yield successful product candidates for a number of reasons, including:

- we may not be able to assemble sufficient resources to identify or acquire additional product candidates;
- competitors may develop alternative therapies that render new product candidates obsolete or less attractive;
- product candidates we develop or acquire may be covered by third-party intellectual property rights;
- new product candidates may, on further study, be shown to have adverse side effects, toxicities, or other characteristics that indicate that they are unlikely to receive marketing approval or achieve market acceptance;
- new product candidates may not be safe or effective;
- the market for a new product candidate may change so that the continued development of that product candidate is no longer reasonable; and
- we may not be able to produce new product candidates in commercial quantities at an acceptable cost, or at all.

We are focused initially on Equivir G (Rx) and] our Linebacker portfolio (LB-1 and LB-2) product candidates and, as a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. At anytime, we may choose to divert our attention and financial resources to a certain product candidate within our portfolio at the expense of another if we deem that our resources would be better allocated to pursue such product candidate. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and future product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing, or other royalty arrangements when it would have been more advantageous for us to retain sole development and commercialization rights to that product candidate.

If we experience delays or difficulties enrolling patients in the clinical trials for our product candidates, our ability to advance our product candidates through clinical development and the regulatory process could be delayed or prevented.

The timely completion of clinical trials depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until its conclusion. We may encounter delays in enrolling or be unable to enroll a sufficient number of patients to complete any of our clinical trials and, even if patients are enrolled, they may withdraw from our clinical trials before completion. Any clinical trials for our other product candidates will compete for enrollment of patients with other clinical trials for product candidates that are intended for the same or similar study populations as our product candidates. This competition will reduce the number and types of patients available to us because some patients who might opt to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors. Additionally, since the number of qualified and experienced clinical investigators for therapeutic areas is limited, some of our clinical trial sites may be also conducting clinical trials for some of our competitors, which may reduce the number of patients who are available for our clinical trials at that clinical trial site.

In addition, the enrollment of patients depends on many factors, including:

- size of the patient population and process for identifying patients;
- design of the clinical trial protocol;
- regulatory hold on clinical trial recruitment because of unexpected safety events;

- design of the clinical trial protocol;
- availability of eligible prospective patients who may also be eligible patients for competitive clinical trials;
- availability and efficacy of approved alternative treatments for the disease under investigation;
- ability to obtain and maintain patient consent;
- risk that enrolled patients will drop out before completion of the trial;
- eligibility and exclusion criteria for the trial in question;
- perceived risks and benefits of our product candidates;
- efforts by clinical sites and investigators to facilitate timely enrollment in clinical trials;
- patient referral practices of physicians;
- physicians' ability to monitor patients adequately during and after treatment because of patient healthcare access issues, including those caused by COVID-19, other pandemics, epidemics or infectious disease outbreaks;
- proximity and availability of clinical trial sites for prospective patients; and
- interruptions, delays, or staffing shortages resulting from the COVID-19 pandemic, other pandemics, epidemics or infectious disease outbreaks.

Enrollment delays in our clinical trials may result in increased development costs for any product candidates we may develop, which may cause our stock price to decline and limit our ability to obtain additional financing. If we have difficulty enrolling a sufficient number of patients to conduct our clinical trials as planned, we may need to delay, limit, or terminate ongoing or future clinical trials, and postpone or forgo seeking marketing approval, any of which would have an adverse effect on our business, financial condition, results of operations, and prospects.

Clinical trials are expensive, time consuming, and subject to uncertainty. We cannot guarantee that any of our clinical trials will be conducted as planned or completed on schedule, if at all. Issues may arise that could suspend or terminate our clinical trials. A failure of one or more of our clinical trials may occur at any stage of testing, and our future clinical trials may not be successful.

Events that may prevent successful or timely completion of clinical development include:

- FDA or comparable foreign regulatory authorities disagreeing as to the design or implementation of our clinical trials;
- delays or failure to obtain regulatory clearance to initiate our clinical trials, as well as delays or failures to obtain any necessary approvals by the clinical sites;
- delays, suspension, or termination of our clinical trials by the clinical sites;
- modification of clinical trial protocols;
- delays in reaching agreement on acceptable terms with prospective contract research organizations ("CROs") and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites, as well as possible future breaches of such agreements;
- failure to manufacture sufficient quantities of our product candidates for use in our clinical trials;
- failure by third-party suppliers, CMOs, CROs, and clinical trial sites to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- imposition of a temporary or permanent clinical hold by us, IRBs for the institutions at which such trials are being conducted, or by the FDA or other regulatory authorities for safety or other reasons, such as a result of a new safety finding in a clinical trial on a similar product by one of our competitors, that presents unreasonable risk to clinical trial participants;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which we developed our clinical development plan, which may require new or additional trials;
- the cost of clinical trials of our product candidates being greater than we anticipated;
- insufficient funding to continue clinical trials with our product candidates;
- the emergence of unforeseen safety issues or undesirable side effects;
- clinical trials of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials or abandon development of our product candidates;

- inability to establish clinical trial endpoints that applicable regulatory authorities consider clinically meaningful, or, if we seek accelerated approval, that applicable regulatory authorities consider likely to predict clinical benefit;
- regulators withdrawing their approval of a product or imposing restrictions on its distribution; and
- interruptions, delays, or staffing shortages resulting from the COVID-19 pandemic, other pandemics, epidemics or infectious disease outbreaks.

If (i) we are required to extend the duration of any clinical trials or to conduct additional preclinical studies or clinical trials or other testing of our product candidates beyond those that we currently contemplate; (ii) we are unable to successfully complete preclinical studies or clinical trials of our product candidates or other testing; (iii) the results of these trials, studies, or tests are negative or produce inconclusive results; (iv) there are safety concerns; or (v) we determine that the observed safety or efficacy profile would not be competitive in the marketplace, we may:

- abandon the development of one or more product candidates;
- incur unplanned costs;
- be delayed in obtaining marketing approval for our product candidates or not obtain marketing approval at all;
- obtain marketing approval in some jurisdictions and not in others;
- obtain marketing approval with labeling that includes significant use restrictions or safety warnings, including black box warnings;
- be subject to additional post-marketing requirements; or
- have regulatory agencies remove the product from the market or we voluntarily withdraw the product from the market after obtaining marketing approval.

Our preclinical studies or clinical trials may fail to adequately demonstrate the safety and efficacy of our product candidates and the development of our product candidates may be delayed or unsuccessful, which could prevent or delay regulatory approval and commercialization.

If we encounter safety or efficacy problems in our preclinical studies or clinical trials, our developmental plans could be delayed or prevented. Product candidates in later stages of clinical trials may fail to show the desired safety profiles and efficacy results despite having progressed through initial preclinical studies and clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials. Based upon negative or inconclusive results, we may decide, or regulatory agencies may require us, to conduct additional clinical trials or preclinical studies. In addition, data obtained from clinical trials are susceptible to varying interpretations, and regulatory agencies may not interpret our data as favorably as we do, which may delay, limit, or prevent regulatory approval.

In addition, the design of a clinical trial can determine whether its results will support approval of our product candidates, and flaws in the design of a clinical trial may not be apparent until the clinical trial is well advanced. We have limited experience designing clinical trials and may be unable to design and execute a clinical trial that will support regulatory approval.

From time to time, we may publish initial, interim, or preliminary data from our clinical trials. Initial, interim, or preliminary data from clinical trials are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. We also make assumptions, estimations, calculations, and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully evaluate all data at the time of publishing initial, interim, or preliminary data. These data also remain subject to audit and verification procedures that may result in the final data being materially different from the data we previously published. As a result, initial, interim, and preliminary data should be viewed with caution until the final data are available. Moreover, initial, interim, and preliminary data are subject to the risk that one or more of the clinical outcomes may materially change as more patient data become available when patients mature on study, patient enrollment continues, or, for final data, as other ongoing or future clinical trials with a product candidate further develop. Past results of clinical trials may not be predictive of future results. Unfavorable differences between initial, interim, or preliminary data and final data could significantly harm our business prospects and may cause the trading price of our common stock to decline significantly.

If our product candidates cause serious adverse events or undesirable side effects, including injury and death, or have other properties that could delay or prevent regulatory approval, their commercial potential may be limited or extinguished.

Product candidates we develop may be associated with undesirable or unacceptable side effects, unexpected characteristics, or other serious adverse events, including death. Inadequate recognition or management of the potential side effects of our product candidates could result in patient injury or death. If any undesirable or unacceptable side effects, unexpected characteristics, or other serious adverse events occur, our clinical trials could be suspended or terminated, and our business and reputation could suffer substantial harm.

There can be no assurance that we will resolve any adverse event related to any of our products to the satisfaction of the FDA or any regulatory agency in a timely manner or at all. If in the future we are unable to demonstrate that such adverse events were caused by factors other than our product candidates, the FDA or other regulatory authorities could order us to cease further clinical trials of, or deny approval of, our product candidates. Even if we demonstrate that such serious adverse events are not product candidate-related, such occurrences could affect patient recruitment or the ability of enrolled patients to complete our clinical trials. Moreover, if we elect, or are required, to delay, suspend, or terminate any clinical trial of any of our product candidates, the commercial prospects of such product candidates may be harmed and our ability to generate product revenues from these product candidates may be delayed or eliminated.

The FDA or other regulatory agencies may disagree with our regulatory plans and we may fail to obtain regulatory approval of our product candidates.

Although the FDA has found substantial evidence to support approval outside of the traditional phase 1, phase 2, and phase 3 framework for certain therapies, the general approach for FDA approval of a new drug is for the sponsor to provide dispositive data from at least two adequate and well-controlled clinical trials of the relevant biologic in the applicable patient population. Such clinical trials typically involve hundreds of patients, have significant costs, and take years to complete. We do not have agreement or guidance from the FDA that our regulatory development plans will be sufficient for submission of a NDA.

In addition, the standard of care may change with the approval of new products in the same indications to which our product candidates are directed. This may result in the FDA or other regulatory authorities requesting additional studies to show that our product candidate is comparable or superior to the new products.

Our clinical trial results may also not support marketing approval. In addition, our product candidates could fail to receive regulatory approval for many reasons, including:

- the FDA or other regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or other regulatory authorities that our product candidates are safe and effective for their proposed indications;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or other regulatory authorities for approval, including due to heterogeneity of patient populations;
- we may be unable to demonstrate that the clinical and other benefits of our product candidates outweigh the safety risks;
- the data collected from clinical trials of our product candidates may not be sufficient to the satisfaction of the FDA or other regulatory authorities to support the submission of a NDA or a similar filing in a foreign jurisdiction or to support commercial reimbursement;
- the FDA or other authorities will review our manufacturing processes and inspect our CMOs' facilities and may not approve our manufacturing processes or CMOs' facilities; and
- the approval policies or regulations of the FDA or other regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

Even if we comply with all FDA requests, we may still fail to obtain regulatory approval. We cannot be sure that we will ever obtain regulatory clearance for our product candidates.

Even if we complete the necessary preclinical studies and clinical trials, the regulatory approval process is expensive, time-consuming, and uncertain, and we may be unable to obtain the regulatory approvals necessary for the commercialization of our product candidates; furthermore, if there are delays in obtaining regulatory approvals, we may not be able to commercialize our products, may lose competitive lead time, and our ability to generate revenues from such products will be materially impaired.

The process of obtaining marketing approvals, both in the United States and in other jurisdictions, is expensive, may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity, and novelty of the product candidates involved. It is impossible to predict if or when any of our product candidates will prove to be safe and effective in humans or if we will receive regulatory approval for such product candidates. The risk of failure through the development process is high. Any product candidates we may develop, and the activities associated with their development and commercialization, including their manufacture, preclinical and clinical development, safety, efficacy, recordkeeping, labeling, storage, advertising, promotion, sale, and distribution, are subject to comprehensive regulation by the FDA and other regulatory authorities.

Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate in a given jurisdiction. PBIO has not received approval or authorization to market any product candidates from regulatory authorities in any jurisdiction and it is possible that none of its product candidates or any product candidates it may seek to develop in the future will ever obtain marketing approval or commercialization. PBIO has have not previously submitted a NDA to the FDA or made a similar submission to any foreign regulatory authority. ANDA must include extensive preclinical and clinical data and supporting information to establish a drug product candidate's safety and efficacy for each desired indication. The NDA must also include significant information regarding the chemistry, manufacturing, and controls for our product. Any drug product candidates we develop may not be effective; may be only moderately effective; or may prove to have undesirable or unintended side effects, toxicities, or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. The FDA and other regulatory authorities have substantial discretion in the approval process and may refuse to accept our NDA applications and decide that our data are insufficient and require additional preclinical studies or clinical trials. The same may happen with review of our drug product candidates by foreign regulatory authorities. In addition, varying interpretations of the data obtained from preclinical studies and clinical trials could delay, limit, or prevent marketing approval of our drug product candidates. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render our approved product not commercially viable. If we experience delays in obtaining approval or if we fail to obtain approval of any drug product candidates we may develop, the commercial prospects for those drug product candidates and our ability to generate revenues will be materially impaired and we may lose competitive lead time as similar products enter the market.

If ProPhase Biopharma, Inc. (PBIO) is unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to generate product revenue.

To achieve commercial success for any approved product for which PBIO retains sales and marketing responsibilities, PBIO must develop and build a sales and marketing team or make arrangements with third parties to perform these services. There are risks involved with both establishing internal sales and marketing capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time consuming and could delay product launch. PBIO will have to compete with other supplement, pharmaceutical and biotechnology companies to recruit, hire, train, and retain marketing and sales personnel. If the commercial launch of a product for which we have recruited a sales force and established marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses, which may be costly and our investment will be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, hire, train, and retain adequate numbers of effective sales, marketing, customer service, medical affairs, and other support personnel;
- our inability to equip sales personnel with effective materials, including sales literature, to help them educate physicians and other healthcare providers regarding our product candidates and their approved indications;
- our inability to effectively manage a geographically dispersed sales and marketing team;
- the inability of medical affairs personnel to negotiate arrangements for reimbursement and other acceptance by payors;
- the inability to price our products at a sufficient price point to ensure an adequate and attractive level of profitability; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we are unable or decide not to establish internal sales, marketing, and distribution capabilities, we will need to enter into arrangements with third parties to perform sales, marketing, and distribution services. In such cases, our product revenue or the profitability to us from these revenue streams is likely to be lower than if we were to market and sell any product candidates that we develop ourselves. In addition, we may not be successful in entering into arrangements with

third parties to sell and market our product candidates or may be unable to do so on terms that are favorable to us. We likely will have little control over those third parties and they may fail to devote the necessary resources and attention to sell and market our product candidates effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we may not be successful in commercializing our product candidates, and our business, financial condition, results of operations, and prospects will be materially adversely affected.

Our products may not gain market acceptance among physicians, patients, hospitals, cancer treatment centers, and others in the medical community.

The use of Equivir G (Rx) for antiviral applications and/or the Linebacker portfolio (LB-1 and LB-2) as potential cancer co-therapies may not become broadly accepted by physicians, patients, hospitals, cancer treatment centers, and others in the medical community. Even with the requisite approvals from the FDA and other regulatory authorities internationally, the commercial success of any product candidates we develop will depend, in significant part, on the acceptance of physicians, patients, and healthcare payors of products as medically necessary, cost-effective, safe, and effective therapies.

Additional factors will influence whether our product candidates are accepted in the market, including:

- the clinical indications for which our product candidates are approved;
- physicians, hospitals, cancer treatment centers, and patients considering our product candidates as safe and effective treatments;
- the potential and perceived advantages of our product candidates over alternative treatments;
- the prevalence, identification, or severity of any side effects;
- product labeling or product insert requirements of the FDA or other regulatory authorities, including limitations or warnings contained in the product labeling;
- the timing of market introduction of our product candidates as well as competitive products;
- the cost of treatment of our product candidates in relation to alternative treatments;
- the availability of coverage and adequate reimbursement by third-party payors and government authorities;
- the willingness of patients to pay out-of-pocket for our product candidates in the absence of coverage;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

If our product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, cancer treatment centers, or others in the medical community, we will not be able to generate significant revenue. Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies, or other therapeutic approaches, are introduced that are more favorably received than our products, are more cost effective, or render our products obsolete.

The market opportunities for our product candidates may be smaller than we currently believe and limited to those patients who are ineligible for or have failed prior treatment, which may adversely affect our business.

Our projections of both the number of patients who have the indications we are targeting, and who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. New studies may change the estimated incidence or prevalence of these cancers. The number of eligible patients may turn out to be lower than we expected. Additionally, the potentially addressable patient population for our product candidates may be limited or

may not be amenable to treatment with our product candidates. The effort to identify patients with diseases we seek to treat is in early stages, and we cannot accurately predict the number of patients for whom treatment might be possible. Additionally, the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our business, financial condition, results of operations, and prospects. Even if we obtain significant market share for our product candidates, because the potential target populations are small, we may never achieve profitability without obtaining regulatory approval for additional indications.

Even if we are able to commercialize our product candidates, such products may be subject to unfavorable pricing regulations, third-party reimbursement practices, or healthcare reform initiatives, which could harm our business.

The regulations that govern marketing approvals, pricing, and reimbursement for new products vary widely from country to country. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some non-U.S. markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial marketing approval is granted. As a result, we might obtain marketing approval for our product candidates in a particular country, but then be subject to price regulations that delay our commercial launch of such product candidates, possibly for lengthy time periods, and such delays would negatively impact the revenues we are able to generate from the sale of our product candidates in that country. Pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if any product candidates we may develop obtain marketing approval.

Uncertainty exists as to the coverage and reimbursement status of any of our products candidates for which we obtain regulatory approval. Additionally, reimbursement coverage may be more limited than the indications for which our products are approved. The marketability of our products may suffer if government and other third-party payors fail to provide coverage and adequate reimbursement. Furthermore, coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more of our product candidates for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Moreover, eligibility for reimbursement does not imply that our product candidates will be paid for in all cases or at a rate that will cover our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new products, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of our product candidate and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost products, and may be incorporated into existing payments for other services. Net prices for our product candidates may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of products from countries where our product candidates may be sold at lower prices than in the United States.

Third-party payors, whether domestic or foreign, governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In both the United States and certain foreign jurisdictions, there have been a number of legislative and regulatory changes to healthcare systems that could impact our ability to sell our product candidates, if approved, profitably. There have been, and likely will continue to be, legislative and regulatory proposals at the federal and state levels directed at broadening the availability of, and containing or lowering the cost of, healthcare. The implementation of cost containment measures that third-party payors and healthcare providers are instituting and any other healthcare reforms may prevent us from being able to generate, or may reduce, our revenues from the sale of our product candidates, if approved, and our product candidates may not be profitable. Such reforms could have an adverse effect on anticipated revenue from product candidates for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop product candidates. Even if our product candidates are successful in clinical trials and receive marketing approval, we cannot provide any assurances that we will be able to obtain and maintain third-party payor coverage or adequate reimbursement for our product candidates in whole or in part.

Enacted and future healthcare legislation may increase the difficulty and cost for us to obtain approval of and commercialize our product candidates and could adversely affect our business.

The Affordable Care Act brought significant changes to the way healthcare is financed by both the government and private insurers, and significantly impacted the U.S. pharmaceutical industry, including expanding the list of covered entities eligible to participate in the 340B drug pricing program and establishing a new Medicare Part D coverage gap discount program. We expect that these and other healthcare reform measures in the future, may result in more rigorous coverage criteria and lower reimbursement, and in addition, exert downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare

reforms may hinder us in generating revenue, attaining profitability, or commercializing our products once, and if, marketing approval is obtained.

In the European Union ("EU"), coverage and reimbursement status of any product candidates for which we obtain regulatory approval are provided for by the national laws of EU member states. The requirements may differ across the EU member states. In markets outside the United States and the EU, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings or other price controls on specific products and therapies.

We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative action in the United States, the EU, or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or those third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that we may have obtained and we may not achieve or sustain profitability.

Risks Related to Our Intellectual Property

Failure to protect our trademarks and other intellectual property could impact our business.

We will rely on trademark laws to protect our proprietary rights in any products we develop and commercialize. Monitoring the unauthorized use of our intellectual property will be difficult. Litigation may be necessary to enforce our intellectual property rights or to determine the validity and scope of the proprietary rights of others. Litigation of this type could result in substantial costs and diversion of resources, may result in counterclaims or other claims against us and could significantly harm our results of operations. In addition, the laws of some foreign countries do not protect our proprietary rights to the same extent as do the laws of the United States. From time to time, we may apply to have certain trademarks registered. There is no guarantee that such trademark registrations will be granted. The unauthorized reproduction of our trademarks could diminish the value of our brand and its market acceptance, competitive advantages or goodwill, which could adversely affect our business.

If we, or our licensors are unable to maintain effective patents or we are unable to maintain our license rights for our approved products, product candidates or any future product candidates, or if the scope of the patent or license rights obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

We have traditionally in-licensed all patent rights protecting our products and/or our product candidates. Commensurate with our purchase of the Stella Purchased Assets, we became the owner of certain patents, patent applications and their foreign counter-parts. Our success depends in large part on our, and our licensors' ability to obtain and maintain patents and other intellectual property protection in the United States and in other countries, as well as our license rights, with respect to our proprietary technology, products and product candidates.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain and involves complex legal and factual questions for which legal principles remain unsolved. The patent applications that we own, acquire (previously, or in the future), or in-license may fail to result in issued patents with claims that cover our products or product candidates in the United States or in foreign countries. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions remain confidential for a period of time after filing, and some remain so until issued. Therefore, we cannot be certain that we, our predecessors (as to patents and patent applications acquired), or our licensors were the first to file any patent application related to our products or product candidates, or whether we, or they, were the first to make the inventions claimed in the patents or pending patent applications that we own, in-license or acquire. As a result, the issuance, scope, validity, enforceability and commercial value of our owned, acquired, or licensed patent rights are highly uncertain. There is no assurance that all potentially relevant prior art relating to such patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue, and even if such patents cover our products or product candidates, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, found unenforceable or invalidated, which could allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. Furthermore, even if they are unchallenged, such patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our products or product candidates, prevent others from designing around our claims or provide us with a competitive advantage. Any of these outcomes could impair our ability to prevent competition from third parties.

Any successful opposition to any patents owned, acquired, or licensed to us after patent issuance, or the loss or other impairment of any owned, acquired, or licensed rights relating to our products or product candidates, could deprive us of rights necessary for the successful commercialization of any products or product candidates that we may develop. Further, if we, or our licensors, encounter delays in regulatory approvals, the period of time during which we could market a product or product candidate under patent protection could be reduced. In addition, our, or our licensors' patent positions might not protect us against competitors with similar products or technologies because competing products or technologies may not infringe our owned, acquired, or licensed patents.

We, our licensors may not have sufficient patent terms to effectively protect our products and business.

Patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is first filed. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such product candidates are commercialized. As a result, our owned, acquired, or licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours or otherwise provide us with a competitive advantage. Even if patents covering our products or product candidates are obtained, once the patent life has expired for a product, we may be open to competition from generic medications.

Third-party claims of intellectual property infringement may expose us to substantial liability or prevent or delay our development and commercialization efforts.

Our commercial success depends in part on our ability to develop, manufacture, market and sell our products that have been approved for sale, and to use our proprietary technology without alleged or actual infringement, misappropriation or other violation of the patents and proprietary rights of third parties. There have been many lawsuits and other proceedings involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, oppositions and reexamination proceedings before the USPTO, and corresponding foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we will market products and are developing product candidates. Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our products and product candidates may be subject to claims of infringement of the intellectual property rights of third parties.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to compositions, formulations, methods of manufacture or methods of treatment related to the use or manufacture of our products or our product candidates. We cannot be sure that we know of each and every patent and pending application in the United States and abroad that is relevant or necessary to the commercialization of our products or our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents upon which our products or product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our products or product candidates, any compositions formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product or product candidate unless we obtained a license under the applicable patents, or until such patents expire or are finally determined to be invalid or unenforceable. Similarly, if any third-party patents were held by a court of competent jurisdiction to cover aspects of our compositions, formulations, or methods of treatment, prevention or use, the holders of any such patents may be able to block our ability to develop and commercialize the applicable product or product candidate unless we obtained a license or until such patent expires or is finally determined to be invalid or unenforceable. In either case, such a license may not be available on commercially reasonable terms, or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us.

Our reliance on third parties requires us to share our trade secrets or confidential proprietary information, which increases the possibility that a competitor will discover them or that our trade secrets confidential proprietary information will be misappropriated or disclosed.

Because we rely on third parties to develop and manufacture our product candidates, we must, at times, share trade secrets or confidential proprietary information with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, collaborative research agreements, consulting agreements or other similar agreements with our collaborators, advisors, employees, and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, such as trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may harm our business.

Protecting and enforcing our intellectual property rights could consume monetary funds needed for other company objectives.

Protecting and enforcing our intellectual property rights and combating unlicensed copying and use of our intellectual property can be difficult and expensive. Litigation filed by Company and excessive legal costs could result in insufficient cash available to continue our business objective. Similarly, reductions in the legal protection of our intellectual property.

We may not be able to prevent disclosure of confidential and proprietary information

We receive confidential and proprietary information from collaborators, prospective licensors and licensees and other third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees' former employers. Litigation may be necessary to defend against these claims, which can result in significant costs if we are found to have improperly used the confidential or proprietary information of others. Even if we are successful in defending against these claims, litigation could result in substantial costs and diversion of personnel and resources.

Risks Related to Governmental Regulation

Laws and regulations regarding direct selling may prohibit or restrict our ability to sell our products in some markets or require us to make changes to our business model in some markets.

Direct selling companies are subject to laws and regulations by various government agencies. These laws and regulations are generally intended to prevent fraudulent or deceptive practices and to protect consumers. The FTC periodically investigates and brings enforcement actions against direct selling companies based on alleged pyramid selling activity and/or false and misleading claims made by the direct selling company or its independent distributors. Direct selling companies that have been the subject of an FTC enforcement action have generally been required to make significant changes to their business model and pay significant monetary fines. Being the target of an investigation or enforcement action by the FTC could have a material adverse effect on our results of operations and financial condition.

We depend on third parties to provide services critical to our businesses and we depend on them to comply with applicable laws and regulations.

We depend on third parties to provide services critical to our businesses, including laboratory service providers, raw material and equipment suppliers, ground and air transport of clinical and diagnostic services supplies and specimens, research services (including ancestry report generation), and people, among other services. Third parties that provide services to us are subject to similar risks related to security of customer-related information and compliance with U.S., state, local, or international environmental, health and safety, and privacy and security laws and regulations as we are. Any failure by third parties to comply with applicable laws, or any failure of third parties to provide services more generally, could have a material impact on us, whether because of the loss of the ability to receive services from the third parties, our legal liability for the actions or inactions of third parties, or otherwise.

We must comply with complex and overlapping laws protecting the privacy and security of health information and personal data.

There are a number of state, federal and international laws protecting the privacy and security of health information and personal data.

Under the administrative simplification provisions of HIPAA, HHS has issued regulations which establish uniform standards governing the conduct of certain electronic health care transactions and protecting the privacy and security of PHI used or disclosed by health care providers and other covered entities.

The privacy regulations regulate the use and disclosure of PHI by health care providers engaging in certain electronic transactions or "standard transactions." They also set forth certain rights that an individual has with respect to his or her PHI maintained by a covered health care provider, including the right to access or amend certain records containing PHI or to request restrictions on the use or disclosure of PHI. The HIPAA security regulations establish administrative, physical, and technical standards for maintaining the integrity and availability of PHI in electronic form. These standards apply to covered health care providers and also to "business associates" or third parties providing services involving the use or disclosure of PHI. The HIPAA privacy and security regulations establish a uniform federal "floor" and do not supersede state laws that are more stringent or provide individuals with greater rights with respect to the privacy or security of, and access to, their records containing PHI. As a result, we may be required to comply with both HIPAA privacy regulations and varying state privacy and security laws.

Moreover, HITECH, among other things, established certain health information security breach notification requirements. In the event of a breach of unsecured PHI, a covered entity must notify each individual whose PHI is breached, federal regulators and in some cases, must publicize the breach in local or national media. Breaches affecting 500 individuals or more are publicized by federal regulators who publicly identify the breaching entity, the circumstances of the breach and the number of individuals affected.

These laws contain significant fines and other penalties for wrongful use or disclosure of PHI. Given the complexity of HIPAA and HITECH and their overlap with state privacy and security laws, and the fact that these laws are rapidly evolving and are subject to changing and potentially conflicting interpretation, our ability to comply with the HIPAA, HITECH and state privacy requirements is uncertain and the costs of compliance are significant. Adding to the complexity is that our planned operations are currently evolving, and the requirements of these laws will apply differently depending on such things as whether or not we bill electronically for our services or provide services involving the use or disclosure of PHI and incur compliance obligations as a business associate. The costs of complying with any changes to the HIPAA, HITECH and state privacy restrictions may have a negative impact on our operations. Noncompliance could subject us to criminal penalties, civil sanctions and significant monetary penalties as well as reputational damage.

We are also required to collect and maintain personal information about our employees as well as receive and transfer certain payment information, to accept payments from our customers, including credit card information. Most states have adopted laws requiring notification of affected individuals and state regulators in the event of a breach of personal information, which is a broader class of information than the health information protected by HIPAA. Many state laws impose significant data security requirements, such as encryption or mandatory contractual terms to ensure ongoing protection of personal information. Activities outside of the United States implicate local and national data protection standards, impose additional compliance requirements, and generate additional risks of enforcement for non-compliance. The collection and use of such information may be subject to contractual obligations as well. If the security and information systems that we or our outsourced third-party providers use to store or process such information are compromised or if we, or such third parties, otherwise fail to comply with these laws, regulations, and contractual obligations, we could face litigation and the imposition of penalties that could adversely affect our financial performance.

Numerous additional local, municipal, state, federal, and international laws and regulations address privacy and the collection, storing, sharing, use, disclosure, and protection of certain types of data, including the California Online Privacy Protection Act, the Personal Information Protection and Electronic Documents Act, the Telephone Consumer Protection Act of 1991, Section 5 of the Federal Trade Commission Act, and effective as of January 1, 2020, the CCPA. These laws, rules, and regulations evolve frequently, and their scope may continually change, through new legislation, amendments to existing legislation, and changes in enforcement, and may be inconsistent from one jurisdiction to another. For example, the CCPA, which went into effect on January 1, 2020, among other things, requires new disclosures to California consumers and affords such consumers new abilities to opt out of certain sales of personal information. The CCPA provides for fines of up to $7,500 per violation. Aspects of the CCPA and its interpretation and enforcement remain uncertain. The effects of this legislation potentially are far-reaching and may require us to modify our data processing practices and policies and incur substantial compliance-related costs and expenses. The CCPA has been amended on

multiple occasions, resulting in further uncertainty and requiring us to incur additional costs and expenses in an effort to comply. The CPRA became operative on January 1, 2023 (and applies to consumer data collected on or after January 1, 2022, (the "lookback period"), with enforcement beginning July 1, 2023. While the CCPA will remain operative and enforceable from now until July 1, 2023, we will continue to monitor developments related to the CPRA. The effects of this legislation potentially are far-reaching, however, and may require us to modify our data processing practices and policies and incur substantial compliance-related costs and expenses. Additionally, many laws and regulations relating to privacy and the collection, storing, sharing, use, disclosure, and protection of certain types of data are subject to varying degrees of enforcement and new and changing interpretations by courts.

New laws governing the privacy of consumer health data, including information concerning genetic information, individual health conditions, and treatment have also passed in the United States. For example, Washington's My Health My Data Act which broadly defines consumer health data, places restrictions on processing consumer health data (including imposing stringent requirements for obtaining consumer consent), provides consumers certain rights with respect to their health data, and creates a private right of action to allow individuals to sue for violations of the law. Other states, including California, could adopt similar laws.

Additionally, the General Data Protection Regulation ('GDPR") imposes stringent requirements on the processing of "personal data", including health and sensitive data, by business who target EU consumers or operate in the EU. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to certain health data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of the personal data, providing notification of data breaches, and taking specific measures when disclosing the personal data to third parties. Penalties for businesses who are not compliant with the GDPR can reach up to 4% of global revenues. Additionally, post-Brexit, the UK has adopted its version of the GDPR (UK GDPR) alongside amendments to its Data Protection Act 2018, creating a separate regulatory environment that may impact global economic conditions and market operations.

Changes in laws or regulations relating to privacy, data protection, breach notifications, and information security, particularly any new or modified laws or regulations, or changes to the interpretation or enforcement of such laws or regulations, that require enhanced protection of certain types of data or new obligations with regard to data retention, transfer, or disclosure, could greatly increase the cost of providing our platform, require significant changes to our operations, or even prevent us from providing our platform in jurisdictions in which we currently operate and in which we may operate in the future.

We may face audits or investigations by one or more domestic government agencies or our customers pursuant to our contractual obligations relating to our compliance with these regulations. Complying with changing regulatory requirements requires us to incur substantial costs, exposes us to potential regulatory action or litigation, and may require changes to our business practices in certain jurisdictions, any of which could materially adversely affect our business operations and operating results. Despite our efforts to comply with applicable laws, regulations, and other obligations relating to privacy, data protection, and information security, it is possible that our interpretations of the law, practices, or platform could be inconsistent with, or fail or be alleged to fail to meet all requirements of, such laws, regulations, or obligations.

Risks Related to Our Common Stock, Internal Controls and Governance Matters

We have identified material weaknesses in our internal controls over financial reporting. If we fail to properly remediate these material weaknesses or if we are otherwise unable to develop and maintain an effective system of internal controls over financial reporting, material misstatements in our financial statements could occur and we may not be able to accurately or timely report our financial results, which may adversely affect investor confidence in us, our business, results of operations and financial condition, and the trading price of our common stock.

As further described in Item 9A. Controls and Procedures of this Annual Report, and Note 2 to the financial statements included under Item 8 of this Annual Report, we have identified material weaknesses in our internal controls over financial reporting, which include (i) inadequate review of certain account reconciliation or controls over financial statement closing process; (ii) errors made related to recording and calculating revenue and following our policy regarding principal versus agent consideration, and ineffective controls to identify exceptions; and (iii) inadequate controls over identifying discrepancies relating to the calculation and recording of deferred costs and cost of sales, as of December 31, 2023.

A material weakness is a deficiency, or a combination of deficiencies, in our internal controls over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected and corrected on a timely basis.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. We are evaluating and intend to implement steps to remediate the material weaknesses. These remediation measures may be time consuming and costly and there is no assurance that these initiatives will ultimately have the intended effects. The material weaknesses in our internal control over financial reporting will not be considered remediated until the controls operate for a sufficient period of time and management has concluded, through testing that these controls operate effectively. If we do not successfully remediate the material weaknesses, or if other material weaknesses or other deficiencies arise in the future, we may be unable to accurately report our financial results, which could cause our financial results to be materially misstated and require restatement. In such case, we may be unable to maintain compliance with securities law requirements regarding timely filing of periodic reports, in addition to applicable stock exchange listing requirements and requirements under certain of our agreements, which could adversely affect investor confidence in us, our business, results of operations and financial condition, and the trading price of our common stock. Investors relying upon misinformation could make an uninformed investment decision, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities or to stockholder class action securities litigation. In addition, these material weaknesses may also have the effect of heightening other risks described in this "Risk Factors" section.

Future sales of shares of our common stock in the public market could adversely affect the trading price of shares of our common stock and our ability to raise funds in future offerings.

Future sales of substantial amounts of shares of our common stock in the public market, or the perception that such sales are likely to occur, could adversely affect the prevailing trading prices of our common stock. Moreover, the perceived risk of potential dilution could cause stockholders to attempt to sell their shares and investors to "short" our stock, a practice in which an investor sells shares that he or she does not own at prevailing market prices, hoping to purchase shares later at a lower price to cover the sale. All of these events could combine to make it difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate.

If securities or industry analysts do not publish research or reports about our business or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock may be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, products or stock performance, our stock price could decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, the unpredictability of our financial results likely reduces the certainty, and therefore reliability, of the forecasts by securities or industry analysts of our future financial results, adding to the potential volatility of our stock price.

Our Chief Executive Officer and Chairman of the Board of Directors owns a substantial amount of our common stock any may be able to exert significant influence over the outcome of matters submitted to stockholders for approval.

As of March 12, 2024, our Chief Executive Officer and Chairman of the Board of Directors beneficially owned approximately 20.2% of our common stock. As such, our Chief Executive Officer may exert significant influence over the outcome of matters submitted to stockholders for approval. Consequently, he exercises substantial influence over major decisions including major corporate actions such as mergers and other business combinations transactions which could result in or prevent a change of control of the Company. Circumstances may occur in which the interests of our Chief Executive Officer could be in conflict with the interests of other stockholders. Accordingly, a stockholder's ability to influence us through voting their shares may be limited.

Our Certificate of Incorporation and Bylaws contain certain provisions that may be barriers to a takeover.

Our Certificate of Incorporation and Bylaws contain certain provisions which may deter, discourage, or make it difficult for another person or entity to gain control of the Company through a tender offer, merger, proxy contest or similar transaction or series of transactions, including provisions that:

- authorize our board of directors authorize "blank check" preferred stock without stockholder approval, which may provide for voting, liquidation, dividend, and other rights superior to our common stock;
- specify that special meetings of our stockholders can be called only by our chairman or the board of directors;
- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder matters to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum; and
- expressly authorized our board of directors to make, alter, amend, or repeal our amended and restated bylaws.

These provisions may deter a future tender offer or other takeover attempt which could include a premium over the market price of our common stock at the time. Such provisions could depress the trading price of our common stock.

Our Bylaws provides that the Court of Chancery of the State of Delaware and the federal district courts of the United States of America will be the exclusive forums for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, executive officers, or employees.

Our amended and restated bylaws provide that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Certificate of Incorporation or Bylaws (as either may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine shall be the Court of Chancery in the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware). This provision would not apply to suits brought to enforce a duty or liability created by the Securities Act of 1933 or the Exchange Act. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims.

Although the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of our Certificate of Incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

This exclusive forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, executive officers, or other employees, which may discourage lawsuits against us and our directors, executive officers, and other employees. If a court were to find the exclusive forum provision in our Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur further significant additional costs associated with resolving the dispute in other jurisdictions, all of which could seriously harm our business.

We have agreed to indemnify our officers and directors from liability.

Our Certificate of Incorporation and our Bylaws provide that we will indemnify, to the fullest extent permitted by the Delaware General Corporation Law, any person who is or was made a party to, or is or was threatened to be made a party to, any pending, completed, or threatened action, suit or proceeding because he or she is or was a director, officer, employee or agent of the Company or is or was serving at the Company's request as a director, officer, employee or agent of any corporation, partnership, joint venture, trust or other enterprise. These provisions permit us to advance expenses to an indemnified party in connection with defending any such proceeding, upon receipt of an undertaking by the indemnified party to repay those amounts if it is later determined that the party is not entitled to indemnification. We entered into indemnity agreements with each member of our board of directors. These agreements provide, among other things, that we will indemnify each officer and director in the event they become a party or otherwise a participant in any action or

proceeding on account of their service as a director or officer of the Company (or service for another corporation or entity in any capacity at the request of the Company) to the fullest extent permitted by applicable law. The indemnification provisions may reduce the likelihood of derivative litigation against directors and officers and discourage or deter stockholders from suing directors or officers for breaches of their duties to the Company, even though such an action, if successful, might otherwise benefit the Company or its stockholders. In addition, to the extent that we expend funds to indemnify directors and officers, funds will be unavailable for operational purposes.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 1C. Cybersecurity

Risk management and strategy

Cybersecurity is an integral part of risk management at the Company. Our Board and management appreciate the evolving nature of threats presented by cybersecurity incidents and is committed to the prevention, timely detection, and mitigation of the effect any such incidents may have on the Company.

We have established policies and processes for assessing, identifying, and managing material risk from cybersecurity threats, and have integrated these processes into our overall risk management systems and processes. We routinely assess material risks from cybersecurity threats, including any potential unauthorized occurrence on or conducted through our information systems that may result in adverse effects on the confidentiality, integrity, or availability of our information systems or any information residing therein.

We conduct periodic risk assessments to identify cybersecurity threats, as well as assessments in the event of a material change in our business practices that may affect information systems that are vulnerable to such cybersecurity threats. These risk assessments include identification of reasonably foreseeable internal and external risks, the likelihood and potential damage that could result from such risks, and the sufficiency of existing policies, procedures, systems, and safeguards in place to manage such risks.

Following these risk assessments, we re-design, implement, and maintain reasonable safeguards to minimize identified risks; reasonably address any identified gaps in existing safeguards; and regularly monitor the effectiveness of our safeguards. Primary responsibility for assessing, monitoring and managing our cybersecurity risks rests with an IT consultant who reports to our Chief Operating Officer, to manage the risk assessment and mitigation process.

As part of our overall risk management system, we monitor and test our safeguards and train our employees on these safeguards, in collaboration with IT and management. Personnel at all levels and departments are made aware of our cybersecurity policies through trainings.

We engage consultants, or other third parties in connection with our risk assessment processes. These service providers assist us to design and implement our cybersecurity policies and procedures, as well as to monitor and test our safeguards. We require each third-party service provider to certify that it has the ability to implement and maintain appropriate security measures, consistent with all applicable laws, to implement and maintain reasonable security measures in connection with their work with us, and to promptly report any suspected breach of its security measures that may affect our company.

We have not encountered cybersecurity challenges that have materially impaired our operations or financial standing. For additional information regarding risks from cybersecurity threats, please refer to Item 1A, “Risk Factors,” in this Annual Report.

Governance

One of the key functions of our board of directors is informed oversight of our risk management process, including risks from cybersecurity threats. Our board of directors is responsible for monitoring and assessing strategic risk exposure, and our executive officers are responsible for the day-to-day management of the material risks we face. Our board of directors administers its cybersecurity risk oversight through the audit committee.

Our Chief Information Officer and Chief Operating Officer are primarily responsible to assess and manage our material risks from cybersecurity threats with assistance from third-party service providers.

Our Chief Information Officer and Chief Operating Officer oversee our cybersecurity policies and processes, including those described in "Risk Management and Strategy" above. The cybersecurity risk management program includes tools and activities to prevent, detect, and analyze current and emerging cybersecurity threats, and plans and strategies to address threats and incidents.

Our Chief Information Officer and IT consultant provide periodic briefings to the audit committee regarding our company's cybersecurity risks and activities, including any recent cybersecurity incidents and related responses.

Item 2. Properties

Our corporate headquarters are located in Garden City, New York. We leased this property commencing in December 2020 and leased additional space at this property commencing in November 2022 . Our headquarters are approximately 30,000 square feet and are comprised of lab diagnostic area with storage area and office space. Our second location is approximately 4,000 square feet and is comprised of lab diagnostic area with storage area and office space in Old Bridge, NJ. We leased additional administrative office space of approximately 2,000 square feet in Fort Washington, PA. Our principal manufacturing facility is located in Lebanon, Pennsylvania. The facility was purchased in October 2004. The facility has a total area of approximately 57,500 square feet and is comprised of manufacturing, warehousing and office space. We are currently exploring opportunities to expand our Genomics lab operations.

Item 3. Legal Proceedings

From time to time, we have been and may again become involved in legal proceedings arising in the ordinary course of business. Except as provided below, we are not presently a party to any other material litigation.

TK Supplements, Inc., was the defendant in Aviles v. TK Supplements, Inc., a purported class action pending in the Superior Court for the State of California, County of Los Angeles. In the complaint that was filed on April 27, 2023, the plaintiff alleged that TK Supplements falsely advertised its Legendz XL male enhancement supplement in violation of California's Consumer Legal Remedies Act. We believed the lawsuit and the allegations contained therein were without merit, and on February 6, 2024, the matter was voluntarily dismissed as a result of a negotiated resolution.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is currently traded on The Nasdaq Capital Market under the trading symbol "PRPH."

As of March 12, 2024, there were approximately 162 holders of record.

Dividends

While we have paid dividends to holders of our common stock in 2021 and 2022, the declaration and payment of future dividends will depend on many factors, including, but not limited to, our earnings, financial condition, business development needs and regulatory considerations, and is at the sole discretion of our Board of Directors. At this time, we do not expect to pay any regular, quarterly cash dividend on our common stock in the foreseeable future

Securities Authorized Under Equity Compensation Plans

See Part III, Item 12. "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information relating to our equity compensation plans.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total number of shares purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or approximate dollar value) of Shares that May Yet Be Purchased Under the Plans or Programs (1)
October 1 through October 31, 2023	—	$ —	—	$ 5,411,119
November 1 through November 30, 2023	—	—	—	5,411,119
December 1 through December 31, 2023	—	—	—	5,411,119
	—	$ —	—	$ 5,411,119

(1) There was no other purchases of equity securities for the three months ended December 31, 2023.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read together with our financial statements and the related notes appearing elsewhere in this Annual Report. This discussion contains forward-looking statements reflecting our current expectations that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements" for a discussion of the uncertainties, risks and assumptions associated with these statements. Actual results and the timing of events could differ materially from those discussed in our forward-looking statements as a result of many factors, including those set forth under "Risk Factors" and elsewhere in this Annual Report.

General

We are a diversified company that offers a range of services including genomics testing, diagnostic testing and contract manufacturing. We are also focused on licensing, developing and commercializing novel drugs, dietary supplements, compounds and diagnostics.

We conduct our operations through two operating segments: diagnostic services and consumer products.

Until late fiscal year 2020, we were engaged primarily in the research, development, manufacture, distribution, marketing and sale of OTC consumer healthcare products and dietary supplements in the United States. This includes the development and marketing of dietary supplements under the TK Supplements® brand. However, commencing in December 2020, we also began offering COVID-19 diagnostic testing and were prepared to validate other Respiratory Pathology Panel Molecular tests through our diagnostic service business. In August 2021, we began offering personal genomics products and services, and in July 2022 we began focusing on the licensing, development and commercialization of novel drugs, dietary supplements, compounds and diagnostics.

Our wholly owned subsidiary, ProPhase Diagnostics, Inc. (“ProPhase Diagnostics”), which was formed on October 9, 2020, offers a broad array of clinical diagnostic and testing services at its Clinical Labotary Improvement Amendments (“CLIA”) certified laboratories including polymerase chain reaction (“PCR”) testing for COVID-19. Critical to COVID-19 testing, we provide fast turnaround times for results. We also offer best-in-class rapid antigen testing for COVID-19. On October 23, 2020, we completed the acquisition of all of the issued and outstanding shares of capital stock of Confucius Plaza Medical Laboratory Corp. (“CPM”), which owned a 4,000 square foot CLIA accredited laboratory located in Old Bridge, New Jersey for approximately $2.5 million. In December 2020, we expanded our diagnostic service business with the build-out of a second, larger CLIA accredited laboratory in Garden City, New York. Operations at this second facility commenced in January 2021.

On August 10, 2021, we acquired Nebula, a privately owned personal genomics company, through our new wholly owned subsidiary, ProPhase Precision Medicine Inc. (“PPM”). Subsequently in 2022, PPM legal name was changed to Nebula Genomics ("Nebula"). Nebula focuses on genomics sequencing technologies, a comprehensive method for analyzing entire genomes, including the genes and chromosomes in DNA. The data obtained from genomic sequencing can be used to help identify inherited disorders and tendencies, help predict disease risk, help identify expected drug response, and characterize genetic mutations, including those that drive cancer progression.

Our wholly owned subsidiary, PBIO, was formed on June 28, 2022, for the licensing, development and commercialization of novel drugs, dietary supplements and compounds, beginning with Equivir and Equivir G. PBIO announced a second licensing agreement for two small molecule PIM kinase inhibitors, Linebacker LB-1 and LB-2, in July 2022, with plans to pursue development and commercialization of LB-1 as a cancer co-therapy.

In January 2023, we acquired exclusive rights to the BE-Smart Esophageal Pre-Cancer Diagnostic Screening Test and related intellectual property assets.

Our wholly owned subsidiary, PMI, is a full-service contract manufacturer and private label developer of a broad range of non-GMO, organic and natural-based cough drops and lozenges and OTC drug and dietary supplement products.

Our diagnostic service business continued to be impacted by the level of demand for COVID-19 and other diagnostic testing and our ability to collect payment or reimbursement for our testing services for the years ended December 31, 2023 and 2022. Due to the significant decrease in demand and reimbursement rate for our diagnostic testing service, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future.

Our personal genomics business is and will continue to be impacted by demand for our genetic sequencing products and services, our marketing and service capabilities, and our ability to comply with applicable regulatory requirements.

Our consumer sales are and will continue to be impacted by (i) the timing of acceptance of our TK Supplements® consumer products in the marketplace, and (ii) fluctuations in the timing of purchase and the ultimate level of demand for the OTC healthcare and cold remedy products that we manufacture, which is largely a function of the timing, length and severity of each cold season. Generally, a cold season is defined as the period from September to March when the incidence of the common cold rises as a result of the change in weather and other factors. We generally experience in the first, third and fourth quarter higher levels of net revenues from our contract manufacturing business. Revenues are generally at their lowest levels in the second quarter when customer demand generally declines.

In addition, we continue to actively pursue acquisition opportunities for other companies, technologies and products within and outside the consumer products industry.

Results of Operations from Operations

December 31, 2023 compared with December 31, 2022

Net revenue for the year ended December 31, 2023, decreased $78.3 million, or 63.8%, to $44.4 million compared to $122.6 million for the year ended December 31, 2022. The decrease in net revenue was the result of an $83.5 million decrease from diagnostic services, and a $5.2 million increase from consumer products. The decrease in net revenue for diagnostic services was due to decreased COVID-19 testing volumes compared to the 2022 period as a result of the highly contagious Omicron variant, which emerged in early 2022. Overall diagnostic testing volume decreased from approximately 1,000,000 tests for the year ended December 31, 2022 to approximately 480,000 tests for the year ended December 31, 2023, of which 29% were reimbursed by the HRSA uninsured program for the year ended December 31, 2022, and none were reimbursed from the HRSA uninsured program for the year ended December 31, 2023.

Cost of revenues for the year ended December 31, 2023 was $28.1 million, comprised of $11.8 million for diagnostic services and $16.4 million for consumer products. Cost of revenues for the year ended December 31, 2022 were $52.0 million comprised of $39.9 million for diagnostic services and $12.1 million for consumer products.

We realized a gross profit of $16.2 million for the year ended December 31, 2023, as compared to $70.7 million for the year ended December 31, 2022. The decrease of $54.4 million was comprised of a decrease of $55.4 million in diagnostic services, partially offset by an increase of $1.0 million in consumer products. For the year ended December 31, 2023 and 2022 we realized an overall gross margin of 36.6% and 57.6%, respectively. Gross margin for diagnostic services was 52.6% and 63.2% for the year ended December 31, 2023 and 2022, respectively. Gross margin for consumer products was 16.3% and 15.5% for the year ended December 31, 2023 and 2022, respectively. Gross margin for consumer products have historically been influenced by fluctuations in quarter-to-quarter production volume, fixed production costs and related overhead absorption, raw ingredient costs, inventory mark to market write-downs and timing of shipments to customers.

Diagnostic expenses for the year ended December 31, 2023 were $1.9 million as compared to $12.0 million of diagnostic expenses for the year ended December 31, 2022. The decrease in diagnostic expenses of $10.1 million was primarily due to was due to decreased COVID-19 testing volumes for the year ended December 31, 2023 compared to the year ended December 31, 2022 as a result of the Omicron variant, which emerged in early 2022.

General and administration expenses increased $0.1 million for the year ended December 31, 2023 to $34.5 million, as compared to $34.4 million for the year ended December 31, 2022. The increase in general and administration expenses for the year ended December 31, 2023 as compared to the year ended December 31, 2022 was principally related to an increase in personnel expenses, marketing and professional fees associated with the Company's strategic initiatives.

Research and development costs for the year ended December 31, 2023 and 2022 were $1.4 million and $0.7 million, respectively. The increase in research and development costs for the year ended December 31, 2023 as compared to the year ended December 31, 2022 was principally due to increased activities at ProPhase BioPharma. These activities include product research and field testing.

Interest and other income for the years ended December 31, 2023 and 2022 was $0.1 million and $0.2 million, respectively. The decrease in interest income for the year ended December 31, 2023 as compared to the year ended December 31, 2022 was primarily due to the lower account balance of our investment account that bears interest.

Interest expense for the years ended December 31, 2023 and 2022 was $1.3 million and $0.8 million, respectively. The increase in interest expense for the year ended December 31, 2023 as compared to the year ended December 31, 2022 was principally due to higher balance of our outstanding debt that bears interest and leased manufacturing equipment.

As a result of the effects described above, net loss for the year ended December 31, 2023 was $16.8 million, or $(0.98) per share, as compared to a net income of $18.5 million, or $1.17 per share, for the year ended December 31, 2022. Diluted earnings per share for the years ended December 31, 2023 and 2022 were $(0.98) and $1.02, respectively.

Non-GAAP Financial Measure and Reconciliation

In an effort to provide investors with additional information regarding our results of operations as determined by accounting principles generally accepted in the United States of America ("GAAP"), we disclose certain non-GAAP financial measures. The primary non-GAAP financial measures we disclose are EBITDA and Adjusted EBITDA.

We define EBITDA as net income (loss) before net interest expense, income taxes, depreciation and amortization. Adjusted EBITDA further adjusts EBITDA by excluding acquisition costs, other non-cash items, and other unusual or non-recurring charges (as described in the table below).

Non-GAAP financial measures should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP. These non-GAAP financial measures do not reflect a comprehensive system of accounting, differ from GAAP measures with the same names and may differ from non-GAAP financial measures with the same or similar names that are used by other companies. We compute non-GAAP financial measures using the same consistent method from quarter to quarter and year to year. We may consider whether other significant items that arise in the future should be excluded from the non-GAAP financial measures.

We use EBITDA and Adjusted EBITDA internally to evaluate and manage the Company's operations because we believe they provide useful supplemental information regarding the Company's ongoing economic performance. We believe that these non-GAAP financial measures provide meaningful supplemental information regarding our operating results primarily because they exclude amounts that are not considered part of ongoing operating results when planning and forecasting and when assessing the performance of the organization. In addition, we believe that non-GAAP financial information is used by analysts and others in the investment community to analyze our historical results and in providing estimates of future performance and that failure to report these non-GAAP measures could result in confusion among analysts and others and create a misplaced perception that our results have underperformed or exceeded expectations.

The following table sets forth the reconciliations of EBITDA and Adjusted EBITDA excluding other costs to the most comparable GAAP financial measures (in thousands):

	For the years ended	
	December 31, 2023	December 31, 2022
GAAP net income [1]	$ (16,782)	$ 18,463
Interest, net	1,197	611
Income Tax Expense (Benefit)	(6,018)	4,445
Depreciation and amortization	6,277	4,718
EBITDA	(15,326)	28,237
Share-based compensation expense	4,560	3,986
Non-cash rent expense [2]	240	236
Credit loss expense	91	6,163
Adjusted EBITDA	$ (10,435)	$ 38,622

(1) We believe that net income is the financial measure calculated and presented in accordance with GAAP that is most directly comparable to EBITDA and Adjusted EBITDA. EBITDA and Adjusted EBITDA measure the Company's operating performance without regard to certain expenses. EBITDA and Adjusted EBITDA are not presentations made in accordance with GAAP and the Company's computation of EBITDA and Adjusted EBITDA may vary from others in the industry. EBITDA and Adjusted EBITDA have important limitations as analytical tools and should not be considered in isolation or as substitutes for analysis of the Company's results as reported under GAAP.

(2) The non-cash portion of rent, which reflects the extent to which our GAAP rent expense recognized exceeds (or is less than) our cash rent payments. For newer leases, our rent expense recognized typically exceeds our cash rent payments, while for more mature leases, rent expense recognized is typically less than our cash rent payments.

Liquidity and Capital Resources

Our aggregate cash, cash equivalents and restricted cash as of December 31, 2023 were $2.1 million as compared to $9.1 million at December 31, 2022. Our working capital was $26.7 million and $44.8 million as of December 31, 2023 and 2022, respectively. The decrease of $7.0 million in our cash, cash equivalents and restricted cash for the year ended December 31, 2023 was primarily due to (a) the proceeds from the sale of marketable debt securities of $3.8 million, (b) the proceeds from the maturities of marketable debt securities of $4.2 million, (c) the proceeds for issuance of notes payable and mortgage loan of $10.5 million, and (d) the proceeds from warrant exercise of $1.2 million, offset by (i) $11.3 million cash used in operating activities, (ii) the asset purchase of Stella of $2.9 million, (iii) repurchase of common shares for payment of statutory taxes due on cashless exercise of options for $5.4 million, (iv) repurchase of common shares for $0.6 million, (v) purchase marketable debt securities of $3.8 million, and (vi) capital expenditures of $3.2 million.

To date the principal sources of capital to fund our operations have been from diagnostic services, genomics sequencing, product sales, net proceeds from the offering of equity securities, and issuances of promissory notes. Based on management's current business plans, the Company estimates it will have enough cash and liquidity to finance its operating requirements for at least 12 months from the date of filing these audited condensed consolidated financial statements. However, due to the nature of early-stage ventures and accounts receivables collections, there are inherent uncertainties associated with managements' business plan and cash flow projections, particularly if the Company is unable to grow its business lines, including replacing the revenues from our lab diagnostic services or tests with new business lines, or collect on its accounts receivables in a timely manner or at all. If we were to experience a cash shortfall, we believe our access to existing and other financing sources, including our at-the-market facility, and the established relationships with our investment banks will enable us to continue to meet our obligations and fund ongoing operations.

We may also use our cash to explore and/or acquire new product technologies, applications, product line extensions, new contract manufacturing applications and other new product opportunities. In the event that our available cash is insufficient to support such initiatives, we may need to incur indebtedness or issue common stock or other securities to finance our plans for growth. Volatility in the credit markets and the liquidity of major financial institutions, including as a result of inflation, the COVID-19 pandemic and/or the war in Ukraine and measures taken in response thereto, may have an adverse impact on our ability to fund our business strategy through future borrowings, under either existing or newly created instruments in the public or private markets on terms that we believe to be reasonable, if at all.

We anticipate that we will continue to incur losses for foreseeable future. We expect to continue to incur research and development costs and general and administrative expenses, as well as expenses related to potential commercialization of our product candidates, consistent with costs associated with research and development at companies of our size and stage of development, and, as a result, we will need additional capital to fund our operations, which we may raise through public or private equity or debt financings, strategic collaborations, or other sources.

Contractual Obligations and Commitments

Manufacturing Agreement

The Company and its wholly owned subsidiary, PMI, entered into a manufacturing agreement (the "Manufacturing Agreement") with Mylan Consumer Healthcare Inc. ("MCH") and Mylan Inc. (together with MCH, "Mylan") in connection with the asset purchase agreement we entered into with Mylan in 2017. Pursuant to the terms of the Manufacturing Agreement, Mylan (or an affiliate or designee) purchased the inventory of the Company's Cold-EEZE® brand and product line, and PMI agreed to manufacture certain products for Mylan, as described in the Manufacturing Agreement, at prices that reflect current market conditions for such products and include an agreed upon mark-up on our costs. On May 1, 2021, the Manufacturing Agreement was assigned by Mylan to Nurya Brands, Inc. ("Nurya") in connection with Nurya's acquisitions of certain assets from Mylan, including the Cold-EEZE® brand and product line. Unless terminated sooner by the parties, the Manufacturing Agreement was to remain in effect until March 29, 2023. Thereafter, the Manufacturing Agreement could be renewed by Nurya for up to four successive one-year periods by providing notice of its intent to renew not less than 90 days prior to the expiration of the then-current term.

On November 15, 2022, the Company was notified by Nurya of its election to renew the Manufacturing agreement for one year. As a result, the Manufacturing Agreement will remain in effect until March 29, 2024.

Equivir License Agreement

Under the terms of our Equivir License Agreement with Global BioLife for the worldwide exclusive right and license to Equivir and Equivir G, we are required to pay to Global BioLife a royalty of 5.5% after the date of first commercial sale and during the royalty term. In the event that no valid claim of Equivir Licensed Patents cover a Equivir

Licensed Product in a particular jurisdiction, the royalty rate for such Equivir Licensed Product will be reduced by 50%See Part I, Item 1, "Business - Licensing Agreements" for additional details regarding this agreement.

Linebacker License Agreement

Under the terms of our Linebacker License Agreement with Global BioLife for the worldwise exclusive right and license to Linebacker (LB-1 and LB-2), we must pay Global BioLife $900,000 following the achievement of a first Phase 3 study which may be required by the FDA for the first Linebacker Licensed Product and an additional $1 million upon the receipt of regulatory approval of a NDA for the first Linebacker Licensed Product. During the term of the license agreement, we are also required to pay to Global BioLife 3% royalties on Net Revenue (as defined in the license agreement) of each Linebacker Licensed Product, but no less than the minimum royalty of $250,000 of Net Revenue per year minus any royalty payments for any required third party licenses. See Part I, Item 1, "Business - Licensing Agreements" for additional details regarding this agreement.

Stella Asset Purchase Agreement

On December 15, 2022, we entered into an Asset Purchase Agreement (the "Stella Purchase Agreement") with Stella Diagnostics Inc. ("Stella") and Stella DX, LLC ("Stella DX" and, together with Stella, the "Stella Sellers"), pursuant to which, on January 3, 2023, we purchased all of the assets, rights and interests of the Stella Sellers and their affiliates pertaining to the Stella Sellers' BE-Smart Esophageal Pre-Cancer diagnostic screening test and certain clinical assets, including all intellectual property rights (the "Stella Purchased Assets"). As consideration for the Stella Purchased Assets, we (i) paid to the Stella Sellers $3.5 million in cash, minus (a) the Secured Note Amount of $0.5 million, (b) the Liability Payoff Amount of $0.4 million and (c) the Promissory Note Payoff Amounts of $0.4 million (each as defined in the Stella Purchase Agreement) in 2022, and (ii) issued to Stella DX 100,000 shares of our common stock. (See Footnote 11 to the Consolidated Financial Statements).

We are required to pay to the Stella Sellers for each of the seven calendar years (each, an "Annual Period") during the seven year period commencing on the first day of the calendar year following the date of the Commercialization Event (as defined in the Stella Purchase Agreement), a non-refundable, non-creditable royalty of 5% of the Adjusted Gross Margin (as defined in the Stella Purchase Agreement) for such Annual Period.

JXVII Trust Promissory Note

On January 26, 2023, we issued an unsecured promissory note and guaranty for an aggregate principal amount of $7.6 million (the "JXVII Note") to JXVII Trust ("JXVII"). The JXVII Note is due and payable on January 27, 2026, the third anniversary of the date on which the JXVII Note was funded (the "Note Closing Date"), and accrues interest at a rate of 10% per year from the Note Closing Date, payable on a quarterly basis, until the JXVII Note is repaid in full. We have the right to prepay the JXVII Note at any time after the Note Closing Date and prior to the maturity date without premium or penalty upon providing seven days' written notice to JXVII. Repayment of the JXVII Note has been guaranteed by the Company's wholly-owned subsidiary, PMI.

The JXVII Note contains customary events of default. If a default occurs and is not cured within the applicable cure period or is not waived, any outstanding obligations under the JXVII Note may be accelerated. The JXVII Note also contains certain restrictive covenants which, among other things, restrict our ability to create, incur, assume or permit to exist, directly or indirectly, any lien (other than certain permitted liens described in the JXVII Note) securing any indebtedness of the Company, and prohibits us from distributing or reinvesting the proceeds from any divestment of assets (other than in the ordinary course) without the prior approval of JXVII. (See Footnote 11 to the Consolidated Financial Statements).

COVID-19

Previously, we experienced higher than normal net revenue for the years ended December 31, 2021 and 2022, primarily as a result of increased revenue from our diagnostic services business. The increase in net revenue from diagnostic services was due to increased COVID-19 testing volumes performed as a result of the spread of the Omicron variant, which emerged in early 2022. The demand for our COVID-19 testing services significantly decreased starting in the second half of 2022, partly due to the widespread and effective vaccination of a majority of Americans against COVID-19 and successful containment efforts. For the year ended December 31, 2023, revenue from our diagnostic services significantly decreased. As a result, we have reduced the amount of diagnostic testing services that we provide

since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future.

HRSA Funding

In March 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted, providing for reimbursement to healthcare providers for COVID-19 tests provided to uninsured individuals, subject to continued available funding. Approximately 28.0% of our diagnostic services revenue for the year ended December 31, 2022 was generated from this program for the uninsured. None of our diagnostic revenues for the year ended December 31, 2023 was generated from this program for the uninsured. On March 22, 2022, the HRSA uninsured program stopped accepting claims for COVID-19 testing and treatment due to lack of sufficient funds. Despite requests from the Acting Director of the Office of Management and Budget and the White House Coordinator for COVID-19 Response for additional emergency funding for the uninsured program, additional emergency funding were allocated to the HRSA uninsured program. For years ended December 31, 2023 and 2022, we continued to perform testing for uninsured persons and were incurring the accompanying costs.

On January 30, 2023, the Administration announced that effective May 11, 2023, the federal Public Health Emergency would expire related to the COVID-19 pandemic. This expiration changes regulatory guidelines around COVID-19 testing including billing codes and reimbursement rates of in and out of network laboratories. As a result of the Public Health Emergency ending and the significant decrease in demand of COVID-19 testing, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023.

At-the-Market Facility

On December 28, 2021, we entered into a Sales Agreement (the “Sales Agreement”) with ThinkEquity LLC (the “Sales Agent”), pursuant to which we may offer and sell, from time to time through the Sales Agent, shares of our common stock having an aggregate offering price of up to $100,000,000, subject to the terms and conditions of the Sales Agreement. We are not obligated to make any sales of shares under the Sales Agreement.

We will pay the Sales Agent a fixed commission rate of 2.0% of the aggregate gross proceeds from the sale of any shares pursuant to the Sales Agreement and have agreed to provide the Sales Agent with customary indemnification and contribution rights. We also agreed to reimburse the actual out-of-pocket accountable expenses of the Sales Agent up to $60,000 (of which a $25,000 advance was paid on December 7, 2021), which amount includes the fees and expenses of legal counsel to the Sales Agent up to $50,000, and to pay the costs associated with bound volumes of the public offering materials as well as commemorative mementos and lucite tombstones, in an amount not to exceed $3,000.

We will pay the Sales Agent a fixed commission rate of 2.0% of the aggregate gross proceeds from the sale of any shares pursuant to the Sales Agreement and have agreed to provide the Sales Agent with customary indemnification and contribution rights. We also agreed to reimburse the actual out-of-pocket accountable expenses of the Sales Agent up to $60,000 (of which a $25,000 advance was paid on December 7, 2021).

Additionally, we will pay to H.C. Wainwright & Co. (“Wainwright”), a fee equal to 1.0% of the gross proceeds of the sales price of all the shares sold under the Sales Agreement, pursuant to a separate financial services agreement with Wainwright. Wainwright is not a sales agent under the Sales Agreement.

For the years ended December 31, 2023 and 2022, we did not have any sales under the at-the-market facility.

Impact of Inflation

We are subject to normal inflationary trends and anticipate that any increased costs for our contract manufacturing and retail operations would be passed on to our customers; however, any increased costs related to diagnostic services would be absorbed by the Company. Inflation could have a material effect to our business in the future..

Critical Accounting Policies and Estimates

Our significant accounting policies are described in Note 2 of the Notes to Consolidated Financial Statements included under Item 8 of this Part II. However, certain accounting policies are deemed “critical”, as they require management’s highest degree of judgment, estimates and assumptions. These accounting policies, estimates and disclosures have been discussed with the Audit Committee of our Board of Directors. A discussion of our critical

accounting policies and estimates, the judgments and uncertainties affecting their application and the likelihood that materially different amounts would be reported under different conditions or using different assumptions are as follows:

Use of Estimates

The preparation of financial statements and the accompanying notes thereto, in conformity with GAAP requires management to make estimates and assumptions that affect reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the respective reporting periods. Examples include revenue recognition and the estimation of the variable consideration associated with the diagnostic reimbursement rates, the provision for bad debt and billing discrepancies, sales returns and allowances, inventory obsolescence, useful lives of property and equipment, impairment of goodwill, intangibles and property and equipment, income tax valuations and assumptions related to accrued advertising. The estimates and assumptions are based on historical experience, current trends and other factors that management believes to be relevant at the time the financial statements are prepared. Management reviews the accounting policies, assumptions, estimates and judgments on a quarterly basis. Actual results could differ from those estimates.

Revenue Recognition and Accounts Receivables

We generate revenue principally through four types of revenue streams: diagnostic services, genomic products and services,contract manufacturing, and retail and other. The process for estimating revenues and the ultimate collection of receivables involves assumptions and judgments.

Revenue from our diagnostic services is recognized when the lab test is complete, and the diagnostic test result is provided to the customer. Revenue from our genomics services is recognized when the sequencing report is provided to the customer. Revenue from our consumer products is recognized when the shipments to contract manufacturing and retailer customers are recognized at the time ownership is transferred to the customer. We bill the providers at standard price and take into consideration for negotiated discounts and an anticipated reimbursement remittance adjustments based on the payer portfolio, when revenue is recorded. We use the most expected value method to estimate the transaction price for reimbursements that may vary from the standard price.

We carry our accounts receivable at cost less an allowance for credit losses. Allowances for credit losses are based upon our judgment regarding collectability. On a periodic basis, we evaluate our receivables and establish an allowance for credit losses, based on a history of past write-offs, collections, current credit conditions or generally accepted future trends in the industry and/or local economy. Accounts are written off as uncollectible at the time we determine that collections are unlikely. The reserve is not intended to address return activity or disputed balances with ongoing customers, as this should be addressed in a reserve for credit memos with a corresponding charge to revenue.

Goodwill and Long-lived Assets

We review our goodwill at least annually for impairment as well as the carrying value of goodwill and our long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be fully recoverable. When it is determined that the carrying amount of long-lived assets or goodwill is impaired, impairment is measured by comparing an asset's estimated fair value to its carrying value. The determination of fair value is based on quoted market prices in active markets, if available, or independent appraisals; sales price negotiations; or projected future cash flows discounted at a rate determined by management to be commensurate with our business risk. The estimation of fair value utilizing discounted forecasted cash flows includes significant judgments regarding assumptions of revenue, operating and marketing costs; selling and administrative expenses; interest rates; property and equipment additions and retirements; and industry competition, general economic and business conditions, among other factors.

Income Taxes

Accounting for income taxes requires recognition of deferred tax liabilities and assets for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities. These deferred taxes are measured by applying the provisions of tax laws in effect at the balance sheet date, including the impact of the Tax Cuts and Jobs Act ("TCJA") enacted on December 22, 2017. The TCJA made broad and significant changes to the U.S. tax code that affects the year ended December 31, 2017, including, but not limited to, a change in the federal rate from 35% to 21% effective January 1, 2018.

We recognize in income the effect of a change in tax rates on deferred tax assets and liabilities in the period that includes the TCJA enactment date. We utilize the asset and liability approach which requires the recognition of deferred tax assets and liabilities for the future tax consequences of events that have been recognized in our financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than enactments of changes in the tax law or rates. Until sufficient taxable income to offset the temporary timing differences attributable to operations and the tax deductions attributable to option, warrant and stock activities are assured, a valuation allowance equaling the total net current and non-current deferred tax asset is being provided.

Inventories

Inventory is valued at the lower of cost, determined on a first-in, first-out basis ("FIFO"), or net realizable value. We regularly review inventory quantities on hand and record a provision for excess and obsolete inventory based primarily on current and anticipated customer demand, production and laboratory requirements.

Recently Adopted Accounting Standards

On January 1, 2023, the Company adopted ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13") ASU 2016-13 requires an impairment model (known as the current expected credit loss ("CECL") model) that is based on expected losses rather than incurred losses. Under the new guidance, each reporting entity should estimate an allowance for expected credit losses, which is intended to result in more timely recognition of losses. This model replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost, accounts receivable and available for sale debt securities and applies to some off-balance sheet credit exposures. In February 2020, the FASB issued ASU 2020-02, Financial Instruments - Credit Losses (Topic 326), which amends the effective date of the original pronouncement for smaller reporting companies. ASU 2016-13 and its amendments will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2022. The adoption of ASU 2016-13 did not have a material impact on the Company's consolidated financial statements.

In August 2023, the Financial Accounting Standards Board (FASB) issued ASU 2023-05, "Business Combinations - Joint Venture Formations (Subtopic 805-60): Recognition and Initial Measurement." The new guidance applies to the formation of a joint venture and requires a joint venture to initially measure all contributions received upon its formation at fair value. The guidance is intended to reduce diversity in practice and is applicable to joint venture entities with a formation date on or after January 1, 2025 on a prospective basis. The Company currently does not have any transactions that fall under the scope of ASU 2023-05; therefore, the adoption of ASU 2023-05 is not expected to have an impact on the Company's consolidated financial statements.

Accounting Pronouncements Not Yet Adopted

In November 2023, the FASB issued ASU No. 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures (ASU 2023-07), which requires an enhanced disclosure of significant segment expenses on an annual and interim basis. This guidance will be effective for the annual periods beginning the year ended December 31, 2024, and for interim periods beginning January 1, 2025. Early adoption is permitted. Upon adoption, the guidance should be applied retrospectively to all prior periods presented in the financial statements. We do not expect the adoption of this guidance to have a material impact on our consolidated financial statements.

In December 2023, the FASB issued ASU No. 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures (ASU 2023-09), which improves the transparency of income tax disclosures by requiring consistent categories and greater disaggregation of information in the effective tax rate reconciliation and income taxes paid disaggregated by jurisdiction. It also includes certain other amendments to improve the effectiveness of income tax disclosures. This guidance will be effective for the annual periods beginning the year ended December 31, 2025. Early adoption is permitted. Upon adoption, the guidance can be applied prospectively or retrospectively. We do not expect the adoption of this guidance to have a material impact on our consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Like virtually all commercial enterprises, we may be exposed to the risk ("market risk") that the cash flows to be received or paid relating to certain financial instruments could change as a result of changes in interest rate, exchange rates, commodity prices, equity prices and other market changes.

Our operations are not subject to risks of material foreign currency fluctuations, nor do we use derivative financial instruments in our investment practices. We place our marketable investments in instruments that meet high credit quality

standards. We do not expect material losses with respect to our investment portfolio or excessive exposure to market risks associated with interest rates. The impact on our results of one percentage point change in short-term interest rates would not have a material impact on our future earnings, fair value, or cash flows related to investments in cash equivalents or interest-earning marketable securities.

Current economic conditions may cause a decline in business and consumer spending which could adversely affect our business and financial performance including the collection of accounts receivables, realization of inventory and recoverability of assets. In addition, our business and financial performance may be adversely affected by current and future economic conditions, including a reduction in the availability of credit, financial market volatility and recession.

Item 8. Financial Statements and Supplementary Data

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Members of ProPhase Labs, Inc. and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of ProPhase Labs, Inc. and Subsidiaries (the Company) as of December 31, 2023 and 2022, and the related consolidated statements of operations and comprehensive income, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2023, and the related notes (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the

amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Diagnostic Service Revenue, Accounts Receivable, and Allowances

As described in Note 2 to the consolidated financial statements, the Company's diagnostic service revenue is derived from third party insurers and government agencies. Management estimates the amount of consideration it expects to receive for providing diagnostic services based on historical billing and collection information. Management takes into consideration expected reimbursements from insurance providers (including uncollectible billings) and government agency programs, including those for uninsured patients. Revenue and accounts receivable are billed based on standard test rates. Revenue and accounts receivable are recognized based on finalized tests and historical reimbursement rate based on the type of service performed and billing code requirements. Given the nature of these estimates, performing audit procedures to evaluate appropriate revenue recognition and allowances associated with diagnostic services with billing discrepancies required a high degree of auditor judgment and an increased extent of effort.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. The procedures included the following:

a. Gaining an understanding of diagnostic services' billing and collection process.
b. Testing the completeness and accuracy of the Company's billing system, which included, among other things, performing transaction testing on a sample of diagnostic tests performed, which included review of patient information including insurance carrier as estimated reimbursement rate is based on historical payments by insurance carrier, review of finalization of test results, and an analysis of the historical reimbursements rate to date for each payer.
c. Performing an analysis of the collections compared to the estimated rate used to record revenue based on historical collections.
d. Performing a cash reconciliation to ensure the revenue and accounts receivable recognized were reasonable, based on deposits received through December 31, 2023.
e. Reviewing management's estimated allowances as compared to historical collection rates, current and future economic conditions and events, and specific allowances for credit loss items based on longevity of the outstanding balance and specific reserve by type and payer for probability of payment through December 31, 2023.

Genomics Revenue and Deferred Revenue

As described in Note 2 to the consolidated financial statements, the Company's genomics revenue is derived from DNA kit sales direct to the consumer sales via website or through online retailers with upfront payments. Management estimates the breakout of the consideration it expects to receive for providing the kit sales and subscriptions. Management takes into consideration the standard price of kits and subscriptions when breaking out the recognition of revenue. Management satisfies product performance obligation at a point in time when the genetic testing results are provided to the customer. For subscriptions services associated with its genomic testing, we satisfy our performance obligation ratably over the subscription period. If the customer does not return the test kit, services cannot be completed by the Company, potentially resulting in unexercised rights ("breakage") revenue, including lifetime subscription services. Management estimates breakage for the portion of test kits not expected to be returned using an analysis of historical data and consider other factors that could influence customer test kit return behavior. When breakage revenue is recognized on a kit, the company recognize breakage on any associated subscription services ratably over the term of the subscription. Given the nature of these estimates, performing audit procedures to evaluate appropriate revenue recognition and allowances associated with genomics services required a high degree of auditor judgement and an increased extent of effort.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. The procedures included the following:

a. Gaining an understanding of the genomics' billing and standard pricing of kits and subscriptions.

a. Testing the completeness and accuracy of the Company's genomics revenue reports, which included, among other things, performing transaction testing on a sample of genomics tests performed, which included review of payment information as invoices were not available for all selections.
b. Performing a cash reconciliation for online retailers used to ensure the revenue and accounts receivable recognized were reasonable, based on deposits received through December 31, 2023.
c. Performing a cash reconciliation for all business to business customers to ensure the revenue and accounts receivable recognized were reasonable, based on collections through December 31, 2023.
d. Obtaining accounts receivable confirmation for business to business customers with outstanding balances as of December 31, 2023.
e. Reviewing management's estimated pricing assumptions based on type of kit and quantity of kit ordered through online retailers.
f. Reviewing calculation of management estimate regarding timing of breakage for kit recognition as of December 31, 2023.
g. Reviewing calculation of estimate regarding useful life of subscription revenue.

/s/ Morison Cogen LLP

We have served as the Company's auditor since 2022.

Blue Bell, Pennsylvania
March 28, 2024

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Members of ProPhase Labs, Inc. and Subsidiaries

Adverse Opinion on Internal Control over Financial Reporting

We have audited ProPhase Labs, Inc. and Subsidiaries' (the Company's) internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, because of the effect of the material weakness described in the following paragraph on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by COSO.

A material weakness is a control deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim consolidated financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management's assessment:

1. Certain account reconciliations contained misstatements, resulting in several proposed journal entries. In addition, it does not appear there was adequate review of the reconciliations or controls over the financial statement closing process. This reduces the likelihood of the Company achieving the objectives of the above-mentioned control criteria.

2. Several errors were made related to recording revenue in the proper period, calculating current period revenue, and following Company policy regarding principal versus agent considerations, resulting in misstatements in accounts receivable, deferred revenue, and revenue for multiple subsidiaries. The Company relies heavily on the manual input process for these areas and it does not appear there are controls in place to identify exceptions. In addition, in certain instances where revenue is recorded based on an estimation of rates, it appears the rates were not updated accordingly throughout the year. This reduces the likelihood of the Company achieving the objectives of the above-mentioned control criteria.

3. The Company relies heavily on the manual input process for calculating and recording deferred costs and cost of sales, resulting in misstatements in those areas. In addition, it does not appear there are adequate controls in place to identify discrepancies. This reduces the likelihood of the Company achieving the objectives of the above-mentioned control criteria.

These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2023 consolidated financial statements, and this report does not affect our report dated March 28, 2024, on those consolidated financial statements.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets and the related consolidated statements of operations and comprehensive income, stockholders' equity, and cash flows of the Company, and our report dated March 28, 2024, expressed an unqualified opinion.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Morison Cogen LLP

We have served as the Company's auditor since 2022.

Blue Bell, Pennsylvania
March 28, 2024

PROPHASE LABS, INC AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)

	December 31, 2023	December 31, 2022
ASSETS		
Current assets		
Cash and cash equivalents	$ 1,609	$ 9,109
Restricted cash	540	—
Marketable securities, available for sale	3,127	8,328
Accounts receivable, net	36,313	37,054
Inventory, net	3,841	3,976
Prepaid expenses and other current assets	2,155	2,366
Total current assets	47,585	60,833
Property, plant and equipment, net	12,898	7,288
Prepaid expenses, net of current portion	832	121
Operating lease right-of-use asset, net	4,572	4,059
Intangible assets, net	12,333	8,475
Goodwill	5,231	5,709
Deferred tax asset	7,313	—
Other assets	1,163	1,163
TOTAL ASSETS	**$ 91,927**	**$ 87,648**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 9,383	$ 5,905
Accrued diagnostic services	314	1,009
Accrued advertising and other allowances	24	99
Finance lease liabilities	1,840	—
Operating lease liabilities	953	301
Deferred revenue	2,382	2,499
Income tax payable	3,278	4,190
Other current liabilities	2,683	2,072
Total current liabilities	20,857	16,075

PROPHASE LABS, INC AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share amounts)
Continued

	December 31, 2023	December 31, 2022
Non-current liabilities:		
Long-term debt, net of discount of $341	$ 2,924	$ —
Unsecured convertible promissory notes, net	—	2,400
Unsecured promissory notes, net of discount of $266 and $0	7,334	—
Due to sellers (see Note 3)	2,000	—
Deferred revenue, net of current portion	1,100	1,059
Deferred tax liability, net	—	224
Finance lease liabilities, net of current portion	4,092	—
Operating lease liabilities, net of current portion	4,237	4,259
Total non-current liabilities	21,687	7,942
Total liabilities	42,544	24,017
COMMITMENTS AND CONTINGENCIES		
Stockholders' equity		
Preferred stock authorized 1,000,000, $0.0005 par value, no shares issued and outstanding	—	—
Common stock authorized 50,000,000, $0.0005 par value, 18,045,029 and 16,210,776 shares outstanding, respectively	18	16
Additional paid-in capital	118,694	109,138
Retained earnings (accumulated deficit)	(5,029)	11,753
Treasury stock, at cost, 18,940,967 and 18,126,790 shares, respectively	(64,000)	(58,033)
Accumulated other comprehensive loss	(300)	757
Total stockholders' equity	49,383	63,631
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	**$ 91,927**	**$ 87,648**

See accompanying notes to consolidated financial statements

PROPHASE LABS, INC & SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS AND OTHER COMPREHENSIVE INCOME (LOSS)
(in thousands, except per share amounts)

	For the years ended	
	December 31, 2023	**December 31, 2022**
Revenues, net	$ 44,384	$ 122,647
Cost of revenues	28,145	51,993
Gross profit	16,239	70,654
Operating expenses:		
Diagnostic expenses	1,932	12,022
General and administration	34,502	34,385
Research and development	1,418	652
Total operating expenses	37,852	47,059
(Loss) income from operations	(21,613)	23,595
Interest income, net	78	153
Interest expense	(1,275)	(764)
Change in fair value of investment securities	—	(76)
Other income	10	—
(Loss) income from operations before income taxes	(22,800)	22,908
Income tax benefit (expense)	6,018	(4,445)
Loss (income) from operations after income taxes	**$ (16,782)**	**$ 18,463**
Other comprehensive (loss) income:		
Unrealized (loss) income on marketable securities	(1,057)	932
Total comprehensive (loss) income	$ (17,839)	$ 19,395
Earnings (loss) per share:		
Basic	$ (0.98)	$ 1.17
Diluted	$ (0.98)	$ 1.02
Weighted average common shares outstanding:		
Basic	17,207	15,845
Diluted	17,207	18,651

See accompanying notes to consolidated financial statements

PROPHASE LABS, INC & SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share data)

	Common Stock Shares Outstanding	Par Value	Additional Paid in Capital	Accumulated (Deficit) Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total
Balance as of January 1, 2022	**15,485,900**	**$ 16**	**$ 104,552**	**$ 2,642**	**$ (175)**	**$ (48,407)**	**$ 58,628**
Issuance of common stock for debt conversion	200,000	—	600	—	—	—	600
Issuance of common stock upon stock options cashless exercise	828,021	—	—	—	—	—	—
Repurchase of common shares	(303,145)	—	—	—	—	(2,152)	(2,152)
Cash dividends	—	—	—	(9,352)	—	—	(9,352)
Treasury shares repurchased to satisfy tax withholding obligations	—	—	—	—	—	(7,474)	(7,474)
Unrealized gain on marketable debt securities, net of taxes	—	—	—	—	932	—	932
Cashless warrants exercise	—	—	—	—	—	—	—
Stock-based compensation	—	—	3,986	—	—	—	3,986
Net income	—	—	—	18,463	—	—	18,463
Balance as of December 31, 2022	**16,210,776**	**16**	**109,138**	**11,753**	**757**	**(58,033)**	**63,631**
Issuance of common stock in asset acquisition	100,000	1	999	—	—	—	1,000
Repurchases of common shares	(69,628)	—	—	—	—	(588)	(588)
Issuance of common stock to convert outstanding convertible notes	800,000	1	2,399	—	—	—	2,400
Issuance of common stock upon exercise of warrants	400,000	—	1,200	—	—	—	1,200
Issuance of common stock upon stock options cashless exercise	603,881	—	—	—	—	—	—
Issuance of warrants with unsecured promissory note	—	—	398	—	—	—	398
Treasury shares repurchased to satisfy tax withholding obligations	—	—	—	—	—	(5,379)	(5,379)
Unrealized loss on marketable securities, net of taxes	—	—	—	—	(1,057)	—	(1,057)
Stock-based compensation (including $ 1,024 in prepaid expense)	—	—	4,560	—	—	—	4,560
Net loss	—	—	—	(16,782)	—	—	(16,782)
Balance as of December 31, 2023	**18,045,029**	**$ 18**	**$ 118,694**	**$ (5,029)**	**$ (300)**	**$ (64,000)**	**$ 49,383**

See accompanying notes to consolidated financial statements

PROPHASE LABS, INC & SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	For the years ended	
	December 31, 2023	**December 31, 2022**
Cash flows from operating activities		
Net (loss) income	$ (16,782)	$ 18,463
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Realized loss on marketable debt securities	(22)	354
Depreciation and amortization	6,277	4,718
Amortization of debt discount	132	4
Amortization on right-of-use assets	421	343
Gain on sales of assets	(23)	(127)
Stock-based compensation expense	3,536	3,986
Change in fair value of investment securities	—	(174)
Accounts receivable allowances	718	(761)
Inventory valuation reserve	—	(78)
Credit loss expense, direct write-offs	91	6,163
Changes in operating assets and liabilities:		
Accounts receivable	(68)	(4,498)
Inventory	135	702
Prepaid expenses and other current assets	(376)	(617)
Deferred tax asset	(7,313)	—
Other assets	—	(555)
Accounts payable and accrued expenses	3,478	(1,121)
Accrued diagnostic services	(695)	(881)
Accrued advertising and other allowances	(75)	(5)
Deferred revenue	(76)	619
Deferred tax liability	(224)	(138)
Lease liabilities	(181)	(301)
Income taxes payable	(912)	2,878
Other liabilities	611	(423)
Net cash (used in) provided by operating activities	(11,348)	28,551
Cash flows from investing activities		
Business acquisitions, escrow received	478	—
Business acquisitions, net of cash acquired	(2,904)	—
Issuance of secured promissory note receivable	—	—
Purchase of marketable securities	(3,819)	(6,777)
Proceeds from sales of marketable securities	3,817	1,047
Proceeds from maturities of marketable securities	4,168	7,120
Proceeds from dispositions of property and other assets, net	46	452
Proceeds from promissory note	—	—

	For the years ended	
	December 31, 2023	**December 31, 2022**
Capital expenditures	(3,155)	(3,919)
Net cash used in investing activities	(1,369)	(2,077)
Cash flows from financing activities		
Proceeds from issuance of note payable	10,524	—
Proceeds from exercise of warrants	1,200	—
Repayment of common stock for payment of statutory taxes on cashless exercise of stock options	(5,379)	(7,474)
Repayment of note payable	—	(7,044)
Repurchases of common shares	(588)	(2,152)
Payment of dividends	—	(9,353)
Net cash provided by (used in) financing activities	5,757	(26,023)
(Decrease) increase in cash, cash equivalents and restricted cash	(6,960)	451
Cash, cash equivalents and restricted cash, at the beginning of the year	9,109	8,658
Cash, cash equivalents and restricted cash, at the end of the year	**$ 2,149**	**$ 9,109**
Supplemental disclosures:		

Cash paid for income taxes	$ 3,000	$ 1,696
Interest payment on the promissory notes	$ 932	$ 763
Supplemental disclosure of non-cash investing and financing activities:		
Stock-based compensation included in the prepaid expense	$ 1,024	$ —
Issuance of common shares for debt conversion	$ 2,400	$ 600
Net unrealized loss, investments in marketable securities	$ 1,520	$ 1,294
Assets obtained in exchange for new finance lease obligations	$ 5,809	$ —
Issuance of warrants with unsecured promissory note	$ 398	$ —
Common stock issued in asset acquisition	$ 1,000	$ —

See accompanying notes to consolidated financial statement

Note 1 – Organization and Business

ProPhase Labs, Inc. (“ProPhase”, “we”, “us”, “our” or the “Company”) is a diversified company that offers a range of services including genomics testing, diagnostic testing and contract manufacturing. We are also focused on licensing, developing and commercializing novel drugs, dietary supplements, compounds and diagnostics.

Until late fiscal year 2020, the Company was engaged primarily in the research, development, manufacture, distribution, marketing and sale of over-the-counter ("OTC") consumer healthcare products and dietary supplements in the United States.

In October 2020, the Company completed the acquisition of all of the issued and outstanding shares of capital stock of Confucius Plaza Medical Laboratory Corp. (“CPM”), which owned a 4,000 square foot Clinical Laboratory Improvement Amendments (“CLIA”) accredited laboratory located in Old Bridge, New Jersey for approximately $2.5 million, and began offering COVID-19 diagnostic tests through our wholly-owned subsidiary, ProPhase Diagnostics, Inc. ("ProPhase Diagnostics") in December 2020. Also in December 2020, we expanded our diagnostic service business with the build-out of a second, larger CLIA accredited laboratory in Garden City, New York. Operations at this second facility commenced in January 2021. We offered a broad array of COVID-19 related clinical diagnostic and testing services including polymerase chain reaction (“PCR”) testing for COVID-19 and Influenza A and B through ProPhase Diagnostics, as well as rapid antigen and antibody/immunity testing for COVID-19. Due to the significant decrease in demand and reimbursement rate for our diagnostic testing service, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future.

In August 2021, the Company acquired Nebula Genomics, Inc. (“Nebula”), a privately owned personal genomics company, through our wholly-owned subsidiary, ProPhase Precision Medicine Inc. Nebula focuses on genomics sequencing technologies, a comprehensive method for analyzing entire genomes, including the genes and chromosomes in deoxyribonucleic acidDNA. The data obtained from genomic sequencing can be used to help identify inherited disorders and tendencies, help predict disease risk, help identify expected drug response, and characterize genetic mutations, including those that drive cancer progression.

The Company's wholly owned subsidiary, ProPhase BioPharma, Inc. (“PBIO”), was formed in June 2022, for the licensing, development and commercialization of novel drugs, dietary supplements and compounds. Licensed compounds currently include Equivir (a OTC, dietary supplement candidate) and Equivir G (prescription drug (“Rx”) candidate), two broad-based anti-virals, and Linebacker LB-1 and LB-2, two small molecule proviral integration site for moloney murine leukemia virus (“PIM”) kinase inhibitors. The Company also own the exclusive rights to the BE-Smart Esophageal Pre-Cancer Diagnostic Screening test and related intellectual property (“IP”) assets.

In connection with the activities of PBIO, in January 2023, the Company acquired exclusive rights to BE-Smart Esophageal Pre-Cancer Diagnostic Screening test and related IP assets. The BE-Smart test is focused on the early detection of esophageal cancer, and is intended to provide health care providers and patients with data to help determine treatment options. The development of these novel drugs and compounds is highly dependent on how each performs during the testing and development stage, the demand for these product and services once entered into the marketplace, our marketing and service capabilities and our ability to comply with applicable regulatory requirements.

The Company's wholly-owned subsidiary, Pharmaloz Manufacturing, Inc. (“PMI”), is a full-service contract manufacturer and private label developer of a broad range of non-GMO, organic and natural-based cough drops and lozenges and OTC drug and dietary supplement products.

The Company also develops and markets dietary supplements under the TK Supplements® brand.The TK Supplements® product line includes Legendz XL®, a male sexual enhancement and Triple Edge XL®, an energy and stamina booster.

The Company's wholly owned subsidiary, Pharmaloz Real Estate Holdings, Inc. (“PREH”), was formed in November 2023, for the purpose to receive additional investment to expand its current facility. There was no operation for PREH as of December 31, 2023.

The Company continues to actively pursue acquisition opportunities for other companies, technologies and products within and outside the consumer products industry.

Note 2 – Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the current period presentation. These reclassifications had no effect on the reported results of operations.

Segments

In accordance with the Financial Accounting Standards Board's ("FASB") Accounting Standards Codification ("ASC") 280, “Segment Reporting” (“ASC 280”), the Company discloses financial and descriptive information about its reportable operating segments. Operating segments are components of an enterprise about which separate financial information is available and regularly evaluated by the chief operating decision maker in deciding how to allocate resources and in assessing performance.

The Company follows ASC 280, which establishes standards for reporting information about operating segments in annual and interim financial statements, and requires that companies report financial and descriptive information about their reportable segments based on a management approach. ASC 280 also establishes standards for related disclosures about products and services, geographic areas and major customers.

Operating segments are defined as components of an enterprise that engage in business activities for which separate financial information is available and is evaluated by the Chief Operating Decision Maker (“CODM”), which for the Company is its Chief Executive Officer, in deciding how to allocate resources and assess performance. We maintain two operating segments: diagnostic services (which includes our COVID-19 and other diagnostic testing services) and consumer products (which includes our contract manufacturing, retail customers, biopharma and personal genomics products and services). See Note 15 Segment Information.

Business and Liquidity Risks and Uncertainties

Our diagnostic service business continued to be impacted by the level of demand for COVID-19 and other diagnostic testing, the prices we are able to receive for performing our testing services, our ability to collect payment or reimbursement for our testing services in December 31, 2023 and ultimately led to our revenues decreasing significantly for the year ended December 31, 2023. On March 22, 2022, the Health Resources & Services Administration ("HRSA") program stopped accepting claims for COVID-19 testing and treatment provided to uninsured individuals due to lack of sufficient funds. We recognized approximately 1,000,000 tests for the year ended December 31, 2022 and approximately 480,000 tests for the year ended December 31, 2023, of which 28% were reimbursed by the HRSA uninsured program for the year ended December 31, 2022, and none were reimbursed from the HRSA uninsured program for the year ended December 31, 2023. As a result, we have reduced the amount of diagnostic testing services that we provide since the second half of 2023. Nonetheless we are prepared to provide an increased volume of our diagnostic testing service if diagnostic testing is required due to a new COVID-19 outbreak. We have continued to ship COVID-19 antigen kits under an existing contract to our customer. In addition, in order to maintain licenses in certain states in which we operate, we currently perform several diagnostic tests each quarter to maintain our certified lab status, and we currently plan to do so for the foreseeable future. There is no guarantee that the demand of our diagnostic testing services will increase or meet the level of demand that we experienced during the COVID-19 pandemic, and there is no guarantee that we will be able to substitute the revenues previously generated from this line of business from our other business lines.

Our personal genomics business is and will continue to be influenced by demand for our genetic sequencing products and services, our marketing and service capabilities, and our ability to comply with applicable regulatory requirements.

Our contracting manufacturing business is and will continue to be impacted by demand for our services, which is largely a function of the timing, length and severity of each cold season. Generally, a cold season is defined as the period from September to March when the incidence of the common cold rises as a result of the change in weather and other factors. We generally experience in the first, third and fourth quarter higher levels of net revenues from our contract manufacturing business. Revenues are generally at their lowest levels in the second quarter when customer demand generally declines. This line of business is also impacted by our ability to meet such demands. The building of our manufacturing facilities and manufacturing of products necessitates compliance with applicable regulatory requirements.

Our consumer sales are and will continue to be impacted by (i) the timing of acceptance of our TK Supplements® consumer products in the marketplace, and (ii) fluctuations in the timing of purchase and the ultimate level of demand for these products.

For the year ended December 31, 2023, $11.3 million was used by operating activities. The Company had cash, cash equivalents, restricted cash and marketable securities of $5.3 million as of December 31, 2023. Based on management's current business plans, the Company estimates that it will have enough cash and liquidity to finance its operating requirements for at least one year from the date of filing these financial statements. However, due to the nature of the diagnostic business and the Company's focus thus far on COVID-19, there are inherent uncertainties associated with managements' business plan and cash flow projections if the Company is unable to grow its diagnostic testing business beyond COVID-19 testing services and to grow its other businesses.

As such, the Company's future capital needs and the adequacy of its available funds will depend on many factors. These include, but not necessarily limited to, the actual cost and time necessary to achieve sustained profitability from diagnostic services, the ability to successfully diversify the diagnostic services revenue streams and the ability to market and grow the personal genomics, biopharma, manufacturing and supplement businesses. The Company may be required to raise additional funds through equity or debt securities offerings or strategic collaboration and/or licensing agreements in order to fund operations until it is able to generate enough revenues. Such financing may not be available on acceptable terms, or at all, and the Company's failure to raise capital when needed could have a material adverse effect on its strategic objectives, results of operations and financial condition.

Use of Estimates

The preparation of financial statements and the accompanying notes thereto, in conformity with generally accepted accounting principles in the United States of America ("GAAP"), requires management to make estimates and assumptions that affect reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the respective reporting periods. Examples include revenue recognition and the impact of the variable consideration around diagnostic test reimbursement rates, the provision for uncollectible receivables and billing errors, sales returns and allowances, rates, slow moving, dated inventory and associated provisions, the estimated useful lives and potential impairment of long-lived assets, stock based compensation valuation, income tax asset valuations and assumptions related to accrued advertising.

Our estimates and assumptions are based on historical experience, current trends and other factors that management believes to be relevant at the time the financial statements are prepared. Management reviews the accounting policies, assumptions, estimates and judgments on a quarterly basis. Actual results could differ from those estimates.

Cash and Cash Equivalents

We consider all highly liquid investments with a maturity of three months or less at the time of purchase to be cash equivalents. Cash equivalents include cash on hand and monies invested in money market funds. The carrying amount approximates the fair market value due to the short-term maturity of these securities.

Restricted Cash

Restricted cash as of December 31, 2023 includes approximately $540,000 held in escrow related to the Company's mortgage loan. There was no restricted cash as of December 31, 2022.

Marketable Securities

We have classified our investments in marketable debt and equity securities as available-for-sale and as a current asset. Our investments in marketable securities are carried at fair value, with unrealized gains and as a separate component of stockholders' equity. Realized gains and losses from our marketable securities are recorded as interest income (expense). Marketable debt securities carry maturity dates between one and three years from date of purchase and interest rates of 1.40% to 4.90% during fiscal 2022.

The following is a summary of the components of our marketable securities and the underlying fair value input level tier hierarchy (see fair value of financial instruments) (in thousands):

	As of December 31, 2023			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Corporate stock	$ 3,528	$ —	$ (401)	$ 3,127
	$ 3,528	$ —	$ (401)	$ 3,127

	As of December 31, 2022			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
U.S. government obligations	$ 1,484	$ 6	$ (12)	$ 1,478
Corporate obligations	5,702	1,228	(80)	6,850
	$ 7,186	$ 1,234	$ (92)	$ 8,328

We believe that the unrealized gains or losses generally are the result of a change in the risk premiums required by market participants rather than an adverse change in cash flows or a fundamental weakness in the credit quality of the issuer or underlying assets.

Accounts Receivable, net

Accounts receivable consists primarily of amounts due from government agencies and healthcare insurers. Unbilled accounts receivable relates to the delivery of our diagnostic testing services for which the related billings will occur in a future period, after a patient's insurance information has been validated, and represent amounts we have an unconditional right to receive payment. Unbilled accounts receivable is classified as accounts receivable on the consolidated balance sheet. We carry our accounts receivable at the amount of consideration for which we expect to be entitled less allowances. When estimating the allowances for our diagnostics business, the Company pools its trade receivables based on the following payer types: healthcare insurers and government payers. The Company principally estimates the allowance for credit losses by pool based on historical collection experience, current economic conditions, expectations of future economic conditions, other credits and the period of time that the receivables have been outstanding. To the extent that any individual payers are identified that have deteriorated in credit quality, the Company removes the payers from their respective pools and establishes allowances based on the individual risk characteristics of such payers. On a periodic basis, we evaluate our receivables and establish an allowance, based on a history of past write-offs, government and healthcare insurer payment trends, collections, current credit conditions or generally accepted future trends. Accounts receivable are stated at the net amount expected to be collected, using an expected loss methodology that is referred to as the current expected credit loss ("CECL") model.

Accounts are written off as uncollectible at the time we determine that collections are unlikely. Accounts receivable, net is comprised of the following (in thousands):

	December 31, 2023	December 31, 2022
Trade accounts receivable	$ 40,177	$ 37,568
Unbilled accounts receivable	—	2,626
	40,177	40,194
Less allowances	(3,864)	(3,140)
Total accounts receivable	$ 36,313	$ 37,054

The table below presents a roll forward of the Company's allowance for credit losses (amount in thousands).

Beginning balance as of January 1, 2023	$	3,140
Current period provision for expected credit losses		724
Balance as of December 31, 2023	$	3,864

For Fiscal 2023, we recorded $0.3 million to credit losses in operating expenses representing a write-off of trade receivables we have determined to be uncollectible and increased the allowance for credit losses as a reduction of revenue by $0.4 million. The results of these adjustments and our current year allowances, resulted in an allowance of $3.9 million at December 31, 2023.

At December 31, 2023, within the diagnostic services business, insurers had significantly aged balances that we are continuing to work to collect. The specific facts and circumstances related to each of these individual payors have been considered by our management, which informed the determination of the year-end reserve balance. We continue to pursue collection of amounts due. However, there will inevitably be billings that are rejected by the insurance carriers and associated receivables that will not be collected. We believe that the reserve established at December 31, 2023 is adequate to capture this collectability risk. While past history is helpful informing the determination of an appropriate reserve, its utility is somewhat limited by the circumstances underlying a significant portion of these aged balances; specifically, an unprecedented volume of activity related COVID 19 diagnostic testing. Accordingly, the determination of an appropriate reserve required significant management judgment and was informed by the unique facts and circumstances related to each of the three significant insurers.

For Fiscal 2022, we recorded $5.9 million to credit loss expense in operating expenses representing a write-off of trade receivables we have determined to be uncollectible. Additionally, we wrote off $2.9 million of trade receivables and related allowances at December 31, 2022, that were fully reserved for in 2021 and did not impact the result of operations for the year ended December 31, 2022. The Company also increased its allowance for credit losses in Fiscal 2022 by $5.5 million. The results of these adjustments and our current year allowances, resulted in an allowance of $3.1 million at December 31, 2022.

Inventory, net

Inventory is valued at the lower of cost, determined on a first-in, first-out basis ("FIFO"), or net realizable value. Inventory items are analyzed to determine cost and the net realizable value and appropriate valuation adjustments are established.

At December 31, 2023 and 2022, the components of inventory are as follows (in thousands):

		December 31, 2023		December 31, 2022
Diagnostic services testing material	$	623	$	1,739
Raw materials		1,619		1,639
Work in process		306		754
Finished goods		1,551		356
Inventory	$	4,099	$	4,488
Inventory valuation reserve		(258)		(512)
Inventory, net	$	3,841	$	3,976

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. We use the straight-line method in computing depreciation for financial reporting purposes. Depreciation expense is computed in accordance with the following ranges of estimated asset lives: building and improvements - ten to thirty-nine years; leasehold improvements - lesser of lease term or estimated useful life; machinery and equipment including lab equipment - three to seven years; computer equipment and software - three to five years; and furniture and fixtures - five years.

Concentration of Financial Risks

Financial instruments that potentially subject us to significant concentrations of credit risk consist principally of cash investments, marketable debt securities, and trade accounts receivable. Our marketable securities are fixed income investments, which are highly liquid and can be readily purchased or sold through established markets.

We maintain cash and cash equivalents with certain major financial institutions. As of December 31, 2023, our cash and cash equivalents and restricted cash balance was $2.1 million. Of the total bank balance, $1.0 million was covered by federal depository insurance and $1.1 million was uninsured at December 31, 2023.

Accounts receivable subject us to credit risk concentrations from time-to-time. We extend credit to our consumer healthcare product customers based upon an evaluation of the customer's financial condition and credit history and generally do not require collateral. Our diagnostic services receivable credit risk is based on payer reimbursement experience, which includes government agencies and healthcare insurers, the period the receivables have been outstanding and the historical collection rates. The collectability of the diagnostic services receivables is also directly linked to the quality of our billing processes, which depend on information provided and billing services of third parties. These credit concentrations impact our overall exposure to credit risk, which could be further affected by changes in economic, regulatory or other conditions that may impact the timing and collectability of trade receivables and diagnostic test receivables. Additionally, the reimbursement receivables from the diagnostic service business are subject to billing errors and related disputes.

In addition, see Note 13 - Significant Customers Concentrations.

Leases

At the inception of an arrangement, we determine whether the arrangement is or contains a lease based on the unique facts and circumstances present in the arrangement. Most leases with a term greater than one year are recognized on the balance sheet as right-of-use assets and short-term and long-term lease liabilities, as applicable. We have elected not to recognize on the balance sheet leases with terms of 12 months or less. We typically only include an initial lease term in its assessment of a lease arrangement. Options to renew a lease are not included in our assessment unless there is reasonable certainty that we will renew.

Operating lease liabilities and their corresponding right-of-use assets are recorded based on the present value of lease payments over the expected remaining lease term. Certain adjustments to the right-of-use asset may be required for items such as incentives received. The interest rate implicit in our leases is typically not readily determinable. As a result, we utilize our incremental borrowing rate, which reflects the fixed rate at which we could borrow on a collateralized basis the amount of the lease payments in the same currency, for a similar term and in a similar economic environment (see Note 12, Leases).

The components of a lease should be allocated between lease components (*e.g.*, land, building, etc.) and non-lease components (*e.g.*, common area maintenance, consumables, etc.). The fixed and in-substance fixed contract consideration (including any consideration related to non-components) must be allocated based on the respective relative fair values to the lease components and non-lease components.

Goodwill and Intangible Assets

Goodwill represents the excess of the fair value of the consideration transferred over the fair value of the underlying identifiable assets and liabilities acquired in a business combination. Goodwill and intangible assets deemed to have an indefinite life are not amortized, but instead are assessed for impairment annually. Additionally, if an event or change in circumstances occurs that would more likely than not reduce the fair value of the reporting unit below its carrying value, we would evaluate goodwill and other intangibles at that time.

In testing for goodwill impairment, we have the option to first assess qualitative factors to determine whether the existence of events or circumstances lead to a determination that it is more likely than not that the fair value of the reporting unit is less than its carrying amount. If, after assessing the totality of events and circumstances, we conclude that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the two-step impairment test is not required. If we conclude otherwise, we are required to perform the two-step impairment test. The goodwill impairment test is performed at the reporting unit level by comparing the estimated fair value of a reporting unit with its respective carrying value. If the estimated fair value exceeds the carrying value, goodwill at the reporting unit level is not impaired. If the estimated fair value is less than the carrying value, an impairment charge will be recorded to

reduce the reporting unit to fair value. Management completed a qualitative assessment of Goodwill and it was not deemed impaired at December 31, 2023.

Intangible assets deemed to have finite lives are amortized on a straight-line basis over their estimated useful lives, where the useful life is the period over which the asset is expected to contribute directly, or indirectly, to our future cash flows.

Impairment of Long-Lived Assets

The Company reviews long-lived assets, including property and equipment and finite-lived intangible assets, for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. An impairment loss is recognized when the asset's carrying value exceeds the total undiscounted cash flows expected from its use and eventual disposition. The amount of the impairment loss is determined as the excess of the carrying value of the asset over its fair value. For the fiscal years ended December 31, 2023 and 2022, the Company did not have an impairment of the long-lived assets.

Fair Value of Financial Instruments

We measure assets and liabilities at fair value based on expected exit price as defined by the authoritative guidance on fair value measurements, which represents the amount that would be received on the sale date of an asset or paid to transfer a liability, as the case may be, in an orderly transaction between market participants. As such, fair value may be based on assumptions that market participants would use in pricing an asset or liability. The authoritative guidance on fair value measurements establishes a consistent framework for measuring fair value on either a recurring or nonrecurring basis whereby inputs, used in valuation techniques, are assigned a hierarchical level.

The following are the hierarchical levels of inputs to measure fair value:

- Level 1: Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2: Inputs reflect quoted prices for identical assets or liabilities in markets that are not active; quoted prices for similar assets or liabilities in active markets; inputs other than quoted prices that are observable for the assets or liabilities; or inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3: Unobservable inputs reflecting the Company's assumptions incorporated in valuation techniques used to determine fair value. These assumptions are required to be consistent with market participant assumptions that are reasonably available.

The carrying amounts of our financial assets and liabilities, such as cash, accounts receivable, accounts payable, and unsecured note payable, approximate their fair values because of the short-term nature of these instruments.

We account for our marketable securities at fair value, with the net unrealized gains or losses of marketable debt securities reported as a component of accumulated other comprehensive income or loss and marketable equity securities change in fair value reported on the condensed consolidated statement of operations. The components of marketable securities are as follows (in thousands):

	As of December 31, 2023			
	Level 1	**Level 2**	**Level 3**	**Total**
Corporate stock	3,127			3,127
	$ 3,127	$ —	$ —	$ 3,127

	As of December 31, 2022			
	Level 1	**Level 2**	**Level 3**	**Total**
U.S. government obligations	$ —	$ 1,478	$ —	$ 1,478
Corporate obligations	5,496	1,354	—	6,850
	$ 5,496	$ 2,832	$ —	$ 8,328

There were no transfers of marketable debt securities between Levels 1, 2 or 3 for the years ended December 31, 2023 and 2022.

Revenue Recognition

We recognize revenue that represents the transfer of promised goods or services to customers at an amount that reflects the consideration that is expected to be received in exchange for those goods or services. We recognize revenue when performance obligations with our customers have been satisfied. At contract inception, we evaluate the contract to determine if revenue should be recognized using the following five steps: (1) identify the contract with the customer; (2) identify the performance obligations; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations; and (5) recognize revenue when (or as) the entity satisfies a performance obligation.

Contract with Customers and Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Sales from product shipments to contract manufacturing and retailer customers are recognized at the time ownership is transferred to the customer. Revenue from diagnostic services is recognized when the results are made available to the customer. Revenue from our personal genomics business is recognized when the genetic testing results are provided to the customer. For subscription services associated with our genomic testing, we recognize revenue ratably over the term of the subscription.

The Company's performance obligation for contract manufacturing and retail customers is to provide the goods ordered by the customer. The Company has one performance obligation for its diagnostic services, which is to provide the results of the laboratory test to the customer. Our personal genomics business has separate performance obligations to provide initial testing and genome results and subscriptions services to our customers.

Transaction Price

For our diagnostic services business, a revenue transaction is initiated when we receive a requisition order to perform a diagnostic test. The information provided on the requisition form is used to determine the party that will be billed for the testing performed and the expected reimbursement. We provide diagnostic services to a range of customers. In many cases, the customer that orders our services is not responsible for paying for these services. Depending on the billing arrangement and applicable law, the payer may be the patient or a third party, such as a health plan, Medicare or Medicaid program and other government reimbursement programs. We bill the providers at standard price and take into consideration negotiated discounts and anticipated reimbursement remittance adjustments based on the payer portfolio, when revenue is recorded. We use the most expected value method to estimate the transaction price for reimbursements that vary from the listed contract price.

For our personal genomics business, a revenue transaction is initiated by a DNA test kit sale direct to the consumer sales via our website or through online retailers. The kit sales and subscriptions are billed at a standard price and take into consideration any discounts when revenue is recorded. We also contract with third party B2B partners and universities and sell DNA test kits directly to them.

For contract manufacturing and retail customers, the transaction price is fixed based upon either (i) the terms of a combined master agreement and each related purchase order, or (ii) if there is no master agreement, the price per individual purchase order received from each customer. The customers are invoiced at an agreed upon contractual price for each unit ordered and delivered by the Company.

Revenue from retail customers is reduced for trade promotions, estimated sales returns and other allowances in the same period as the related sales are recorded. No such allowance is applicable to our contract manufacturing customers. We estimate potential future product returns and other allowances related to current period revenue. We analyze historical returns, current trends, and changes in customer and consumer demand when evaluating the adequacy of the sales returns and other allowances.

We do not accept returns from our contract manufacturing customers. Our return policy for retail customers accommodates returns for (i) discontinued products, (ii) store closings and (iii) products that have reached or exceeded their designated expiration date. We do not impose a period of time during which product may be returned. All requests for product returns must be submitted to us for pre-approval. We will not accept return requests pertaining to customer inventory "Overstocking" or "Resets". We will accept return requests only for products in their intended package

configuration. We reserve the right to terminate shipment of product to customers who have made unauthorized deductions contrary to our return policy or pursue other methods of reimbursement. We compensate the customer for authorized returns by means of a credit applied to amounts owed.

For our diagnostic services business, a revenue transaction is initiated when we receive a requisition order to perform a diagnostic test. The information provided on the requisition form is used to determine the party that will be billed for the testing performed and the expected reimbursement. We provide diagnostic services to a range of customers. In many cases, the customer that orders our services is not responsible for paying for these services. Depending on the billing arrangement and applicable law, the payer may be the patient or a third party, such as a health plan, Medicare or Medicaid program and other government reimbursement programs. We bill the providers at standard price and take into consideration negotiated discounts and anticipated reimbursement remittance adjustments based on the payer portfolio, when revenue is recorded. We use the most expected value method to estimate the transaction price for reimbursements that vary from the listed contract price.

For our personal genomics business, a revenue transaction is initiated by a DNA test kit sale direct to the consumer sales via our website or through online retailers. The kit sales and subscriptions are billed at a standard price and take into consideration any discounts when revenue is recorded. We also contract with third party B2B partners and universities and sell DNA test kits directly to them.

Recognize Revenue When the Company Satisfies a Performance Obligation

For diagnostic services, the Company satisfies its performance obligation at the point in time that the results are made available to the customer, which is when the customer benefits from the information contained in the results and obtains control.

For genomic services, we satisfy our product performance obligation at a point in time when the genetic testing results are provided to the customer. For subscriptions services associated with its genomic testing, we satisfy our performance obligation ratably over the subscription period. If the customer does not return the test kit, services cannot be completed by us, potentially resulting in unexercised rights (“breakage”) revenue, including lifetime subscription services. We estimate breakage for the portion of test kits not expected to be returned using an analysis of historical data and consider other factors that could influence customer test kit return behavior. When breakage revenue is recognized on a kit, we recognize breakage on any associated subscription services ratably over the term of the subscription.

Performance obligations related to contract manufacturing and retail customers are satisfied at a point in time when the goods are shipped to the customer as (i) we have transferred control of the assets to the customers upon shipping, and (ii) the customer obtains title and assumes the risks and rewards of ownership after the goods are shipped.

Contract Balances

As of December 31, 2023 and December 31, 2022, we have deferred revenue of $3.5 million and $3.6 million, respectively. Our new personal genomics business comprised $3.4 million of the deferred revenue as of December 31, 2023. The remainder of deferred revenue relates to research and development (“R&D”) stability and release testing programs recognized as contract manufacturing revenue. Deferred revenues primarily consist of amounts that have been billed to or received from customers in advance of revenue recognition and prepayments received from customers in advance of services performed for the R&D work. We recognize deferred revenues as revenues when the services are performed and the corresponding revenue recognition criteria are met. Customer prepayments are generally applied against invoices issued to customers when services are performed and billed.

The following table disaggregates our deferred revenue by recognition period (in thousands):

	As of December 31, 2023	As of December 31, 2022
Recognition Period		
0-12 Months	$ 2,382	$ 2,499
13-24 Months	750	683
Over 24 Months	350	376
Total	$ 3,482	$ 3,558

Disaggregation of Revenue

We disaggregate revenue from contracts with customers into four categories: contract manufacturing, retail and others, diagnostic services and genomic products and services. We determined that disaggregating revenue into these categories achieves the disclosure objective to depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

The following table disaggregates the Company's revenue by revenue source for Fiscal 2023 and 2022 (in thousands):

	For the years ended	
Revenue by Customer Type	December 31, 2023	December 31, 2022
Diagnostic services	$ 24,849	$ 108,329
Contract manufacturing	9,400	8,740
Retail and others	2,378	1,281
Genomic products and services	7,757	4,297
Total revenue, net	$ 44,384	$ 122,647

Customer Consideration

The Company makes payments to certain diagnostic services customers for distinct services that approximate fair value for those services. Such services include specimen collection, the collection and delivery of insurance and patient information necessary for billing and collection, and logistics services. Consideration associated with specimen collection services is classified in cost of revenues and the remaining costs are classified as diagnostic expenses within operating expenses in the accompanying statement of operations.

Sales Tax Exclusion from the Transaction Price

We exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by the Company from the customer.

Shipping and Handling Activities

We account for shipping and handling activities that we perform as activities to fulfill the promise to transfer the good.

Advertising and Incentive Promotions

Advertising and incentive promotion costs are expensed within the period in which they are utilized. Advertising and incentive promotion expense is comprised of (i) media advertising, presented as part of general and administrative expense, (ii) cooperative incentive promotions and coupon program expenses, which are accounted for as part of net revenue, and (iii) free product, which is accounted for as part of cost of revenues. Advertising and incentive promotion expenses incurred from continuing operations for Fiscal 2023 and 2022 were $1.8 million and $0.4 million, respectively.

Stock-Based Compensation

The Company accounts for stock-based compensation in accordance with FASB ASC 718, "Compensation – Stock Compensation." Under the fair value recognition provision of the ASC, stock-based compensation cost is estimated at the grant date based on the fair value of the award. The Company estimates the fair value of stock options and warrants granted using the Black-Scholes-Merton option pricing model and stock grants at their closing reported market value. We recognize all stock-based payments to employees and directors, including grants of stock options, as compensation expense in the financial statements based on their grant date fair values. The grant date fair values of stock options are determined through the use of the Black-Scholes option pricing model. The compensation cost is recognized as an expense over the requisite service period of the award, which usually coincides with the vesting period. We account for forfeitures as they occur.

Stock and stock options to purchase our common stock have been granted to employees pursuant to the terms of certain agreements and stock option plans (see Note 7, Stockholders' Equity). Stock options are exercisable during a period determined by us, but in no event later than seven years from the date granted.

Research and Development

R&D costs are charged to operations in the period incurred, R&D costs incurred for the years ended December 31, 2023 and 2022 were $1.4 million and $0.7 million, respectively. R&D costs are principally related to personnel expenses and new product development initiatives and costs associated with the OTC health care products, dietary supplements and validation costs associated with the diagnostic services business.

Income Taxes

The Company accounts for income taxes in accordance with accounting guidance now codified as FASB ASC 740, “Income Taxes,” which requires that the Company recognize deferred tax liabilities and assets based on the differences between the financial statement carrying amounts and the tax bases of assets and liabilities, using enacted tax rates in effect in the years the differences are expected to reverse.

The provision for, or benefit from, income taxes includes deferred taxes resulting from the temporary differences in income for financial and tax purposes using the liability method. Such temporary differences result primarily from the differences in the carrying value of assets and liabilities. Future realization of deferred income tax assets requires sufficient taxable income within the carry-back, carryforward period available under tax law. We evaluate, on a quarterly basis whether, based on all available evidence, it is probable that the deferred income tax assets are realizable. Valuation allowances are established when it is more likely than not that the tax benefit of the deferred tax asset will not be realized. The evaluation, as prescribed by ASC 740- 10, “Income Taxes,” includes the consideration of all available evidence, both positive and negative, regarding historical operating results including recent years with reported losses, the estimated timing of future reversals of existing taxable temporary differences, estimated future taxable income exclusive of reversing temporary differences and carryforwards, and potential tax planning strategies which may be employed to prevent an operating loss or tax credit carryforward from expiring unused.

The Company accounts for income taxes under ASU No. 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes (“ASU 2019-12”), which simplifies various aspects related to accounting for income taxes. This standard became effective for the Company January 1, 2021. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application.

The Company accounts for uncertainties in income taxes under the provisions of FASB ASC 740-10-05 (the “Subtopic”). The Subtopic clarifies the accounting for uncertainty in income taxes recognized in an enterprise’s financial statements. The Subtopic prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Subtopic provides guidance on the de-recognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

Recently Issued Accounting Standards, Adopted

On January 1, 2023, the Company adopted Accounting Standards Update ("ASU") 2016-13, “Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments” (“ASU 2016-13”) ASU 2016-13 requires an impairment model (known as the CECL model) that is based on expected losses rather than incurred losses. Under the new guidance, each reporting entity should estimate an allowance for expected credit losses, which is intended to result in more timely recognition of losses. This model replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost, accounts receivable and available for sale debt securities and applies to some off-balance sheet credit exposures. In February 2020, the FASB issued ASU 2020-02, Financial Instruments - Credit Losses (Topic 326), which amends the effective date of the original pronouncement for smaller reporting companies. ASU 2016-13 and its amendments will be effective for the Company for interim and annual periods in fiscal years beginning after December 15, 2022. The adoption of ASU 2016-13 did not have a material impact on the Company's consolidated financial statements.

In August 2023, the FASB issued ASU 2023-05, "Business Combinations - Joint Venture Formations (Subtopic 805-60): Recognition and Initial Measurement." The new guidance applies to the formation of a joint venture and requires a joint venture to initially measure all contributions received upon its formation at fair value. The guidance is intended to reduce diversity in practice and is applicable to joint venture entities with a formation date on or after January 1, 2025 on a

prospective basis. The Company currently does not have any transactions that fall under the scope of ASU 2023-05; therefore, the adoption of ASU 2023-05 is not expected to have an impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards, Not Yet Adopted

In November 2023, the FASB issued ASU No. 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures (ASU 2023-07), which requires an enhanced disclosure of significant segment expenses on an annual and interim basis. This guidance will be effective for the annual periods beginning the year ended December 31, 2024, and for interim periods beginning January 1, 2025. Early adoption is permitted. Upon adoption, the guidance should be applied retrospectively to all prior periods presented in the financial statements. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

In December 2023, the FASB issued ASU No. 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures (ASU 2023-09), which improves the transparency of income tax disclosures by requiring consistent categories and greater disaggregation of information in the effective tax rate reconciliation and income taxes paid disaggregated by jurisdiction. It also includes certain other amendments to improve the effectiveness of income tax disclosures. This guidance will be effective for the annual periods beginning the year ended December 31, 2025. Early adoption is permitted. Upon adoption, the guidance can be applied prospectively or retrospectively. The Company does not expect the adoption of this guidance to have a material impact on its consolidated financial statements.

Note 3 – Asset Acquisition

Stella Diagnostics - Asset Purchase Agreement

On December 15, 2022, the Company entered into an Asset Purchase Agreement (the "Stella Purchase Agreement"), with Stella Diagnostics Inc. ("Stella") and Stella DX, LLC ("Stella DX" and, together with Stella, the "Stella Sellers"), pursuant to which, on January 3, 2023, the Company purchased all of the assets, rights and interests of the Stella Sellers and their affiliates pertaining to the Stella Sellers' BE-Smart Esophageal Pre-Cancer Diagnostic Screening Test and certain clinical assets, including all intellectual property rights (the "Stella Purchased Assets"). All capitalized terms used in this section to describe this transaction but not defined herein shall have the meanings set forth in the Stella Purchase Agreement,

As consideration for the Stella Purchased Assets, at closing, the Company (i) paid to the Stella Sellers $3.5 million in cash, minus (a) the Secured Note Amount of $0.5 million, (b) the Liability Payoff Amount of $1.6 million and (c) the Promissory Note Payoff Amount of $400,000, and (ii) issued to Stella DX 100,000 shares of common stock, par value $0.0005 per share, of the Company at a value of $10.00 per share. Total consideration paid was $4.6 million. The Secured Note Amount of $0.5 million and the Promissory Note Payoff of $400,000 were paid in 2022. The balance of the consideration was paid at closing during the year ended December 31, 2023.

In addition to the consideration paid at closing, the Company will issue shares of common stock valued at $2.0 million (the "Milestone Stock") to the Stella Sellers upon a Commercialization Event (as defined in the Stella Purchase Agreement). The Milestone Stock was recorded at closing as a non-current liability at its fair value of $2.0 million. Also, the Company is required to pay to the Stella Sellers for each of the seven calendar years during the seven years period commencing on the first day of the calendar year following the date of the Commercialization Event, a non-refundable, non-creditable royalty of 5% of the Adjusted Gross Margin for such Annual Period.

The asset purchase does not qualify as a business combination under FASB ASC 805, Business Combinations, and has therefore been accounted for as an asset acquisition. In connection with the Stella Purchased Assets, the Company incurred $0.2 million in transaction costs, which were capitalized into the purchase price of the Stella Purchased Assets. The total purchase price for the Stella Purchased Assets was $6.8 million, which was allocated to the proprietary technology intangible asset acquired. The Company is amortizing the acquired intangible asset on a straight-line basis over its estimated useful life of five years.

Note 4 – Intangible Assets, Net

During the year ended December 31, 2023, the Company acquired intangible assets of $6.8 million included with proprietary intellectual property, in connection with the acquisition of the Stella Purchased Assets. See Note 3.

Intangible assets as of December 31, 2023 and 2022 consisted of the following (in thousands):

	December 31, 2023	December 31, 2022	Estimated Useful Life (in years)
Trade names	$ 5,550	$ 5,550	15
Proprietary intellectual property	11,064	4,260	5
Customer relationships	1,180	1,180	1
CLIA license	1,307	1,307	3
	19,101	12,297	
Less: accumulated amortization	(6,768)	(3,822)	
Total intangible assets, net	$ 12,333	$ 8,475	

Amortization expense for acquired intangible assets was $2.9 million and $2.4 million during the years ended December 31, 2023 and 2022, respectively. The estimated future amortization expense of acquired intangible assets as of December 31, 2023 is as follows (in thousands):

Year ended December 31, 2024	$ 2,583
Year ended December 31, 2025	2,583
Year ended December 31, 2026	2,251
Year ended December 31, 2027	1,731
Year ended December 31, 2028	370
Thereafter	2,815
	$ 12,333

Note 5 – Property, Plant and Equipment

The components of property, plant and equipment are as follows (in thousands):

	December 31, 2023	December 31, 2022	Estimated Useful Life
Land	$ 352	$ 352	
Leasehold improvements	374	—	Lesser of lease term or estimated useful life
Building improvements	1,746	1,729	10-39 years
Machinery	6,103	5,048	3-7 years
Lab equipment	12,667	5,788	3-7 years
Computer equipment and software	2,744	2,350	3-5 years
Furniture and fixtures	446	461	5 years
	24,432	15,728	
Less: accumulated depreciation	(11,534)	(8,440)	
Total property, plant and equipment, net	$ 12,898	$ 7,288	

Depreciation expense for Fiscal 2023 and 2022 were $3.1 million and $2.3 million, respectively.

Note 6 - Outstanding Debt

2023 Secured Mortgage Loan

On December 20, 2023, the Company's wholly-owned subsidiary PREH entered into an Open-End Mortgage Agreement (the "Mortgage Agreement"). The Mortgage provided for a loan of $3.3 million (the "Mortgage Loan") with stated maturity date on January 6, 2034, bore a fixed interest rate of 8.25% per annum and required monthly mortgage payments of principal and interest of $25,000. The obligations under the Mortgage Agreement were secured by PREH's certain real property in Pennsylvania. The Company incurred $341,000 issuance cost, which was recognized as a debt discount and will be amortized using the effective interest method over the term of the Mortgage Loan. The Company retains $540,000 cash in an escrow account which was recognized as a restricted cash on the Company's consolidated balance sheet as of December 31, 2023.

2023 Unsecured Promissory Note Payable

On January 26, 2023, the Company issued an unsecured promissory note (the "2023 Note") and guaranty for an aggregate principal amount of $7.6 million. The 2023 Note is due and payable on January 27, 2026, the third anniversary of the date on which the 2023 Note was funded (the "Closing Date"), and accrues interest at a rate of 10% per year from the Closing Date, payable on a quarterly basis, until the 2023 Note is repaid in full. The Company has the right to prepay the 2023 Note at any time after the Closing Date and prior to the maturity date without premium or penalty upon providing seven days' written notice to the note holder. Repayment of the 2023 Note has been guaranteed by the Company's wholly-owned subsidiary, Pharmaloz Manufacturing, Inc. In addition to the 2023 Note, the Company issued warrants to purchase 76,000 shares of the Company's common stock at an exercise price of $9.00 for a term of 5 years, vesting immediately. The warrants were valued at $0.4 million fair value, using the Black-Scholes option pricing model to calculate the grant date fair value of the warrants, with the following assumptions: no dividend yield, expected volatility of 81.5%, risk free interest rate of 3.62% and expected warrant life of 5 years. The relative fair value of the warrant was $0.4 million and was recorded as a discount to the note payable in accordance with FASB ASC 835-30-25, Recognition, and is being accreted over the term of the note payable for financial statement purposes. As of December 31, 2023, the unpaid principal balance of the 2023 Note was $7.3 million, net of debt discount of $0.3 million.

2020 Unsecured Convertible Notes Payable

On September 15, 2020, the Company issued two unsecured, partially convertible, promissory notes (the "September 2020 Notes") for an aggregate principal amount of $10.0 million to two investors (collectively, the "Lenders").

On February 28, 2022, the Company entered into a letter agreement (the "Letter Agreement") with one of the Lenders providing for the payoff of its September 2020 Note in the principal amount of $2.0 million.

Pursuant to the terms of the Letter Agreement, (i) the Lender converted $0.6 million of the principal amount due to him under his September 2020 Note into 200,000 shares of Company common stock (the "Conversion Shares") at a price of $3.00 per share as provided for under the terms of the September 2020 Note (the "Conversion"), (ii) the Company paid to the Lender $1.4 million in cash, representing $1.4 million of the remaining principal under the September 2020 Note following the Conversion plus $41,000 in accrued and outstanding interest under the September 2020 Note, and (iii) the Company repurchased the Conversion Shares at a price of $5.75 per share for an aggregate amount of $1.2 million (for a total aggregate payment to the Lender of $2.6 million).

In November 2022, the Company paid the remaining Lender $5.6 million in principal on the remaining September 2020 Note.

On September 10, 2023, the Lender converted the remaining $2.4 million principal into 800,000 shares of the Company's common stock. The September 2020 Note was settled in full as of December 31, 2023.

For the year ended December 31, 2023 and 2022, the Company incurred $0.8 million and $0.8 million, respectively, in interest expense under the September 2020 Notes.

Note 7 – Stockholders' Equity

Our authorized capital stock consists of 50 million shares of common stock, $0.0005 par value, and one million shares of preferred stock, $0.0005 par value.

Preferred Stock

The preferred stock authorized under the Company's certificate of incorporation may be issued from time to time in one or more series. As of December 31, 2023, no shares of preferred stock have been issued. The Company's board of directors have the full authority permitted by law to establish, without further stockholder approval, one or more series of preferred stock and the number of shares constituting each such series and to fix by resolution voting powers, preferences and relative, participating, optional and other special rights of each series of preferred stock, and the qualifications, limitations or restrictions thereof, if any. Subject to the limitation on the total number of shares of preferred stock that the Company has authority to issue under its certificate of incorporation, the board of directors is also authorized to increase or decrease the number of shares of any series, subsequent to the issue of that series, but not below the number of shares of such series then-outstanding. In case the number of shares of any series is so decreased, the shares constituting such decrease will resume the status that they had prior to the adoption of the resolution originally fixing the number of shares of such series. The Company may, subject to any required stockholder approval, amend from time to time its certificate of incorporation to increase the number of authorized shares of preferred stock or common stock or to make other changes or additions to our capital structure or the terms of our capital stock.

Common Stock Dividends

No dividends have been declared during the year ended December 31, 2023.

On May 9, 2022, the board of directors of the Company declared a special cash dividend of $0.30 per share on the Company's common stock, paid on June 4, 2022, in the amount of $4.7 million to holders of record of the Company's common stock as of May 25, 2022.

On February 14, 2022, the board of directors of the Company declared a special cash dividend of $0.30 per share on the Company's common stock, paid on March 10, 2022, in the amount of $4.6 million to holders of record of the Company's common stock on March 1, 2022.

Common Stock

Stock Repurchase Program

On March 15, 2023, the Company announced that its board of directors had approved a new stock repurchase program. Under the stock repurchase program, the Company is authorized to repurchase up to $6.0 million of its outstanding shares of common stock from time to time, over a nine-month period. The number of shares to be repurchased and the timing of the repurchases, if any, will depend on a number of factors, including, but not limited to, price, trading volume and general market conditions, along with the Company's working capital requirements and general business conditions. The board of directors will re-evaluate the program from time to time and may authorize adjustments to its terms.

Following the Commencement Date (as defined in the stock repurchase agreement), and for a period of nine months thereafter, repurchases may be made through open market transactions (based on prevailing market prices), privately negotiated transactions, block trades, or any combination thereof, in accordance with applicable federal securities laws, including Rule 10b-18 of the Securities Exchange Act of 1934, as amended.

On July 26, 2022, the Company announced that its board of directors had approved new stock repurchase programs. Under each of the stock repurchase programs, the Company was authorized to repurchase up to $6.0 million of its outstanding shares of common stock from time to time, over a six-month period.

The Company repurchased 69,628 and 303,145 shares during the years ended December 31, 2023 and 2022, respectively, pursuant to the stock repurchase programs for an aggregate amount of $0.6 million and $2.2 million respectively, including commissions.

The 2022 Directors' Equity Compensation Plan

On May 19, 2022, the stockholders of the Company approved the 2022 Directors' Equity Compensation Plan (the "2022 Directors' Plan") at the 2022 Annual Meeting of Stockholders of the Company (the "2022 Annual Meeting"). The 2022 Directors' Plan amended and restated the Company's Amended and Restated 2010 Directors' Equity Compensation Plan and provided for an increase in the number of shares reserved for issuance under the plan by 300,000 shares and for the adjustment of the per share exercise price of stock options granted under the 2022 Plan in the event of any change in the

outstanding shares of common stock of the Company as a result of, among other things, any distribution or special dividend to stockholders of shares, cash or other property (other than regular cash dividends).

On June 16, 2023, the stockholders of the Company approved the Amended and Restated 2022 Directors' Equity Compensation Plan (the "Amended 2022 Directors' Plan") at the 2023 Annual Meeting of Stockholders of the Company. The Amended 2022 Directors' Plan provides for an increase in the number of shares reserved for issuance under such plan by 150,000 shares.

The Company issued 120,000 and 120,000 options issued under this plan during the year ended December 31, 2023 and 2022, respectively. As of December 31, 2023, there were 210,000 shares of common stock available to be issued under the 2022 Directors' Plan.

The 2010 Directors' Equity Compensation Plan

On May 20, 2021, the stockholders of the Company approved the Amended and Restated 2010 Directors' Equity Compensation Plan (the "Amended 2010 Directors' Plan") at the 2021 annual meeting of stockholders of the Company (the "2021 Annual Meeting"). The Amended 2010 Directors' Plan authorizes the issuance of up to 775,000 shares of common stock. This plan was amended and restated on April 11, 2022 (to become the 2022 Directors' Plan), subject to stockholder approval, which was obtained at the 2022 Annual Meeting.

The 2022 Equity Compensation Plan

On May 19, 2022, the stockholders of the Company approved the 2022 Equity Compensation Plan (the "2022 Plan") at the 2022 Annual Meeting. The 2022 Plan amended and restated the Company's Amended and Restated 2010 Equity Compensation Plan and provides for an increase in the number of shares reserved for issuance under the plan by 1,000,000 shares and provides for the adjustment of the per share exercise price of stock options granted under the 2022 Plan in the event of any change in the outstanding shares of common stock of the Company as a result of, among other things, any distribution or special dividend to stockholders of shares, cash or other property (other than regular cash dividends).

On June 16, 2023, the stockholders of the Company approved the Amended and Restated 2022 Equity Compensation Plan (the "Amended 2022 Plan") at the 2023 Annual Meeting of Stockholders of the Company. The Amended 2022 Plan provides for an increase in the number of shares reserved for issuance under such plan by 700,000 shares.

As of December 31, 2023, there were 1,093,285 shares of common stock available to be issued under the 2022 Plan.

The 2010 Equity Compensation Plan

On May 20, 2021, the stockholders of the Company approved the Amended and Restated 2010 Equity Compensation Plan (the "Amended 2010 Plan") at the 2021 Annual Meeting. The Amended 2010 Plan authorized the issuance of up to 4,900,000 shares of common stock. This plan was amended and restated on April 11, 2022 (to become the 2022 Plan), subject to stockholder approval, which was obtained at the 2022 Annual Meeting.

The 2018 Stock Incentive Plan

On April 12, 2018, the Company's stockholders approved the 2018 Stock Incentive Plan (the "2018 Stock Plan"). The 2018 Stock Plan provides for the grant of incentive stock options to eligible employees of the Company, and for the grant of non-statutory stock options to eligible employees, directors and consultants. The purpose of the 2018 Stock Plan is to advance the interests of the Company and its stockholders by providing an incentive to attract, retain, and reward persons performing services for the Company and by motivating such persons to contribute to the growth and profitability of the Company. The 2018 Stock Plan provides that the total number of shares that may be issued pursuant to the 2018 Stock Plan is 2,300,000 shares. At April 12, 2018, all 2,300,000 shares had been granted in the form of stock options to Ted Karkus (the "CEO Option"), the Company's Chief Executive Officer.

The 2018 Stock Plan required certain proportionate adjustments to be made to the stock options granted under the 2018 Stock Plan upon the occurrence of certain events, including a special distribution (whether in the form of cash, shares, other securities, or other property) in order to maintain parity. Accordingly, the Compensation Committee of the board of directors, as required by the terms of the 2018 Stock Plan, adjusted the exercise price of the CEO Option in connection

with each special cash dividend paid by the Company proportionately to the amount of the dividend paid. The final exercise price of the CEO Option was $9.60 per share after the latest special cash dividend paid on June 3, 2022.

During the years ended December 31, 2023 and 2022, 1,100,000 and 1,200,000 stock options were exercised under the 2018 Stock Plan. No share based compensation expense will be recognized in forward periods related to the 2018 Stock Plan.

Inducement Option Awards

There were no issuances of inducements awards during the year ended December 31, 2023.

On May 9, 2022, the Company issued a non-qualified stock option to the prospective Chief Financial Officer of the Company (the "CFO"), as an inducement to his employment with the Company, effective May 23, 2022 (the "CFO Award"). The CFO Award entitled the CFO to purchase up to 400,000 shares of the Company's common stock at an exercise price of $6.74 per share, the closing price of the Company's common stock on May 9, 2022. The CFO Award provided for certain proportionate adjustments to be made in the event of any change in the outstanding shares of common stock of the Company as a result of, among other things, any distribution or special dividend to stockholders of shares, cash or other property (other than regular cash dividends) in order to maintain parity. The exercise price of the CFO Award was reduced from $6.74 to $6.44 per share, effective as of June 3, 2022, the date $0.30 special cash dividend was paid to Company's stockholders. The grant date fair value of the CFO Award was approximately $1.6 million. In connection with CFO's separation from service on October 4, 2022, these options were forfeited on October 4, 2022. The Company reversed $149,000 of stock based compensation expense previously recognized for the unvested options at the time of forfeiture.

During the year ended December 31, 2022, the Company issued an inducement award to a prospective employee to purchase up to 250,000 shares of the Company's common stock at an exercise price of $13.00, the closing price of the common stock on the date of grant. The award vested 50% on the date of grant and the remaining portion will vest 25% per year for the next two years. The award expires on the seventh anniversary of the grant date.

All inducement awards have been granted outside of the Company's equity compensation plans pursuant to Nasdaq Listing Rule 5635(c)(4).

Summary of all option grants

The following table summarizes stock options activity during Fiscal 2023 and 2022 (in thousands, except per share data).

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Total Intrinsic Value
Outstanding as of January 1, 2022	5,110	$ 3.27	3.4	$ 20,820
Granted	1,095	9.92	7.0	—
Exercised	(1,833)	1.29	—	—
Forfeited	(420)	1.56	—	—
Outstanding as of December 31, 2022	3,952	5.35	3.8	20,379
Granted	1,135	8.65	5.0	—
Exercised	(1,348)	0.98	—	—
Forfeited	(788)	0.64	—	—
Outstanding as of December 31, 2023	2,951	$ 7.30	4.8	$ 693
Options vested and exercisable	1,880	$ 6.69	4.1	$ 693

The aggregate intrinsic value is calculated as the difference between the exercise price of the underlying options and the closing stock price of $4.52 and $9.63 for the Company's common stock on December 31, 2023 and 2022, respectively.

During the year ended December 31, 2023, certain holders of stock options elected to exercise their stock options pursuant to a cashless exercise provision resulting in the net issuance of 603,881 shares of common stock and the return of 744,369 shares to the Company. The Company also made a cash payment of approximately $5.4 million to repurchase 603,881 shares of treasury stock to satisfy tax withholding obligations related to the cashless exercise of these stock options.

During the year ended December 31, 2022, we issued 828,021 shares of common stock through a cashless exercise of 1,833,000 options. In connection with the cashless exercise, the company repurchased 1,103,000 common stock at a cost of $7.5 million to satisfy tax withholding.

During the year ended December 31, 2023 and 2022, the Company granted options to purchase 1,135,000 and 1,095,000 shares of the Company's common stock to various employees and consultants, respectively. The options grant date fair value was valued at $4.2 million and $6.1 million during the year ended December 31, 2023 and 2022, using the Black-Scholes option pricing model to calculate the grant-date fair value of the options. The fair value of stock options for employees are expensed over the vesting term in accordance with the terms of the related stock option agreements and are expensed over the terms of the consulting agreement for consultants.

The following table summarizes weighted average assumptions used in determining the fair value of the stock options at the date of grant during Fiscal 2023 and 2022:

	For the years ended December 31,	
	2023	**2022**
Exercise price	$ 8.65	$ 10.03
Expected term (years)	4.7	4.5
Expected stock price volatility	80 %	79 %
Risk-free rate of interest	3.7 %	2.5 %
Expected dividend yield (per share)	0 %	0 %

The expected stock price volatility is based on the Company's historical common stock trading prices and the expected term is based on the period that the Company's stock-based awards are expected to be outstanding based on the simplified method.

Comm*on Stock Warrants*

On January 12, 2023, the Company issued warrants to an advisory firm to purchase 50,000 shares of the Company's common stock at an exercise price of $10.00 for a term of 5 years, vesting immediately. The warrants were valued at $0.3 million fair value, using the Black-Scholes option pricing model to calculate the grant date fair value of the warrants, with the following assumptions: no dividend yield, expected volatility of 80.9%, risk free interest rate of 3.5% and expected warrant life of 5 years. These warrants were expensed over the 1 year term of the engagement which ended on December 31, 2023.

On January 27, 2023, the Company issued five-year warrants to purchase 76,000 shares of the Company's common stock with the unsecured promissory note (see Note 6).

On April 6, 2023, the Company issued warrants to a consultant to purchase 250,000 shares of the Company's common stock at an exercise price of $9.00 for a term of 5 years, vesting immediately. The warrants were valued at $1.4 million, using the Black-Scholes option pricing model to calculate the grant date fair value of the warrants, with the following assumptions: no dividend yield, expected volatility of 80.4%, risk free interest rate of 3.6% and expected warrant life of 5 years, which was initially recognized as a prepaid expense and to be expensed over the term of the consulting agreement. As of December 31, 2023, $5.1 million was remained in the prepaid expense and other current assets on the consolidated balance sheet.

Between August and September 2023, the Company received $1.2 million from the exercise of outstanding warrants with an exercise price at $3.00 per share. The Company issued approximately 400,000 shares of common stock upon these warrant exercises.

During the year ended December 31, 2022, there wereno stock warrants issued.

The following table summarizes warrant activities during Fiscal 2023 and 2022 (in thousands, except per share data):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)
Outstanding as of January 1, 2022	855	$ 8.23	1.9
Warrants granted	—	—	0.0
Outstanding as of December 31, 2022	855	$ 8.23	1.9
Warrants granted	376	9.13	4.2
Warrants exercised	(400)	3.00	0.0
Outstanding as of December 31, 2023	831	$ 11.16	1.9
Warrants vested and exercisable	831	$ 11.16	1.9

The Company recognized $3.5 million of share-based compensation expense during the year ended December 31, 2023. The Company will recognize an aggregate of approximately $5.1 million of remaining share-based compensation expense related to outstanding stock options and warrants over a weighted average period of4.3 years.

Note 8 – Defined Contribution Plans

The Company maintains the ProPhase Labs, Inc. 401(k) Savings and Retirement Plan, a defined contribution plan for its employees. The Company's contributions to the plan are based on the amount of the employee plan contributions and compensation. The Company's contributions to the plan for the years ended December 31, 2023 and 2022 were $0.2 million and $0.2 million, respectively.

Note 9 – Income Taxes

The components of the provision (benefit) for income taxes, in the consolidated statements of operations are as follows (in thousands):

	For the years ended	
	December 31, 2023	December 31, 2022
Continuing Operations		
Current		
Federal	$ 772	$ 1,040
State	284	3,543
	$ 1,056	$ 4,583
Deferred		
Federal	(5,459)	72
State	(1,615)	(210)
	$ (7,074)	$ (138)
Income taxes from continuing operations	$ (6,018)	$ 4,445

A reconciliation of the statutory federal income tax expense (benefit) to the effective tax is as follows (in thousands):

	2023	2022
Statutory Rate - federal	$ (4,788)	$ 4,811
State taxes, net of federal benefit	(1,133)	2,789
Research & development tax credit	(350)	(1,200)
Permanent differences and other	510	(601)
Income taxes from continuing operations before valuation allowance	(5,761)	5,799
Change in valuation allowance	(257)	(1,354)
Income tax expense (benefit)	$ (6,018)	$ 4,445
Total	$ (6,018)	$ 4,445

The tax effects of the primary “temporary differences” between values recorded for assets and liabilities for financial reporting purposes and values utilized for measurement in accordance with tax laws giving rise to our deferred tax assets are as follows (in thousands):

	For the years ended	
	December 31, 2023	December 31, 2022
Net operating loss and capital loss carryforward	$ 4,649	$ 1,324
Right of use asset	(1,464)	(1,466)
Other	4,972	2,684
Capital lease obligations	1,464	1,466
Depreciation	(479)	(705)
Amortization	(1,612)	(2,703)
Tax credit	350	—
Valuation allowance	(567)	(824)
Total	7,313	(224)

The Company recognizes tax assets and liabilities for the future tax consequences related to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and for net operating loss carryforwards. Management evaluated the deferred tax assets for recoverability using a consistent approach that considers the relative impact of negative and positive evidence, including historical profitability and projections of future reversals of temporary differences and future taxable income. The Company is required to establish a valuation allowance for deferred tax assets if management determines, based on available evidence at the time the determination is made, that it is not more likely than not that some portion or all of the deferred tax assets will be realized.

As of December 31, 2023, the Company is in a net deferred tax asset position for federal and state jurisdictions. Based on a three-year cumulative income position and anticipated future taxable income, the Company concluded that the federal and combined state deferred tax assets will be realized and there is no need for a valuation allowance at this time. The Company will continue to monitor the need for any valuation allowance changes on a quarterly basis.

The Company continues to maintain a valuation allowance against some of the separate company state net operating loss ("NOL") carryforwards. As of December 31, 2023 there is a valuation allowance of $0.6 million compared to $0.8 million as of December 31, 2022. As of December 31, 2023, the Company has state NOL carryforwards of $1.5 million, which begin to expire in 2024 and federal NOL carryforwards of $3.1 million as well as an R&D tax credit carryforward of $0.3 million which can be carried forward indefinitely. A portion of the federal NOL is attributable to 2021 Nebula acquisition, and it is Section 382 limited with an annual limitation of $0.3 million.

The Company files a consolidated federal income tax return and separate company state returns as well as combined state returns where applicable.

Note 10 - Other Current Liabilities

The following table sets forth the components of other current liabilities at December 31, 2023 and 2022, respectively (in thousands):

	December 31, 2023	December 31, 2022
Accrued diagnostic services commissions	$ —	$ 1,093
Accrued payroll	181	202
Accrued bonus	1,000	—
Accrued expenses	1,445	714
Accrued returns	3	13
Accrued benefits and vacation	54	50
Total other current liabilities	$ 2,683	$ 2,072

Note 11 – Commitments and Contingencies

Manufacturing Agreement

The Company and its wholly owned subsidiary, PMI, entered into a manufacturing agreement (the "Manufacturing Agreement") with Mylan Consumer Healthcare Inc. ("MCH") and Mylan Inc. (together with MCH, "Mylan" in connection with the asset purchase agreement we entered into with Mylan in 2017. Pursuant to the terms of the Manufacturing Agreement, Mylan (or an affiliate or designee) purchased the inventory of the Company's Cold-EEZE® brand and product line, and PMI agreed to manufacture certain products for Mylan, as described in the Manufacturing Agreement, at prices that reflect current market conditions for such products and include an agreed upon mark-up on our costs. On May 1, 2021, the Manufacturing Agreement was assigned by Mylan to Nurya Brands, Inc. ("Nurya") in connection with Nurya's acquisitions of certain assets from Mylan, including the Cold-EEZE® brand and product line. Unless terminated sooner by the parties, the Manufacturing Agreement was to remain in effect until March 29, 2023. Thereafter, the Manufacturing Agreement could be renewed by Nurya for up to four successive one-year periods by providing notice of its intent to renew not less than90 days prior to the expiration of the then-current term.

On November 15, 2022, the Company was notified by Nurya of its election to renew the Manufacturing agreement forone year. As a result, the Manufacturing Agreement will remain in effect until March 29, 2024.

License Agreements

Linebacker LB1 and LB2

In July 19, 2022, the Company through its wholly-owned subsidiary ProPhase BioPharma entered into a License Agreement (the "Linebacker License Agreement") with Global BioLife, Inc. (the "Licensor"), with an effective date of July 18, 2022 (the "Linebacker Effective Date"), pursuant to which it acquired from Licensor a worldwide exclusive right and license under certain patents identified in the Linebacker License Agreement (the "Licensed Patents") and know-how (collectively, the "Licensed IP") to exploit any compound covered by the Licensed Patents (the "Licensed Compound"), including Linebacker LB1 and LB2, and any product comprising or containing a Licensed Compound ("Licensed Products") in the treatment of cancer, inflammatory diseases or symptoms, memory-related syndromes, diseases or symptoms including dementia and Alzheimer's Disease (the "Field"). Under the terms of the Linebacker License Agreement, the Licensor reserves the right, solely for itself and for GRDG Sciences, LLC ("GRDG") to use the Licensed Compound and Licensed IP solely for research purposes inside the Field and for any purpose outside the Field.

Subject to certain conditions set forth in the Linebacker License Agreement, the Company may grant sublicenses (including the right to grant further sublicenses) to its rights under the Linebacker License Agreement to any of its affiliates or any third party with the prior written consent of Licensor, which consent may not be unreasonably withheld. Either party to the Linebacker License Agreement may assign its rights under the Linebacker License Agreement (i) in connection with the sale or transfer of all or substantially all of its assets to a third party, (b) in the event of a merger or consolidation with a third party or (iii) to an affiliate; in each case contingent upon the assignee assuming in writing all of the obligations of its assignor under the Linebacker License Agreement.

Under the terms of Linebacker License Agreement, the Company is required to pay to Licensor a one-time upfront license fee of $50,000 within ten days of the Linebacker Effective Date and must pay an additional $900,000 following the achievement of a first Phase 3 study which may be required by FDA for the first Licensed Product and an additional $1.0 million upon the receipt of regulatory approval of a New Drug Application for the first Licensed Product.

During the term of the Linebacker License Agreement, the Company is also required to pay to Licensor 3% royalties on Net Revenue (as defined in the Linebacker License Agreement) of each Licensed Product, but no less than the minimum royalty of $250,000 of Net Revenue per year minus any royalty payments for any required third party licenses.

In connection with the Linebacker License Agreement, the Company has incurred approximately $0.6 million and $0.5 million in general and administrative expenses that are included in the Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended December 31, 2023 and 2022, respectively. No clinical studies have begun under this agreement.

Equivir

In March 2023, we commenced patient enrollment in a randomized, placebo-controlled clinical trial of Equivir to evaluate its effect on upper respiratory tract infections. Vedic Lifesciences, a leading clinical research organization, is contracted to conduct the combination prophylactic and therapeutic study, which will be conducted at 8 sites. We currently anticipate trial completion in the third quarter of 2024 and anticipate launching Equivir (dietary supplement) in the United States toward the end of 2024.

In connection with the license agreement relating to Equivir, for the year ended December 31, 2023, the Company has incurred approximately and $0.4 million in general and administrative expenses that are included in the Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended ended December 31, 2023.

BE-Smart Esophageal Pre-Cancer Diagnostics Screening Test

In March 2023, and in connection with the Asset acquisition of Stella,, we announced a collaboration for the continued development of its BE-Smart Esophageal Pre-Cancer diagnostic screening test. We are pursuing initial commercialization of the BE-Smart test as an LDT (Laboratory Developed Test) and RUO (Research Use Only) for the third quarter of 2025 with full commercialization backed by insurance expected by the third quarter of 2025.

In connection with the license agreement relating to BE-Smart License Agreement, for the year ended December 31, 2023, the Company has incurred approximately and $0.3 million in general and administrative expenses that are included in the Consolidated Statements of Operations and Comprehensive Income (Loss) for the year ended ended December 31, 2023. No clinical studies have begun under this agreement.

Litigation

In the normal course of our business, we may be named as a defendant in legal proceedings. It is our policy to vigorously defend litigation or to enter into a reasonable settlement where management deems it appropriate.

Note 12 – Leases

Operating Leases

New Jersey Laboratory Lease

On October 23, 2020, the Company completed the acquisition of CPM, which included the acquisition of a 4,000 square foot CLIA accredited laboratory located in Old Bridge, New Jersey, which was owned by CPM (which is now known as ProPhase Diagnostics NJ, Inc.). The lease was renewed in February 2023, for an additional 36 months until February 2026. The monthly base rent remains the same at $5,500 per month. The lease renewal resulted in the recognition of an additional right-of-use asset and operating lease liability of $170,000 during the year ended December 31, 2023.

New York Second Floor Lease

On December 8, 2020, the Company entered into a Lease Agreement (the "NY Second Floor Lease") with BRG Office L.L.C. and Unit 2 Associates L.L.C. (the "Landlord"), pursuant to which the Company leases certain premises located on the second floor (the "Second Floor Leased Premises") of 711 Stewart Avenue, Garden City, New York (the "Building"). The Second Floor Leased Premises serve as the Company's second location and corporate headquarters,

offering a wide range of laboratory testing services for diagnosis, screening and evaluation of diseases, including COVID-19 and Respiratory Pathogen Panel Molecular tests.

The NY Second Floor Lease was effective as of December 8, 2020, and commenced in January 2021 (the "Commencement Date") when the facility was made available to us by the landlord. The initial term of the NY Lease is 10 years and 7 months (the "Initial Term"), unless sooner terminated as provided in the NY Lease. The Company may extend the term of the NY Lease for one additional option period of five years. The Company has the option to terminate the NY Lease on the sixth anniversary of the Commencement Date, provided that it gives the landlord written notice not less than nine months and not more than 12 months in advance and that we pay the landlord a termination fee.

On June 10, 2022, the Company entered into a First Amendment to the NY Second Floor Lease (the "Second Floor Lease Amendment"). The Second Floor Lease Amendment amends the NY Second Floor Lease to provide that any uncured default by the Company or any of its affiliate under the NY First Floor Lease (defined below) will constitute a default by the Company under the NY Second Floor Lease.

New York First Floor Lease

On June 10, 2022, the Company entered into a second Lease Agreement (the "NY First Floor Lease") with Landlord, pursuant to which the Company leases approximately 4,516 sq. feet located on the first floor (the "NY First Floor Leased Premises") of the building. As described above, the Company currently leases space on the second floor of the building. The First Floor Leased Premises will be used to expand the Company's in-house lab capabilities to include traditional clinical testing across multiple specialty areas and Next Generation Sequencing (NGS) to perform Whole Genome Sequencing (WGS) and an array of genetic diagnostic test offerings for both clinical and research purposes.

The NY First Floor Lease became effective as of June 10, 2022 and will commence upon the date of the Landlord's substantial completion of certain improvements to the NY First Floor Leased Premises (the "First Floor Commencement Date"), as set forth in the NY First Floor Lease, targeted to be approximately five months from the execution of the NY First Floor Lease. The initial term of the NY First Floor Lease will expire on July 15, 2031, unless sooner terminated as provided in the NY First Floor Lease. The Company may extend the term of the NY First Floor Lease forone additional option period of five years pursuant to the terms described in the NY First Floor Lease. The Company has the option to terminate the NY First Floor Lease effective July 31, 2027 (the "Early Termination Date"), provided the Company gives the Landlord written notice not less than nine months and not more than 12 months prior to the Early Termination Date and pays the Landlord a termination fee as more particularly described in the Lease.

For the first year of the NY First Floor Lease, the Company will pay a base rent of $11,290 per month (subject to an eight month abatement period), with a gradual rental rate increase of approximately 2.75% for each twelve month period thereafter, culminating in a monthly base rent of $14,026 during the final months of the initial term of the NY First Floor Lease. In addition to the monthly base rent, the Company is responsible for its proportionate share of real estate tax escalations in accordance with the terms of the NY First Floor Lease. The Landlord will provide a construction allowance to the Company in an aggregate amount not to exceed $203,000, to reimburse the Company for the cost of certain improvements to be made by the Company to the First Floor Leased Premises. During the year ended December 31, 2023, the Company recognized additional $0.8 million right-of-use asset and operating lease liability for the NY First Floor Lease.

At December 31, 2023 and 2022, the Company had operating lease liabilities for the New York and New Jersey leases of approximately $5.2 million and $4.6 million, respectively, and right of use assets of approximately $4.6 million and $4.1 million, respectively, which were included in the consolidated balance sheets.

Finance Leases

On April 19, 2023, the Company entered into a master lease agreement for a laboratory equipment (the "First Equipment Lease") with a vendor. The First Equipment Lease has a 5-year term and is recognized as a finance lease under ASC 842. The present value of the minimum future obligations of $1.5 million was calculated based on an interest rate of 8.0%, which was recognized in finance lease liabilities in the consolidated balance sheet.

On July 21, 2023, the Company entered into a master lease agreement for a laboratory equipment (the "Second Equipment Lease") with a vendor. The Second Equipment Lease has a 4-year term and is recognized as a finance lease

under ASC 842. The present value of the minimum future obligations of $5.1 million was calculated based on an interest rate of7.4%, which was recognized in finance lease liabilities in the condensed consolidated balance sheet.

On September 26, 2023, the Company entered into a master lease agreement for a laboratory equipment (the "Third Equipment Lease") with a vendor. The Third Equipment Lease has a 3-year term starting on the commencement date. The commencement date is when the equipment is shipped and installed, then the Company will provide Final Acceptance Certificate to the vendor. As of December 31, 2023, the commencement date was not established, therefore, there was no fixed assets or finance lease liability recognized in the condensed consolidated balance sheet.

Depreciation and interest expense related to the Equipment Lease was $760,000 for the year ended December 31, 2023.

The following summarizes quantitative information about the Company's operating and finance leases (in thousands):

	For the Years Ended	
	December 31, 2023	December 31, 2022
Operating leases:		
Operating lease cost	$ 956	$ 816
Variable lease cost	$ 956	$ 816
Finance leases:		
Interest lease cost	$ 259	$ —
Depreciation expense	760	—
Total finance lease expense	$ 1,019	$ —

Other information related to the Company’s leases is shown below (dollar amounts in thousands):

	For the Years Ended	
	December 31, 2023	December 31, 2022
Operating cash flows used in operating leases	$ (839)	$ (774)

	December 31, 2023	December 31, 2022
Weighted-average remaining lease term – operating leases (in years)	7.4	8.5
Weighted-average remaining lease term – finance leases (in years)	3.8	NA
Weighted-average discount rate – operating leases	10.00 %	10.00 %
Weighted-average discount rate – finance leases	7.56 %	NA
Finance lease asset (1)	$ 5,809	NA

(1) As of December 31, 2023, the Company had recorded accumulated depreciation of approximately $760,000 for the finance lease asset. Finance lease assets are recorded within property and equipment, net on the Company’s condensed consolidated balance sheets.

Minimum lease payments over the remaining lease periods as of December 31, 2023 are as follows (amounts in thousands):

	Operating Lease	Finance Lease	Total
Year Ended December 31, 2024	$ 952	$ 1,840	$ 2,792
Year Ended December 31, 2025	977	1,840	2,817
Year Ended December 31, 2026	941	1,840	2,781
Year Ended December 31, 2027	955	1,188	2,143
Year Ended December 31, 2028	982	122	1,104
Thereafter	2,667	—	2,667
Total lease payments	7,474	6,830	14,304
Less present value discount	(2,284)	(898)	(3,182)
Total	$ 5,190	$ 5,932	$ 11,122

Note 13 – Significant Customers Concentrations

Revenue for years ended December 31, 2023 and 2022 was $44.4 million and $122.6 million, respectively. Diagnostic Services accounted for 54.9% and 88.3%, of our net revenue for the year ended December 31, 2023 and 2022. The company decreased its diagnostic services business in the second half of 2023 due to the significant decrease in demand for our diagnostic testing services. For the year ended December 31, 2023 & 2022, there were no consumer products customers that accounted for 10% or more of our total revenues.. Collections of diagnostic services revenues are driven by payers, which are government agencies (primarily HRSA), insurance providers, and client payers. For the year ended December 31, 2022, requisitions from each payer group were approximately 29%, 66%, and 5%, respectively. For the year ended December 31, 2023, requisitions from government agencies including Medicaid and Medicare were approximately 17% and insurance providers were 83%.

The Company is subject to account receivable credit concentrations from time-to-time as a result of the timing, payment pattern and ultimate purchase volumes or shipping schedules with our customers. These concentrations may impact its overall exposure to credit risk, either positively or negatively, in that our customers may be similarly affected by changes in economic, regulatory or other conditions that may impact the timing and collectability of amounts due to the Company. Three diagnostic services payers generated 32.6%, 18.7% and 12.6% of our total reimbursement receivable balances from government agencies and healthcare issuers at December 31 2023. Two diagnostic services payers generated 68.8% and 16.0% of our total reimbursement receivable balances from government agencies and healthcare issuers at December 31, 2022.

Currently, the Company relies on a sole supplier to manufacture its saliva collection kits used by customers who purchase its personal genomics services. Change in the supplier or design of certain of the materials that the Company relies on, in particular the saliva collection kit, could result in a requirement for additional premarket review from the FDA before making such a change.

Note 14 – Segment Information

The Company has identified two operating segments, diagnostic services and consumer products, based on the manner in which the Company's CEO as CODM assesses performance and allocates resources across the organization. The operating segments are organized in a manner that depicts the difference in revenue generating synergies that include the separate processes, profit generation and growth of each segment. The diagnostic services segment provides COVID-19 diagnostic information services to a broad range of customers in the United States, including health plans, third party payers and government organizations. The consumer products segment is engaged in the research, development, manufacture, distribution, marketing and sale of OTC consumer healthcare products and dietary supplements in the United States and also provides personal genomics products and services. The unallocated corporate expenses mainly included professional fees associated with the public company.

The following table is a summary of segment information for Fiscal 2023, 2022 and 2021 (in thousands):

	For the years ended	
	December 31, 2023	December 31, 2022
Net revenues		
Diagnostic services	$ 24,849	$ 108,329
Consumer products	19,535	14,318
Consolidated net revenue	44,384	122,647
Cost of revenue		
Diagnostic services	11,790	39,896
Consumer products	16,355	12,097
Consolidated cost of revenue	28,145	51,993
Depreciation and amortization expense		
Diagnostic services	3,979	2,336
Consumer products	2,070	2,206
Total Depreciation and amortization expense	6,049	4,542
Operating and other expenses	32,990	43,203
Income (loss) from operations, before income taxes		
Diagnostic services	(1,804)	56,389
Consumer products	(7,493)	(10,824)
Unallocated corporate	(13,503)	(22,657)
Total income from operations, before income taxes	(22,800)	22,908
Income tax benefit (expense)	6,018	(4,445)
Net Income	$ (16,782)	$ 18,463

The following table is a summary of segment information for Fiscal 2023 and Fiscal 2022 (in thousands):

	December 31, 2023	December 31, 2022
ASSETS		
Diagnostic services	$ 44,221	$ 50,832
Consumer products	38,358	22,080
Unallocated corporate	9,348	14,736
Total assets	$ 91,927	$ 87,648

Note 15 – Earnings Per Share

Basic earnings per share ("EPS") excludes dilution and is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted EPS reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or otherwise result in the issuance of common stock that shared in the earnings of the entity. Diluted EPS also utilizes the treasury stock method which prescribes a theoretical buy back of shares from the theoretical proceeds of all options outstanding during the period, and the if-converted method for convertible debt.

The following is a reconciliation of the weighted average number of common shares outstanding used in calculating basic and diluted net loss per share (in thousands):

	For the years ended	
	December 31, 2023	December 31, 2022
Net (loss) income - basic	$ (16,782)	$ 18,463
Interest on unsecured convertible promissory note	—	632
Net (loss) income - diluted	$ (16,782)	$ 19,095
Weighted average shares outstanding - basic	17,207	15,845
Diluted shares- Stock Options	—	1,493
Diluted shares- Stock Warrants	—	1,073
Unsecured convertible promissory note	—	240
Weighted average shares outstanding - diluted	$ 17,207	$ 18,651

The following table represents the number of securities excluded from the income per share computation as a result of their anti-dilutive effect (in thousands):

	For the years ended	
Anti-dilutive securities	**December 31, 2023**	**December 31, 2022**
Common stock purchase warrants	831	455
Stock Options	2,951	770
Anti-dilutive securities	3,782	1,225

Note 16 – Related Parties

The Company's Executive Vice President and Co-Chief Operations Officer of ProPhase Diagnostics, is a related party to the Company's Chairman and Chief Executive Officer. For the years ended December 31, 2023 and 2022, there were no payments made to the Executive Vice President outside compensation for the position held at the Company.

Note 17 – Subsequent Events

On February 14, 2024, the Company entered into an agreement of sale of future receipts (“Future Receipts Financing Agreement”) with Libertas Funding, LLC (“Libertas”) by which Libertas purchases from the Company, its future accounts and contract rights arising from the sale of goods or rendition of services to the Company’s customers. The purchase price was approximate $2.5 million which was paid to the Company on February 16, 2024, net of $50,000 origination fee. The Future Receipts Financing Agreement requires twelve equal payments of $247,000 to be paid monthly for a total repayment of approximate$3.0 million over the term of the agreement.

The Company has evaluated subsequent events through March 28, 2024, which is the date the consolidated financial statements were available to be issued. There were no additional subsequent events that required adjustment to or disclosure in the consolidated financial statements.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed in our reports filed with or submitted to the SEC under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed

in our reports filed under the Exchange Act is accumulated and communicated to management, including our principal executive officer and principal financial and accounting officer, to allow timely decisions regarding required disclosure.

We carried out an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of December 31, 2023. This evaluation was carried out under the supervision and with the participation of our principal executive officer and principal financial and accounting officer. Based on that review, our management, including our principal executive officer and principal financial and accounting officer, concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2023.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Our system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;
- provide reasonable assurance that our transactions are recorded as necessary to permit preparation of our financial statements in accordance with accounting principles generally accepted in the United States of America, and that our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changes in conditions, effectiveness of internal controls over financial reporting may vary over time. Our system contains self-monitoring mechanisms, and actions are taken to correct deficiencies as they are identified.

Our management conducted an evaluation of our effectiveness of the system of internal control over financial reporting based on the framework in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based upon our review, our management, including our principal executive officer and principal financial and accounting officer, concluded that the Company's internal controls over financial reporting were not effective as of December 31, 2023 due to material weaknesses described below.

- We did not adequately review certain account reconciliations or controls over the financial statement closing process, which resulted in misstatements in account reconciliations and resulted in several proposed unadjusted journal entries.
- Several errors were made related to recording revenue in the proper period, calculating current period revenue, and following Company policy regarding principal versus agent considerations, resulting in misstatements in accounts receivable, deferred revenue, and revenue for multiple subsidiaries. We relied heavily on the manual input process for these areas and it did not properly design and maintain controls to identify exceptions. In certain instances where revenue is recorded based on an estimation of rates, process were not in place to properly update the rates accordingly throughout the year.
- We did not design and maintain adequate controls over the identification of discrepancies relating to the calculated and recorded deferred costs and cost of sales, which such calculation and recording relied heavily on the manual input process and resulted in misstatements in deferred costs and cost of sales.

Management is committed to remediating the material weaknesses. We have begun the process of implementing changes to our internal control over financial reporting to remediate the control deficiencies that gave rise to the material weaknesses, including implementing new automated financial systems related to recording transactions and account reconciliation preparation and review, which will significantly reduce the amount of processes that rely on manual inputs.

We will not consider the material weakness remediated until the remedial controls operate for a sufficient period of time and we have concluded, through testing, that these controls are effectively designed and operating effectively. We will continue to assess throughout 2024.

Morison Cogen LLP, the Company's independent registered public accounting firm, was appointed by the Company's Board of Directors and ratified by the Company's stockholders. They were engaged to render an opinion regarding the fair presentation of the Company's consolidated financial statements as well as conducting an audit of internal control over financial reporting for the period ending December 31, 2023. Their reports, that expressed the opinion that the Company has not maintained effective internal control over financial reporting as of December 31, 2023, based on criteria established in IInternal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework), because of the effect of the material weaknesses described above on the achievement of the objectives of the control criteria,, included at page 65 of this Form 10-K are based upon audits conducted in accordance with the standards of the Public Company Accounting Oversight Board (United States).

Changes in Internal Control Over Financial Reporting

Except as described above in "Management's Report on Internal Control Over Financial Reporting", there was no change in our internal control over financial reporting identified in connection with evaluation required by paragraph (d) of Rules 13a-15 or 15d-15 under the Exchange Act that occurred during the fourth quarter of the fiscal year ended December 31, 2023 that has materially affected or is reasonably likely to materially affect our internal control over financial reporting.

Item 9B. Other Information

On March 26, 2024, our board of directors amended and restated our Bylaws in order to make certain procedural changes consistent with the Delaware General Corporation Law.

The foregoing description of the Bylaws is qualified in its entirety by reference to the Bylaws, a copy of which is attached as Exhibit 3.2 to this Annual Report, and is incorporated herein by reference. Additionally, a copy of the Bylaws marked to show changes to the former Bylaws is included as Exhibit 3.2.1 to this Annual Report, and is incorporated herein by reference.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required under this item is incorporated by reference from the sections of the Company's Proxy Statement for the 2024 Annual Meeting of Stockholders (the "2024 Proxy Statement") titled "Proposal 1 – Election of Board of Directors," "Executive Officers," "Governance Policies and Procedures – Code of Conduct," "Corporate Governance – Committees of the Board of Directors – Audit Committee." The 2024 Proxy Statement will be filed with the Securities and Exchange Commission ("SEC") not later than 120 days after the close of our fiscal year ended December 31, 2023 and is hereby incorporated by reference

Item 11. Executive Compensation

The information required under this item is incorporated by reference from the section of the 2024 Proxy Statement titled "Executive and Director Compensation."

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required under this item is incorporated by reference from the sections of the 2024 Proxy Statement titled "Equity Compensation Plan Information" and "Security Ownership."

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required under this item is incorporated by reference from the sections of the 2024 Proxy Statement titled "Corporate Governance – Certain Relationships and Related Transactions," and "Corporate Governance – Director Independence."

Item 14. Principal Accountant Fees and Services

The information required under this item is incorporated by reference from the section of the 2024 Proxy Statement titled "Audit and Non-Audit Fees."

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements.

The following consolidated financial statements of ProPhase Labs, Inc., together with the report thereon of Friedman LLP, independent registered public accounting firms, are included in this Annual Report.

(a)(2) Financial Statement Schedules.

All schedules have been omitted because they are not required or because the required information is given in the consolidated financial statements or Notes thereto set forth under Item 8 above.

(a)(3) Exhibits

Exhibit	Description
2.1†+	Manufacturing Agreement, dated March 29, 2017, by and between Meda Consumer Healthcare Inc., Pharmaloz Manufacturing, Inc. and Prophase Labs, Inc. (incorporated by reference to Exhibit 2.2 of the Current Report on Form 8-K (File No. 000-21617) filed on March 29, 2017).
3.1	Certificate of Incorporation of the Company, (incorporated by reference to Exhibit 3.3 of the Current Report on Form 8-K (File No. 000-21617) filed on June 19, 2015).
3.2**	Amended and Restated Bylaws of the Company (as of March 26, 2024).
3.2.1**	Amended and Restated Bylaws of the Company (as of March 26, 2024, marked to show changes).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 of Form 10-KSB/A (File No. 000-21617) filed on April 4, 1997).
4.2	Description of Common Stock (incorporated by reference to Exhibit 4.3 of the Annual Report on Form 10-K (File No. 000-21617) filed on March 26, 2020).
10.1	Form of Indemnification Agreement between the Company and each of its Officers and Directors, dated August 19, 2009 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on August 19, 2009).
10.2*	Amended and Restated 2022 Equity Compensation Plan (incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K (File No. 000-21617) filed on June 20, 2023).
10.3*	Amended and Restated 2022 Directors' Equity Compensation Plan (incorporated by reference to Exhibit 10.2 of the Company's Current Report on Form 8-K (File No. 000-21617) filed on June 20, 2023).
10.4*	Form of Non-Qualified Stock Option Agreement pursuant to 2022 Equity Compensation Plan
10.5*	Form of Incentive Stock Option Agreement pursuant to 2022 Equity Compensation Plan
10.6*	Form of Option Agreement pursuant to 2022 Directors' Equity Compensation Plan
10.7*	Amended and Restated 2015 Executive Employment Agreement with Ted Karkus, effective February 23, 2018 (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K (File No. 000-21617) filed on April 16, 2018).
10.8	Lease agreement by and among ProPhase Diagnostics, Inc., BRG Office L.L.C. and Unit 2 Associates L.L.C. for the corporate headquarters and diagnostic lab facility located at 711 Stewart Avenue, Garden City, NY 11530 (incorporated by reference to Exhibit 10.18 of the Annual Report on Form 10-K (File No. 000-21617) filed on March 31, 2021).

10.9	Sales Agreement, dated December 28, 2021, between ProPhase Labs, Inc. and ThinkEquity LLC (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on December 29, 2021).
10.10	Lease Agreement by and between ProPhase Diagnostics, Inc. and BRG Office L.L.C. and Unit 2 Associates L.L.C., as tenants in common, dated June 10, 2022 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on June 13, 2022)
10.11	Guaranty dated June 10, 2022 (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K (File No. 000-21617) filed on June 13, 2022)
10.12	First Amendment of Lease, dated June 10, 2022, by and between ProPhase Diagnostics, Inc. and BRG Office L.L.C. and Unit 2 Associates L.L.C., as tenants in common (incorporated by reference to Exhibit 10.3 of the Current Report on Form 8-K (File No. 000-21617) filed on June 13, 2022)
10.13	License Agreement by and between ProPhase BioPharma, Inc. and Global BioLife, Inc., dated July 19, 2022 (effective as of July 18, 2022) (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on July 21, 2022)
10.14	Asset Purchase Agreement by and among Stella Diagnostics Inc., Stella DX, LLC and ProPhase Labs, Inc., dated December 15, 2022 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on December 20, 2022)
10.15	Unsecured Promissory Note and Guaranty issued to JXVII Trust, dated January 26, 2023 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on January 30, 2023)
10.16	Common Stock Purchase Warrant issued to JXVII Trust, dated January 27, 2023 (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K (File No. 000-21617) filed on January 30, 2023)
10.17*†	Latkin Offer Letter, dated as of December 28, 2023, by and between the Company and Jed A. Latkin (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K (File No. 000-21617) filed on January 4, 2024.
19.1**	Insider Trading Policy
21.1**	Subsidiaries of ProPhase Labs, Inc.
23.1**	Consent of Morison Cogen LLP, Independent Registered Public Accounting Firm
31.1**	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2**	Certification of Principal Finance Officer and Principal Accounting Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1***	Certification of the Principal Executive Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2***	Certification of the Principal Finance Officer and Principal Accounting Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97.1**	Compensation Recovery Policy

101 INS	Inline XBRL Instance Document
101 SCH	Inline XBRL Taxonomy Extension Schema Document
101 CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101 DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101 LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101 PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Indicates a management contract or compensatory plan or arrangement.
** Filed herewith.
*** Furnished herewith.
† Confidential treatment granted as to portions of the exhibit. The Company agrees to furnish supplementally a copy of any omitted schedule or exhibit to the Securities and Exchange Commission upon request.

+ Certain schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company agrees to furnish supplementally a copy of any omitted schedule or exhibit to the Securities and Exchange Commission upon request.

Item 16 Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PROPHASE LABS, INC.

By: */s/ Ted Karkus*
Ted Karkus, Chairman of the Board,
Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Ted Karkus Ted Karkus	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	March 28, 2024
/s/ Jed Latkin Jed Latkin	Chief Operating Officer (Principal Financial Officer)	March 28, 2024
/s/ Jason Barr Jason Barr	Director	March 28, 2024
/s/ Louis Gleckel Louis Gleckel	Director	March 28, 2024
/s/ Warren Hirsch Warren Hirsch	Director	March 28, 2024

BYLAWS
OF
PROPHASE LABS, INC.

(As amended and restated March 26, 2024)

ARTICLE I – OFFICES

Section 1. The registered office of Prophase Labs, Inc. (the "Corporation") in the State of Delaware is 874 Walker Road, Suite C, Dover, DE 19904. The name of its registered agent at such address is United Corporate Services, Inc.

Section 2. The Corporation may have such offices within or without the State of Delaware as the Board of Directors may designate or as the business of the Corporation may require from time to time.

ARTICLE II – STOCKHOLDERS

Section 1. ANNUAL MEETING: The annual meeting of stockholders shall be held each year on a date and a time designated by the Board of Directors. At each annual meeting directors shall be elected and any other proper business may be transacted.

Section 2. SPECIAL MEETINGS: In addition to the rights of the holders of any series of Preferred Stock, special meetings of the stockholders may be called at any time by (a) the Chairman or (b) the Board of Directors pursuant to a resolution approved by a majority of the whole Board of Directors. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice to stockholders.

Section 3. PLACE OF MEETING: The Board of Directors may designate any place, either within or without the State of Delaware, as the place of meeting for any annual meeting or for any special meeting called by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as provided under the Delaware General Corporation Law.

Section 4. NOTICE OF MEETING: Whenever stockholders are required or permitted to take any action at a meeting, a written notice of any such meeting shall be given which notice shall state the place, date and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. The notice shall, unless otherwise prescribed by statute, be delivered not less than ten (10) nor more than sixty (60) days before the date of the meeting, either personally or by mail, by or at the direction of the Chairman, to each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the stockholder at his address as it appears on the stock transfer books of the Corporation, with postage thereon prepaid. Notice of any meeting of the stockholders shall not be required to be given to any stockholder who shall attend such meeting in person or by proxy without protesting, prior to or at the commencement of the meeting, the lack of proper notice to such stockholder, or who shall waive notice thereof as provided in Article XI of these Bylaws. Notice of adjournment of a meeting of the stockholders need not be given if the date, time and place, if any, to which it is adjourned, and any means of remote communication for such adjourned meeting, are (i) announced at the meeting at which the adjournment is taken, (ii) displayed during the time scheduled for such meeting on the same electronic network used to enable stockholders and proxy holders to participate in such meeting by means of remote communication or (iii) set forth in the notice of such meeting given in accordance with the provisions of this Article 2.4; *provided, however*, that if the adjournment is for more than 30 days or, after adjournment, a new record date is fixed for the adjourned meeting, then a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Section 5. NOTICE BY ELECTRONIC TRANSMISSION: Any notice to stockholder given by the Corporation pursuant to any provision of these Bylaws, the Exchange Act (as defined in Article 2.15(b) below) or the Certificate of Incorporation shall be effective if given by a form of electronic

transmission consented to by the stockholder to whom the notice is given. The consent is revocable by the stockholder by written notice to the Corporation. The consent is revoked if:

(a) The Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with the consent; and

(b) The inability to deliver by electronic transmission becomes known to the secretary, assistant secretary, transfer agent or other agent of the Corporation responsible for the giving of notice. However, the inadvertent failure to treat the inability to deliver notice by electronic transmission as a revocation does not invalidate any meeting or other action.

Notice given pursuant to this Article 1.5 shall be deemed given if:

(a) By facsimile machine, when directed to a number at which the stockholder has consented to receive notice;

(b) By electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(c) By posting on an electronic network together with separate notice to the stockholder of the specific posting, upon the later of:

(1) Such posting; and

(2) The giving of the separate notice; and

(d) By any other form of electronic transmission, when directed to the stockholder.

As used in this Article 1.5, “electronic transmission” means any form of communication not directly involving the physical transmission of paper that:

(a) Creates a record that may be retained, retrieved and reviewed by the recipient of the communication; and

(b) May be directly reproduced in paper form by the recipient through an automated process.

Section 6. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE: For the purpose of determining stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or stockholders entitled to receive payment of any dividend, or in order to make a determination of stockholders for any other proper purpose, the Board of Directors of the Corporation may provide that the stock transfer books shall be closed for a stated period but not to exceed, in any case, sixty (60) days. In lieu of closing the stock transfer books, the Board of Directors may fix in advance a date as the record date for any such determination of stockholders, such date in any case to be not more than sixty (60) days, and, in case of a meeting of stockholders, not less than ten (10) days prior to the date on which the particular action, requiring such determination of stockholders, is to be taken. If the stock transfer books are not closed and no record date is fixed for the determination of stockholders entitled to notice of or to vote at a meeting of stockholders, or stockholders entitled to receive payment of a dividend, the date on which notice of the meeting is mailed or the date on which the resolution of the board of directors declaring such dividend is adopted, as the case may be, shall be the record date for such determination of stockholders. But payment or allotment of dividends may not be made more than sixty days after the date on which the resolution is adopted. When a determination of stockholders entitled to vote at any meeting of stockholders has been made as provided in this Article 2.6, such determination shall apply to any adjournment thereof regardless of its length except where the determination has been made through the closing of the stock transfer books and the stated period of closing has expired.

Section 7. BOOKS AND ACCOUNTS: This Corporation shall keep and maintain at its principal office in this State:

(a) A certified copy of its Certificate of Incorporation, and all amendments thereto.

(b) A certified copy of its Bylaws, and all amendments thereto.

(c) A stock ledger or a duplicate stock ledger, revised annually, containing the names, alphabetically arranged, of all persons who are stockholders of the Corporation, showing their places of residence, if known, and the number of shares held by them respectively; or

(d) In lieu of the stock ledger or duplication stock ledger specified in paragraph (c), a statement setting out the name of the custodian of the stock ledger or duplicate stock ledger, and the present and complete post office address, including street and number, if any, where such stock ledger or duplicate stock ledger specified in this Article 1.7 is kept.

Section 8. QUORUM: A majority of the outstanding shares of the Corporation entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of stockholders; provided, however, that in the case of any vote to be taken by classes or series, the holders of a majority of the votes entitled to be cast by the stockholders of a particular class or series, present in person or by proxy, shall constitute a quorum of such class or series.

Section 9. ADJOURNMENTS; POSTPONEMENTS: In the absence of a quorum, holders of stock representing a majority of the voting power of all shares present in person or represented by proxy at the meeting, or the chairman of the meeting, may adjourn any meeting of stockholders (including an adjournment to address a technical failure to convene), from time to time, to reconvene at the same or some other place, and notice need not be given of any such adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. Furthermore, after the meeting has been duly organized, the chairman of the meeting may adjourn any meeting of stockholders, from time to time, to reconvene at the same or some other place, and notice need not be given of any such adjourned meeting if the date, time and place, if any, thereof, and any means of remote communication for such meeting, are (i) announced at the meeting at which the adjournment is taken, (ii) displayed during the time scheduled for such meeting on the same electronic network used to enable stockholders and proxy holders to participate in such meeting by means of remote communication, or (iii) set forth in the notice of such meeting given in accordance with the provisions of Article 2.4. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. Any previously scheduled meeting of stockholders may be postponed by the Board of Directors prior to the date previously scheduled for such meeting and the Corporation shall publicly announce such postponement.

Section 10. PROXIES: At any meeting of stockholders, a stockholder may vote in person or by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Proxies for use at any meeting of stockholders shall be in writing and filed with the Secretary, or such other officer as the Board of Directors may from time to time determine by resolution, before or at the time of the meeting. All proxies shall be received and taken charge of and all ballots shall be received and canvassed by the secretary of the meeting who shall decide all questions touching upon the qualification of voters, the validity of the proxies and the acceptance or rejection of votes, unless an inspector or inspectors shall have been appointed by the Chairman, in which event such inspector or inspectors shall decide all such questions. Any stockholder directly or indirectly soliciting proxies from other stockholders must use a proxy card color other than white, which shall be reserved for the exclusive use by the Board of Directors.

A proxy shall not be valid after six months from the date of its execution, unless coupled with an interest, but no proxy shall be valid after seven years from the date of its execution, unless renewed or extended at any time before its expiration.

Section 11. LIST OF STOCKHOLDERS ENTITLED TO VOTE: A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in the name of each stockholder, shall be open to he examination of any stockholder, for any purpose germane to the meeting, for a period of ten (10) days ending on the day before the meeting date, (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to the stockholders of the Corporation.

Section 12. VOTING AND ELECTIONS: Each stockholder of record of any series of Preferred Stock shall be entitled at each meeting of the stockholders to such number of votes, if any, for each share of such stock as may be fixed in the Certificate of Incorporation or in the resolution or resolutions adopted by the Board of Directors provide for the issuance of such Preferred Stock, and each stockholder of record of Common Stock shall be entitled at each meeting of the stockholders to one vote for each share of such stock, in each case, registered in such stockholder's name on the books of the Corporation: (i) on the date fixed pursuant to Section 6 of Article II of these Bylaws as the record date for the determination of stockholders entitled to notice of and to vote at such meeting; or (ii) if no such record date shall have been so fixed, then at the close of business on the day next preceding the day on which notice of such meeting is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

At each meeting of the stockholders, all corporate actions to be taken by vote of the stockholders (other than the election of directors) shall be authorized by a majority of the votes cast by the stockholders entitled to vote thereon who are present in person or represented by proxy, and where a separate vote by class or series is required, a majority of the votes cast by the stockholders of such class or series who are present in person or represented by proxy shall be the act of such class or series. Directors shall be elected by a plurality of the votes cast at a meeting of the stockholders by the holders of stock entitled to vote in the election of directors, provided a quorum is present.

Section 13. VOTING OF SHARES BY CERTAIN HOLDERS: Shares standing in the name of another corporation may be voted by such officer, agent or proxy as the bylaws or a resolution of the board of directors of such corporation may prescribe, and a certified copy of the by-law or resolution is presented at the meeting.

Shares held by an administrator, executor, guardian or conservator may be voted by him, either in person or by proxy, without a transfer of shares into his name. A stockholder whose shares are pledged shall be entitled to vote such shares until the shares have been transferred into the name of the pledgee, and thereafter the pledgee shall be entitled to vote the shares so transferred.

Neither treasury shares of its own stock held by the Corporation, nor shares held by another corporation if a majority of the shares entitled to vote for the election of directors of such other corporation are held by the corporation, shall be voted at any meeting or counted in determining the total number of outstanding shares at any given time for purposes of any meeting.

Section 14. VOTING TRUST: A stockholder, by agreement in writing, may transfer his stock to a voting trustee or trustees for the purpose of conferring the right to vote thereon for a period not exceeding 15 years upon the terms and conditions therein stated. The certificates of stock so transferred shall be surrendered and canceled and new certificates therefor issued to such trustee or trustees in which it shall appear that they are issued pursuant to such agreement, and in the entry of such ownership in the proper books of such corporation that fact shall also be noted, and thereupon such trustee or trustees may vote upon the stock so transferred during the terms of such agreement. A duplicate of every such agreement shall be filed in the principal office of the corporation and at all times during such terms be open to inspection by any stockholder or his attorney.

Section 15. NOMINATION OF DIRECTORS:

(a) In addition to the rights of the holders of any series of Preferred Stock, nominations of any person for election to the Board of Directors at an annual meeting or at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board of Directors, including by any committee or persons appointed by the Board of Directors, or (ii) by a stockholder who (A) was a stockholder of record (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Article 2.15 and at the time of the meeting, (B) is entitled to vote at the meeting for the election of directors, and (C) has complied with this Article 2.15 as to such nomination. The foregoing clause (ii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting or special meeting.

(b) Without qualification, in addition to such stockholder complying with the provisions of Rule 14a-19 under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting, the stockholder must (i) provide Timely Notice (as defined in Article 2.16) thereof in writing and in proper form to the Secretary of the Corporation either by personal delivery or by United States mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article 2.15. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to the Board of Directors at a special meeting, the stockholder must (i) provide timely notice thereof in writing and in proper form to the Secretary of the Corporation at the principal executive offices of the Corporation either by personal delivery or by United States mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article 2.15.

To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the one hundred twentieth (120th) day prior to such special meeting and not later than the ninetieth (90th) day prior to such special meeting or, if such special meeting is announced later than the ninetieth day prior to the date of such special meeting, the tenth (10th) day following the day on which public disclosure (as defined in Article 2.15) of the date of such special meeting was first made.

In no event shall any adjournment of an annual meeting or special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above.

(c) To be in proper form for purposes of this Article 2.15, a stockholder's notice to the Secretary shall set forth:

(i) As to each Nominating Person (as defined below), the Stockholder Information (as defined in Article 2.16(c)(i), except that for purposes of this Article 2.15 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Article 2.16(c)(i));

(ii) As to each Nominating Person, any Disclosable Interests (as defined in Article 2.16(c)(ii), except that for purposes of this Article 2.15 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Article 2.16(c)(ii) and the disclosure in clause (L) of Article 2.16(c)(ii) shall be made with respect to the election of directors at the meeting);

(iii) A representation that the Nominating Person is a holder or record or beneficial owner of shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice;

(iv) A representation as to whether the Nominating Person intends to solicit proxies in support of such person's nominee(s) in accordance with Rule 14a-19 under the Exchange Act;

(v) A representation as to whether the Nominating Person intends or is part of a group that intends (x) to deliver a proxy statement and/or a form of proxy to holders of at least the percentage of the Corporation's outstanding stock reasonably believed by the Nominating Person to be sufficient to elect the nominee or nominees proposed to be nominating by the Nominating Person;

(vi) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Article 2.15 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Article 14(a) under the Exchange Act (including such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Article 2.16(c)), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant, and (D) a completed and signed questionnaire, representation and agreement as provided in Article 2.15(f); and

(vi) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's corporate governance guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

For purposes of this Article 2.15, the term "Nominating Person" shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner, and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(d) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Article 2.15 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to) any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Article 2.15. The presiding officer at the meeting shall, if the facts warrant, determine that a nomination was not properly made in accordance with this Article 2.15, and if he or she should so determine, he or she shall so declare such determination to the meeting and the defective nomination shall be disregarded.

(f) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Article 2.15) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in form provided by the Secretary upon written request) that such proposed nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(g) In addition to the requirements of this Article 2.15 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations. Unless otherwise required by law, (i) no Nominating Person shall solicit proxies in support of director nominees other than the Corporation's nominees unless such stockholder has complied with Rule 14a-19 under the Exchange Act in connection with the solicitation of such proxies, including the provision to the Corporation of notices required thereunder in a timely manner, and (ii) if such stockholder (1) provides notice pursuant to Rule 14a-19(b) under the Exchange Act and (2) subsequently fails to comply with all applicable requirements of Section 10 and this Article 2.15 and Rules 14a-19(a)(2) and 14a-19(a)(3) under the Exchange Act, then the Corporation shall disregard any proxies or votes solicited for such Nominating Person's director nominees. Upon request by the Corporation, if any such Nominating Person provides notice pursuant to Rule 14a-19(b) under the Exchange Act, such Nominating Person shall deliver to the Corporation, no later than five (5) business days prior to the applicable meeting, reasonable evidence that it has met the requirements of Rule 14a-19(a)(3) under the Exchange Act.

Section 16. NOTICE OF BUSINESS AT ANNUAL MEETINGS:

(a) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board of Directors, (ii) brought before the meeting by or at the direction of the Board of Directors, or (iii) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Article 2.16 and at the time of the meeting, (B) is entitled to vote at the meeting, and (C) has complied with this Article 2.16 as to such business. Except for proposals properly made in accordance with Rule 14a-8 under the Exchange Act, and included in the notice of meeting given by or at the direction of the Board of Directors, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting. Stockholders seeking to nominate persons for election to the Board must comply with Article 2.15 and this Article 2.16 shall not be applicable to nominations except as expressly provided in Article 2.15.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder, the stockholder must (i) provide Timely Notice (as defined below) thereof in writing and in proper form to the Secretary of the Corporation either by personal delivery or by United States

mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article 2.16. To be timely, a stockholder's notice must be delivered to, or mailed and received at, the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the one-year anniversary of the preceding year's annual meeting; provided, however, that if the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date, notice by the stockholder to be timely must be so delivered, or mailed and received, not later than the ninetieth (90th) day prior to such annual meeting or, if such annual meeting is announced later than the ninetieth day prior to the date of such annual meeting, the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"). In no event shall any adjournment of an annual meeting or the announcement thereof commence a new time period for the giving of Timely Notice as described above.

(c) To be in proper form for purposes of this Article 2.16, a stockholder's notice to the Secretary shall set forth:

(i) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, if applicable, the name and address that appear on the Corporation's books and records); and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Persons, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (i) and (ii) are referred to as "Stockholder Information");

(ii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Article 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "Responsible Person"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person

and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including their names), and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Article 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner;

(iii) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including the text of any resolutions proposed for consideration), and (C) a reasonably detailed description of all agreements, arrangements and understandings (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including their names) in connection with the proposal of such business by such stockholder;

(iv) A representation that the Proposing Person is a holder or record or beneficial owner of shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to propose the business specified in the notice; and

(v) A representation as to whether the Proposing Person intends to solicit proxies in support of such person's proposal.

For purposes of this Article 2.16, the term "Proposing Person" shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for purposes of these Bylaws) of such stockholder or beneficial owner, and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

A person shall be deemed to be "Acting in Concert" with another person for purposes of these Bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (A) each person is conscious of the

other person's conduct or intent and this awareness is an element in their decision-making processes and (B) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; provided, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Article 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(d) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Article 2.16 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to) any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary, no business shall be conducted at an annual meeting except in accordance with this Article 2.16. The presiding officer of the meeting shall, if the facts warrant, determine that the business was not properly brought before the meeting in accordance with this Article 2.16, and if he or she should so determine, he or she shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

(f) This Article 2.16 is expressly intended to apply to any business proposed to be brought before an annual meeting of stockholders other than any proposal made pursuant to Rule 14a-8 under the Exchange Act. In addition to the requirements of this Article 2.16 with respect to any business proposed to be brought before an annual meeting, each Proposing Person shall comply with all applicable requirements of the Exchange Act with respect to any such business. Nothing in this Article 2.16 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(g) For purposes of these Bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Articles 13, 14 or 15(d) of the Exchange Act.

Section 17. CONDUCT OF MEETINGS:

(a) Meetings of stockholders shall be presided over by the Chairman or in the Chairman's absence by the Chief Executive Officer, or in the Chief Executive Officer's absence by the President (if the President shall be a different individual than the Chief Executive Officer), or in the President's absence by a Vice President, or in the absence of all of the foregoing persons by a chairman designated by the Board of Directors, or in the absence of such designation by a chairman chosen by vote of the stockholders at the meeting. The Secretary shall act as secretary of the meeting, but in the Secretary's absence the chairman of the meeting may appoint any person to act as secretary of the meeting.

(b) The Board of Directors of the Corporation may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders of the Corporation as it shall deem appropriate including, without limitation, such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations and procedures as adopted by the Board of Directors, the chairman of any meeting of

stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as shall be determined; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

(c) The chairman of the meeting shall announce at the meeting when the polls for each matter to be voted upon at the meeting will be opened and closed. If no announcement is made, the polls shall be deemed to have opened when the meeting is convened and closed upon the final adjournment of the meeting. After the polls close, no ballots, proxies or votes or any revocations or changes thereto may be accepted.

(d) In advance of any meeting of stockholders, the Board of Directors, the Chairman or the Chief Executive Officer shall appoint one or more inspectors of election to act at the meeting and make a written report thereof. One or more other persons may be designated as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is present, ready and willing to act at a meeting of stockholders, the chairman of the meeting shall appoint one or more inspectors to act at the meeting. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Each inspector, before entering upon the discharge of such inspector's duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of such inspector's ability. The inspector shall have the duties prescribed by law and shall take charge of the polls and, when the vote is completed, shall make a certificate of the result of the vote taken and of such other facts as may be required by law.

ARTICLE III – DIRECTORS

Section 1. NUMBER AND TERM. The business of this Corporation shall be managed by a Board of Directors which shall consist of not less than three (3) directors nor more than nine (9) directors, who need not be residents of the State of Delaware or stockholders of the Corporation. The exact number of directors within the minimum and maximum limitations specified in the preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors, which number shall initially be six (6). Except as otherwise provided in the Certificate of Incorporation, each director shall serve for a term ending on the date of the annual meeting of stockholders next following the annual meeting at which such director was elected. Notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders.

Section 2. REGULAR MEETINGS: Each newly elected Board of Directors may hold its first meeting for the purpose of organization and the transaction of business, if a quorum is present, immediately after and at the same place as the annual meeting of the stockholders. Notice of such meeting shall not be required. At the first meeting of the Board of Directors in each year at which a quorum shall be present, held next after the annual meeting of stockholders, the Board of Directors shall proceed to the election of the officers of the Corporation. Regular meetings of the Board of Directors shall be held at such times and places as shall be designated from time to time by resolution of the Board of Directors. Notice of such regular meetings shall not be required.

Section 3. SPECIAL MEETINGS: Special meetings of the Board of Directors may be called by the Chairman of the Board, or on the written request of any two directors, by the Secretary, in each case on at least twenty-four (24) hours personal, written, telegraphic, cable or wireless notice to each director. Such notice, or any waiver thereof pursuant to Article 3.4 hereof, shall state the time and place of the special meeting, but need not state the purpose or purposes of such meeting, except as may otherwise be

required by law or provided for in the Certificate of Incorporation or these Bylaws. If the day or date, time and place of a meeting of the Board of Directors has been announced at a previous meeting of the board, no notice is required. Notice of an adjourned meeting of the Board of Directors need not be given other than by announcement at the meeting at which adjournment is taken.

Section 4. NOTICE WAIVER: Notice of any meeting of the Board of Directors may be waived by any director either before, at or after such meeting orally or in a writing signed by such director. A director, by his or her attendance at any meeting of the Board of Directors, shall be deemed to have waived notice of such meeting, except where the director objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened and does not participate thereafter in the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

Section 5. QUORUM AND MANNER OF ACTING: Unless otherwise provided in the Certificate of Incorporation, a majority of the total number of directors then in office shall constitute a quorum for the transaction of business of the Board of Directors and the vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 6. RESIGNATION. Any director may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the Secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 7. NEWLY CREATED DIRECTORSHIPS. A directorship to be filled by reason of any increase in the number of directors may be filled (i) by election at an annual or special meeting of stockholders called for that purpose or (ii) by the Board of Directors for a term of office continuing only until the next election of one or more directors by the stockholders.

Section 8. VACANCIES IN THE BOARD OF DIRECTORS. Any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 9. REMOVAL OF DIRECTORS. Except as may otherwise be provided by law, any director or the entire Board of Directors may be removed, with or without cause, at an annual meeting or at a special meeting called for that purpose, by the affirmative vote of the holders of a majority of the shares then entitled to vote at an election of directors.

Section 10. ACTION WITHOUT A MEETING; TELEPHONE CONFERENCE MEETING: Unless otherwise restricted by the Certificate of Incorporation, any action required or permitted to be taken at any meeting of the Board of Directors, or any committee designated by the Board of Directors, may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, either originally or in counterparts, consent thereto in writing. Such consent shall have the same force and effect as a unanimous vote at a meeting, and may be stated as such in any document or instrument filed with the Secretary of State of Delaware.

Unless otherwise restricted by the Certificate of Incorporation, subject to the requirement for notice of meetings, members of the Board of Directors, or members of any committee designated by the Board of Directors, may participate in a meeting of such Board of Directors or committee, as the case may be, by means of a conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in such a meeting shall constitute presence in person at such meeting, except where a person participates in the meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting is not lawfully called or convened.

Section 10. EXECUTIVE AND OTHER COMMITTEES:

(a) The Board of Directors, by resolution adopted by a majority of the number of directors then in office may designate from among its members an executive committee and one or more other committees, each consisting of two or more directors, and each of which, to the extent provided in the resolution or in the charter or these Bylaws shall have and may exercise all of the authority of the Board of Directors except the power to:

(i) Declare dividends or distributions on stock;

(ii) Issue stock other than as provided in subsection (b) of this Article.

(iii) Recommend to the stockholders any action which requires stockholder approving, including, but not limited to, adopting an agreement of merger or consolidation, the sale, lease or exchange of all or substantially all of the Corporation's property and assets, a dissolution of the Corporation or a revocation of a dissolution of the Corporation; or

(iv) Amend the Certificate of Incorporation or the Bylaws.

(b) If the Board of Directors has given general authorization for the issuance of stock, a committee of the Board, in accordance with a general formula or method specified by the board by resolution or by adoption of a stock option or other plan, may fix the terms of stock subject to classification or reclassification and the terms on which any stock may be issued, including all terms and conditions required or permitted to be established or authorized by the Board of Directors under the Delaware General Corporation Law.

(c) The appointment of any committee, the delegation of authority to it or action by it under that authority does not constitute of itself, compliance by any director not a member of the committee, with the standard provided by statute for the performance of duties of directors.

(d) Any committee designated pursuant to this Article 3.10 shall choose its own chairman, shall keep regular minutes of its proceedings and report the same to the Board of Directors when requested, shall fix its own rules or procedures, and shall meet at such times and at such place or places as may be provided by such rules, or by resolution of such committee or resolution of the Board of Directors. At every meeting of any such committee, the presence of a majority of all the members thereof shall constitute a quorum and the affirmative vote of a majority of the members present shall be necessary for the adoption by it of any resolution.

(e) The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of such committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not constituting a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

Section 11. CHAIRMAN OF THE BOARD: The Board shall elect from its members a Chairman, which Chairman shall preside at all meetings of the stockholders and the directors. The Chairman shall serve in such capacity until his or her successor is elected by the Board or until his or her earlier resignation or removal from the Board. He or she shall also perform such other duties the Board may assign to him or her from time to time.

Section 12. COMPENSATION: By resolution of the Board of Directors, each director may be paid his expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a stated salary as director or a fixed sum for attendance at each meeting of the Board of Directors or both. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

Section 13. PRESUMPTION OF ASSENT: A director of the Corporation who is present at a meeting of the board of Directors at which action on any corporate matter is taken unless he shall announce his dissent at the meeting and his dissent is entered in the minutes and he shall forward such dissent by registered mail to the secretary of the corporation immediately after the adjournment of the meeting. Such right to dissent shall not apply to a director who voted in favor of such action.

ARTICLE IV – OFFICERS

Section 1. NUMBER, TITLES, AND TERM OF OFFICE: The officers of the Corporation shall be chosen by the Board of Directors and shall include a Chief Executive Officer, President, Chief Operating Officer, Chief Financial Officer, President, one or more Vice Presidents (any one or more of whom may be designated Executive Vice President or Senior Vice President), a Treasurer, a Secretary, and such other officers as the Board of Directors may from time to time elect or appoint. Each officer shall hold office until his successor shall be duly elected and shall qualify or until his death or until he shall resign or shall have been removed in the manner hereinafter provided. Any number of offices may be held by the same person, unless the Certificate of Incorporation provides otherwise. Except for the Chairman of the Board, if any, no officers need be a director.

Section 2. SALARIES: The salaries or other compensation of the officers and agents of the Corporation shall be fixed from time to time by the Board of Directors.

Section 3. REMOVAL: Any officer or agent elected or appointed by the Board of Directors may be removed, either with or without cause, by the vote of a majority of the whole Board of Directors at a special meeting called for the purpose, or at any regular meeting of the Board of Directors, provided the notice for such meeting shall specify that the matter of any such proposed removal will be considered at the meeting but such removal shall be without prejudice to the contract rights, if any, of the person so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

Section 4. VACANCIES: Any vacancy occurring in any office of the Corporation may be filled by the Board of Directors.

Section 5. CHIEF EXECUTIVE OFFICER: The Chief Executive Officer shall, in the absence of the Chairman, preside at all meetings of the stockholders. Subject to the control of the Board of Directors and the executive committee (if any), the Chief Executive Officer shall have general executive charge, management and control of the properties, business and operations of the Corporation with all such powers as may be reasonably incident to such responsibilities; he may agree upon and execute all leases, contracts, evidences of indebtedness and other obligations in the name of the Corporation and may sign all certificates for shares of capital stock of the Corporation and shall have such other powers and duties as designated in accordance with these Bylaws and as from time to time may be assigned to him by the Board of Directors.

Section 6. PRESIDENT: Subject to such supervisory powers, if any, as may be given by the Board to the Chief Executive Officer, the President shall have general supervision, direction, and control of the business and other officers of the corporation. The President shall have the general powers and duties of management usually vested in the office of President of a corporation and shall have such other powers and duties as may be prescribed by the Board or these Bylaws. If, for any reason, the Corporation does not have a Chairman or Chief Executive Officer, or such officers are unable to act, the President shall assume the duties of those officers.

Section 7. CHIEF OPERATING OFFICER: The Chief Operating Officer shall supervise the operation of the Corporation, subject to the policies and directions of the Board. He or she shall provide for the proper operation of the Corporation and oversee the internal interrelationship amongst any and all departments of the Corporation. He or she shall submit to the Chief Executive Officer, the President, the Chairman and the Board timely reports on the operations of the Corporation.

Section 8. CHIEF FINANCIAL OFFICER: The Chief Financial Officer shall have general supervision, direction and control of the financial affairs of the Corporation. He or she shall provide for the establishment of internal controls and see that adequate audits are currently and regularly made. He or

she shall submit to the Chief Executive Officer, the President, the Chief Operating Officer, the Chairman and the Board timely statements of the accounts of the Corporation and the financial results of the operations thereof. The Chief Financial Officer shall perform such other duties and have such other powers as may be prescribed by the Board or these Bylaws, all in accordance with basic policies as established by and subject to the oversight of the Board and the Chief Executive Officer. In the absence of a named Treasurer, the Chief Financial Officer shall also have the powers and duties of the Treasurer as hereinafter set forth and shall be authorized and empowered to sign as Treasurer in any case where such officer's signature is required.

Section 9. VICE PRESIDENTS: In the absence of the President, or in the event of his inability or refusal to act, a Vice President designated by the Board of Directors shall perform the duties of the President, and when so acting shall have all the powers of and be subject to all the restrictions of the President. In the absence of a designation by the Board of Directors of a Vice President to perform the duties of the President, or in the event of his absence or inability or refusal to act, the Vice President who is present and who is senior in terms of time as a Vice President of the Corporation shall so act. The Vice Presidents shall perform such other duties and have such other powers as the chief executive officer or the Board of Directors may from time to time prescribe.

Section 10. TREASURER: The Treasurer shall have responsibility for the custody and control of all the funds and securities of the Corporation, and he shall have such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the Board of Directors. He shall perform all acts incident to the position of Treasurer, subject to the control of the chief executive officer and the Board of Directors; and he shall, if required by the Board of Directors, give such bond for the faithful discharge of his duties in such form as the Board of Directors may require.

Section 11. ASSISTANT TREASURERS: Each Assistant Treasurer shall have the usual powers and duties pertaining to his office, together with such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the chief executive officer or the Board of Directors. The Assistant Treasurers shall exercise the powers of the Treasurer during that officer's absence or inability or refusal to act.

Section 12. SECRETARY: The Secretary shall keep the minutes of all meetings of the Board of Directors, committees of directors and the stockholders, in books provided for that purpose; he shall attend to the giving and serving of all notices; he may in the name of the Corporation affix the seal of the Corporation to all contracts of the Corporation and attest the affixation of the seal of the Corporation thereto; he may sign with the other appointed officers all certificates for shares of capital stock of the Corporation; he shall have charge of the certificate books, transfer books and stock ledgers, and such other books and papers as the Board of Directors may direct, all of which shall at all reasonable times be open to inspection of any director upon application at the office of the Corporation during business hours; he shall have such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the Board of Directors; and he shall in general perform all acts incident to the office of Secretary, subject to the control of the chief executive officer and the Board of Directors.

Section 13. ASSISTANT SECRETARIES: Each Assistant Secretary shall have the usual powers and duties pertaining to his office, together with such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the chief executive officer or the Board of Directors. The Assistant Secretaries shall exercise the powers of the Secretary during that officer's absence or inability or refusal to act.

ARTICLE V – INDEMNIFICATION OF OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS

Section 1. INDEMNIFICATION: The Corporation shall indemnify and hold harmless, to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), any person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or

investigative (other than action by or in the right of the Corporation) by reason of the fact that he is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (an "indemnitee"), against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by an indemnitee in connection with such action, suit or proceeding if such indemnitee acted in good faith and in a manner such indemnitee reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such conduct was unlawful; provided, however, that, except as provided in Article 5.3 with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such indemnitee in connection with a proceeding (or part thereof) initiated by such indemnitee only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the indemnitee did not act in good faith and in a manner which such indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that such conduct was unlawful. The right to indemnification conferred by this Article 5.1 shall vest at the time an individual becomes an indemnitee.

Section 2. RIGHT TO ADVANCEMENT OF EXPENSES: The right to indemnification conferred in Article 5.1 shall include the right to be paid by the Corporation the expenses incurred in defending any such proceeding in advance of its final disposition (hereinafter an "advancement of expenses"); provided, however, that, if the Delaware General Corporation Law requires, an advancement of expenses incurred by an indemnitee in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "undertaking"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (hereinafter a "final adjudication") that such indemnitee is not entitled to be indemnified for such expenses under this Article 5.2 or otherwise. The rights to indemnification and to the advancement of expenses conferred in Articles 5.1 and 5.2 shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the indemnitee's heirs, executors, and administrators.

Section 3. RIGHT OF INDEMNITEE TO BRING SUIT: If a claim under Article 5.1 or 5.2 is not paid in full by the Corporation within sixty (60) days after a written claim has been received by the corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be twenty (20) days, the indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In (i) any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to enforce a right to an advancement of expenses) it shall be a defense that, and (ii) in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that, the indemnitee has not met any applicable standard for indemnification set forth in the Delaware General Corporation Law. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to indemnification, or to such advancement of expenses, under this Article 5 or otherwise shall be on the Corporation.

Section 4. NON-EXCLUSIVITY OF RIGHTS: The rights to indemnification and to the advancement of expenses conferred in this Article 5 shall not be exclusive of any other right which any person may have or hereafter acquire under any statute, the corporation's Certificate of Incorporation, Bylaws, agreement, vote of stockholders, or disinterested directors or otherwise.

Section 5. INSURANCE: The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee, or agent of the Corporation or another corporation, partnership, joint venture, trust, or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

Section 6. INDEMNIFICATION OF EMPLOYEES AND AGENTS OF THE CORPORATION: The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation to the fullest extent of the provisions of this Article 5 with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

Section 7. AMENDMENT OR MODIFICATION: This Article 5 may be altered or amended at any time as provided in these Bylaws, but no such amendment shall have the effect of diminishing the rights of any person who is or was an officer or director as to any acts or omissions taken or omitted to be taken prior to the effective date of such amendment.

ARTICLE VI – CONTRACTS, LOANS, CHECKS AND DEPOSITS

Section 1. CONTRACTS: The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or execute and deliver any instrument in the name of on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2. LOANS: No loans shall be contracted on behalf of the Corporation and no evidences of indebtedness shall be issued in its name unless authorized by a resolution of the Board of Directors. Such authority may be general or confined to specific instances.

Section 3. CHECKS, DRAFTS, ETC.: All checks, drafts, or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation, shall be signed by such officer or officers, agent or agents of the Corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 4. DEPOSITS: All funds of the Corporation not otherwise employed shall be deposited from time to time to the credit of the Corporation in such banks, trust companies or other depositories as the Board of Directors may select.

ARTICLE VII CERTIFICATES FOR SHARES AND THEIR TRANSFER

Section 1. CERTIFICATES FOR SHARES: Notwithstanding any other provision in these Bylaws, any or all classes and series of shares of the Corporation, or any part thereof, may be represented by uncertificated shares, except that shares represented by a certificate that is issued and outstanding shall continue to be represented thereby until the certificate is surrendered to the corporation. Within a reasonable time after the issuance or transfer of uncertificated shares, the Corporation shall send to the registered owner thereof, a written notice containing the information required to be set forth or stated on certificates. The rights and obligations of the holders of shares represented by certificates and the rights and obligations of the holders of uncertificated shares of the same class or series shall be identical. If certificates for the shares of the Corporation are issued, each will be in such form as shall be determined by the Board of Directors. Such certificates shall be signed by the president or vice president and countersigned by the secretary or an assistant secretary and sealed with the Corporation seal or a facsimile thereof. The signatures of such officers upon a certificate may be facsimile signatures if the certificate is manually signed on behalf of a transfer agent or a registrar other than the Corporation or an employee of the Corporation. Each certificate for shares shall be consecutively numbered or otherwise identified. The name and address of the person to whom the shares represented thereby are issued, with the number of shares and date of issue, shall be entered on the stock transfer books of the Corporation. All certificates

surrendered to the Corporation for transfer shall be cancelled and no new certificates shall be issued until the former certificates for a like number of shares shall have been surrendered and cancelled, except that in case of a lost, destroyed or mutilated certificate, a new one may be issued therefor upon such terms and indemnity to the Corporation as the Board of Directors may prescribe.

Section 2. TRANSFER OF SHARES: Transfer of shares of the Corporation shall be made only on the stock transfer books of the Corporation by the holder of record thereof or by his legal representative, who shall furnish proper evidence of authority to transfer, or by his attorney thereunto authorized by power of attorney duly executed and filed with the secretary of the corporation, and on surrender for cancellation of the certificate for such shares. The person in whose name shares stand on the books of the Corporation shall be deemed by the Corporation to be the owner thereof for all purposes.

ARTICLE VIII – FISCAL YEAR

Section 1. The fiscal year of the Corporation shall be determined by the Board of Directors.

ARTICLE IX – DIVIDENDS

Section 1. The Board of Directors may, from time to time, declare and the Corporation may pay dividends on its outstanding shares in the manner, and upon the terms and conditions provided by law and its Certificate of Incorporation.

ARTICLE X – CORPORATE SEAL

Section 1. The Board of Directors shall provide a corporate seal which shall be circular in form and shall have inscribed thereon the name of the Corporation, the year of its incorporation and the words, “Corporate Seal,” and “Delaware.”

ARTICLE XI – WAIVER OF NOTICE

Section 1. Whenever notice is required to be given by law, the Certificate of Incorporation or under any of the provisions of these Bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors, or members of a committee of directors need be specified in any written waiver of notice unless so required by the Certificate of Incorporation or the Bylaws.

ARTICLE XII – FORUM FOR ADJUDICATION OF DISPUTES

Section 1. Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation’s stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Certificate of Incorporation or Bylaws (as either may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine shall be the Court of Chancery in the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware). If any action the subject matter of which is within the scope of the preceding sentence is filed in a court other than a court located within the State of Delaware (a “Foreign Action”) in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the preceding sentence and (ii) having service of process made upon such stockholder in any such action by service upon such stockholder’s counsel in the Foreign Action as agent for such stockholder.

ARTICLE XIII – AMENDMENTS

Section 1. Stockholders of the Corporation holding at least 66 2/3% of the Corporation's outstanding voting stock shall have the power to adopt, amend or repeal the Bylaws. To the extent provided in the Corporation's Certificate of Incorporation, the Board of Directors of the Corporation shall also have the power to adopt, amend or repeal the Bylaws of the Corporation.

BYLAWS
OF
PROPHASE LABS, INC.

(As amended and restated ~~June 16~~March 26, ~~2023~~2024)

ARTICLE I – OFFICES

Section 1. The registered office of Prophase Labs, Inc. (the "Corporation") in the State of Delaware is 874 Walker Road, Suite C, Dover, DE 19904. The name of its registered agent at such address is United Corporate Services, Inc.

Section 2. The Corporation may have such offices within or without the State of Delaware as the Board of Directors may designate or as the business of the Corporation may require from time to time.

ARTICLE II – STOCKHOLDERS

Section 1. ANNUAL MEETING: The annual meeting of stockholders shall be held each year on a date and a time designated by the Board of Directors. At each annual meeting directors shall be elected and any other proper business may be transacted.

Section 2. SPECIAL MEETINGS: In addition to the rights of the holders of any series of Preferred Stock, special meetings of the stockholders may be called at any time by (a) the Chairman or (b) the Board of Directors pursuant to a resolution approved by a majority of the whole Board of Directors. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice to stockholders.

Section 3. PLACE OF MEETING: The Board of Directors may designate any place, either within or without the State of Delaware, as the place of meeting for any annual meeting or for any special meeting called by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as provided under the Delaware General Corporation Law.

Section 4. NOTICE OF MEETING: Whenever stockholders are required or permitted to take any action at a meeting, a written notice of any such meeting shall be given which notice shall state the place, date and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. The notice shall, unless otherwise prescribed by statute, be delivered not less than ten (10) nor more than sixty (60) days before the date of the meeting, either personally or by mail, by or at the direction of the Chairman, to each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the stockholder at his address as it appears on the stock transfer books of the Corporation, with postage thereon prepaid. Notice of any meeting of the stockholders shall not be required to be given to any stockholder who shall attend such meeting in person or by proxy without protesting, prior to or at the commencement of the meeting, the lack of proper notice to such stockholder, or who shall waive notice thereof as provided in Article XI of these Bylaws. Notice of adjournment of a meeting of the stockholders need not be given if the date, time and place, if any, to which it is adjourned, and any means of remote communication for such adjourned meeting, are (i) announced at the meeting at which the adjournment is taken, (ii) displayed during the time scheduled for such meeting on the same electronic network used to enable stockholders and proxy holders to participate in such meeting by means of remote communication or (iii) set forth in the notice of such meeting given in accordance with the provisions of this Article 2.4; *provided, however*, that if the adjournment is for more than 30 days or, after

adjournment, a new record date is fixed for the adjourned meeting, then a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Section 5. NOTICE BY ELECTRONIC TRANSMISSION: Any notice to stockholder given by the Corporation pursuant to any provision of these Bylaws, the Exchange Act (as defined in Article ~~2.16~~2.15(b) below) or the Certificate of Incorporation shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. The consent is revocable by the stockholder by written notice to the Corporation. The consent is revoked if:

(a) The Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with the consent; and

(b) The inability to deliver by electronic transmission becomes known to the secretary, assistant secretary, transfer agent or other agent of the Corporation responsible for the giving of notice. However, the inadvertent failure to treat the inability to deliver notice by electronic transmission as a revocation does not invalidate any meeting or other action.

Notice given pursuant to this Article 1.5 shall be deemed given if:

(a) By facsimile machine, when directed to a number at which the stockholder has consented to receive notice;

(b) By electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(c) By posting on an electronic network together with separate notice to the stockholder of the specific posting, upon the later of:

(1) Such posting; and

(2) The giving of the separate notice; and

(d) By any other form of electronic transmission, when directed to the stockholder.

As used in this Article 1.5, "electronic transmission" means any form of communication not directly involving the physical transmission of paper that:

(a) Creates a record that may be retained, retrieved and reviewed by the recipient of the communication; and

(b) May be directly reproduced in paper form by the recipient through an automated process.

Section 6. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE: For the purpose of determining stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or stockholders entitled to receive payment of any dividend, or in order to make a determination of stockholders for any other proper purpose, the Board of Directors of the Corporation may provide that the stock transfer books shall be closed for a stated period but not to exceed, in any

case, sixty (60) days. In lieu of closing the stock transfer books, the Board of Directors may fix in advance a date as the record date for any such determination of stockholders, such date in any case to be not more than sixty (60) days, and, in case of a meeting of stockholders, not less than ten (10) days prior to the date on which the particular action, requiring such determination of stockholders, is to be taken. If

the stock transfer books are not closed and no record date is fixed for the determination of stockholders entitled to notice of or to vote at a meeting of stockholders, or stockholders entitled to receive payment of a dividend, the date on which notice of the meeting is mailed or the date on which the resolution of the board of directors declaring such dividend is adopted, as the case may be, shall be the record date for such determination of stockholders. But payment or allotment of dividends may not be made more than sixty days after the date on which the resolution is adopted. When a determination of stockholders entitled to vote at any meeting of stockholders has been made as provided in this Article 2.6, such determination shall apply to any adjournment thereof regardless of its length except where the determination has been made through the closing of the stock transfer books and the stated period of closing has expired.

Section 7. BOOKS AND ACCOUNTS: This Corporation shall keep and maintain at its principal office in this State:

(a) A certified copy of its Certificate of Incorporation, and all amendments thereto.

(b) A certified copy of its Bylaws, and all amendments thereto.

(c) A stock ledger or a duplicate stock ledger, revised annually, containing the names, alphabetically arranged, of all persons who are stockholders of the Corporation, showing their places of residence, if known, and the number of shares held by them respectively; or

(d) In lieu of the stock ledger or duplication stock ledger specified in paragraph (c), a statement setting out the name of the custodian of the stock ledger or duplicate stock ledger, and the present and complete post office address, including street and number, if any, where such stock ledger or duplicate stock ledger specified in this Article 1.7 is kept.

Section 8. QUORUM: A majority of the outstanding shares of the Corporation entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of stockholders; provided, however, that in the case of any vote to be taken by classes or series, the holders of a majority of the votes entitled to be cast by the stockholders of a particular class or series, present in person or by proxy, shall constitute a quorum of such class or series.

Section 9. ADJOURNMENTS; POSTPONEMENTS: In the absence of a quorum, holders of stock representing a majority of the voting power of all shares present in person or represented by proxy at the meeting, or the chairman of the meeting, may adjourn any meeting of stockholders (including an adjournment to address a technical failure to convene), from time to time, to reconvene at the same or some other place, and notice need not be given of any such adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. Furthermore, after the meeting has been duly organized, the chairman of the meeting may adjourn any meeting of stockholders, from time to time, to reconvene at the same or some other place, and notice need not be given of any such adjourned meeting if the date, time and place, if any, thereof, and any means of remote communication for such meeting, are (i) announced at the meeting at which the adjournment is taken, (ii) displayed during the time scheduled for such meeting on the same electronic network used to enable stockholders

and proxy holders to participate in such meeting by means of remote communication, or (iii) set forth in the notice of such meeting given in accordance with the provisions of Article 2.4. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. Any previously scheduled meeting of stockholders

may be postponed by the Board of Directors prior to the date previously scheduled for such meeting and the Corporation shall publicly announce such postponement.

Section 10. PROXIES: At any meeting of stockholders, a stockholder may vote in person or by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Proxies for use at any meeting of stockholders shall be in writing and filed with the Secretary, or such other officer as the Board of Directors may from time to time determine by resolution, before or at the time of the meeting. All proxies shall be received and taken charge of and all ballots shall be received and canvassed by the secretary of the meeting who shall decide all questions touching upon the qualification of voters, the validity of the proxies and the acceptance or rejection of votes, unless an inspector or inspectors shall have been appointed by the Chairman, in which event such inspector or inspectors shall decide all such questions. Any stockholder directly or indirectly soliciting proxies from other stockholders must use a proxy card color other than white, which shall be reserved for the exclusive use by the Board of Directors.

A proxy shall not be valid after six months from the date of its execution, unless coupled with an interest, but no proxy shall be valid after seven years from the date of its execution, unless renewed or extended at any time before its expiration.

Section 11. LIST OF STOCKHOLDERS ENTITLED TO VOTE: A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in the name of each stockholder, shall be open to he examination of any stockholder, for any purpose germane to the meeting, for a period of ten (10) days ending on the day before the meeting date, (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to the stockholders of the Corporation.

Section 12. VOTING AND ELECTIONS: Each stockholder of record of any series of Preferred Stock shall be entitled at each meeting of the stockholders to such number of votes, if any, for each share of such stock as may be fixed in the Certificate of Incorporation or in the resolution or resolutions adopted by the Board of Directors provide for the issuance of such Preferred Stock, and each stockholder of record of Common Stock shall be entitled at each meeting of the stockholders to one vote for each share of such stock, in each case, registered in such stockholder's name on the books of the Corporation: (i) on the date fixed pursuant to Section 6 of Article II of these Bylaws as the record date for the determination of stockholders entitled to notice of and to vote at such meeting; or (ii) if no such record date shall have been so fixed, then at the close of business on the day next preceding the day on which notice of such meeting is given, or, if notice is waived, at the close of business on the day next preceding

notice of such meeting is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

At each meeting of the stockholders, all corporate actions to be taken by vote of the stockholders (other than the election of directors) shall be authorized by a majority of the votes cast by the stockholders entitled to vote thereon who are present in person or represented by proxy, and where a separate vote by class or series is required, a majority of the votes cast by the stockholders of such class or series who are present in person or represented by proxy shall be the act of such class or series. Directors shall be elected by a plurality of the votes cast at a meeting of the stockholders by the holders of stock entitled to vote in the election of directors, provided a quorum is present.

Section 13. VOTING OF SHARES BY CERTAIN HOLDERS: Shares standing in the name of another corporation may be voted by such officer, agent or proxy as the bylaws or a resolution of the board of directors of such corporation may prescribe, and a certified copy of the by-law or resolution is presented at the meeting.

Shares held by an administrator, executor, guardian or conservator may be voted by him, either in person or by proxy, without a transfer of shares into his name. A stockholder whose shares are pledged shall be entitled to vote such shares until the shares have been transferred into the name of the pledgee, and thereafter the pledgee shall be entitled to vote the shares so transferred.

Neither treasury shares of its own stock held by the Corporation, nor shares held by another corporation if a majority of the shares entitled to vote for the election of directors of such other corporation are held by the corporation, shall be voted at any meeting or counted in determining the total number of outstanding shares at any given time for purposes of any meeting.

Section 14. VOTING TRUST: A stockholder, by agreement in writing, may transfer his stock to a voting trustee or trustees for the purpose of conferring the right to vote thereon for a period not exceeding 15 years upon the terms and conditions therein stated. The certificates of stock so transferred shall be surrendered and canceled and new certificates therefor issued to such trustee or trustees in which it shall appear that they are issued pursuant to such agreement, and in the entry of such ownership in the proper books of such corporation that fact shall also be noted, and thereupon such trustee or trustees may vote upon the stock so transferred during the terms of such agreement. A duplicate of every such agreement shall be filed in the principal office of the corporation and at all times during such terms be open to inspection by any stockholder or his attorney.

~~Section 15. ACTION WITHOUT MEETING: Any action required or permitted to be taken by the stockholders of the Corporation must be effected at an annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.~~

Section ~~16~~15. NOMINATION OF DIRECTORS:

(a) In addition to the rights of the holders of any series of Preferred Stock, nominations of any person for election to the Board of Directors at an annual meeting or at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board of Directors, including by any committee or persons appointed by the Board of Directors, or (ii) by a stockholder who (A) was a stockholder of record (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Article ~~2.16~~2.15 and at the time of the meeting, (B) is entitled to vote at the meeting for the election of directors, and (C) has complied with this Article ~~2.16~~2.15 as to such nomination. The foregoing clause (ii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting or special meeting.

(b) Without qualification, in addition to such stockholder complying with the provisions of Rule 14a-19 under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), for a stockholder to make any nomination of a person or persons for election to the Board of Directors at an annual meeting, the stockholder must (i) provide Timely Notice (as defined in Article ~~2.17~~2.16) thereof in writing and in proper form to the Secretary of the Corporation either by personal delivery or by United

States mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article ~~2.16~~2.15. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to the Board of Directors at a special meeting, the stockholder must (i) provide timely notice thereof in writing and in proper form to the Secretary of the Corporation at the principal executive offices of the Corporation either by personal delivery or by United States mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article ~~2.16~~2.15.

To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the one hundred twentieth (120th) day prior to such special meeting and not later than the ninetieth (90th) day prior to such special meeting or, if such special meeting is announced later than the ninetieth day prior to the date of such special meeting, the tenth (10th) day following the day on which public disclosure (as defined in Article ~~2.16~~2.15) of the date of such special meeting was first made.

In no event shall any adjournment of an annual meeting or special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above.

(c) To be in proper form for purposes of this Article ~~2.16~~2.15, a stockholder's notice to the Secretary shall set forth:

(i) As to each Nominating Person (as defined below), the Stockholder Information (as defined in Article ~~2.17~~2.16(c)(i), except that for purposes of this Article ~~2.16~~2.15 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Article ~~2.17~~2.16(c)(i));

(ii) As to each Nominating Person, any Disclosable Interests (as defined in Article ~~2.17~~2.16(c)(ii), except that for purposes of this Article ~~2.16~~2.15 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Article ~~2.17~~2.16(c)(ii) and the disclosure in clause (L) of Article ~~2.17~~2.16(c)(ii) shall be made with respect to the election of directors at the meeting);

(iii) A representation that the Nominating Person is a holder or record or beneficial owner of shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice;

(iv) A representation as to whether the Nominating Person intends to solicit proxies in support of such person's nominee(s) in accordance with Rule 14a-19 under the Exchange Act;

(v) A representation as to whether the Nominating Person intends or is part of a group that intends (x) to deliver a proxy statement and/or a form of proxy to holders of at least the percentage of the Corporation's outstanding stock reasonably believed by the Nominating Person to be sufficient to elect the nominee or nominees proposed to be nominating by the Nominating Person;

(vi) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Article ~~2.16~~2.15 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is

required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Article 14(a) under the Exchange Act (including such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Article ~~2.17~~2.16(c)), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant, and (D) a completed and signed questionnaire, representation and agreement as provided in Article ~~2.16~~2.15(f); and

(vi) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's corporate governance guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

For purposes of this Article ~~2.16~~2.15, the term "Nominating Person" shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner, and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(d) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Article ~~2.16~~2.15 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to) any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Article ~~2.16~~2.15. The presiding officer at the meeting shall, if the facts warrant, determine that a nomination was not properly made in accordance with this Article ~~2.16~~2.15, and if he or she should so determine, he or she

shall so declare such determination to the meeting and the defective nomination shall be disregarded.

(f) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Article ~~2.16~~2.15) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in form provided by the Secretary upon written request) that such proposed nominee (i) is not

and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(g) In addition to the requirements of this Article ~~2.16~~2.15 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations. Unless otherwise required by law, (i) no Nominating Person shall solicit proxies in support of director nominees other than the Corporation's nominees unless such stockholder has complied with Rule 14a-19 under the Exchange Act in connection with the solicitation of such proxies, including the provision to the Corporation of notices required thereunder in a timely manner, and (ii) if such stockholder (1) provides notice pursuant to Rule 14a-19(b) under the Exchange Act and (2) subsequently fails to comply with all applicable requirements of Section 10 and this Article ~~2.16~~2.15 and Rules 14a-19(a)(2) and 14a-19(a)(3) under the Exchange Act, then the Corporation shall disregard any proxies or votes solicited for such Nominating Person's director nominees. Upon request by the Corporation, if any such Nominating Person provides notice pursuant to Rule 14a-19(b) under the Exchange Act, such Nominating Person shall deliver to the Corporation, no later than five (5) business days prior to the applicable meeting, reasonable evidence that it has met the requirements of Rule 14a-19(a)(3) under the Exchange Act.

Section ~~17~~16. NOTICE OF BUSINESS AT ANNUAL MEETINGS:

(a) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board of Directors, (ii) brought before the meeting by or at the direction of the Board of Directors, or (iii) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Article ~~2.17~~2.16 and

shares of the Corporation) both at the time of giving the notice provided for in this Article ~~2.17~~2.16 and at the time of the meeting, (B) is entitled to vote at the meeting, and (C) has complied with this Article ~~2.17~~2.16 as to such business. Except for proposals properly made in accordance with Rule 14a-8 under the Exchange Act, and included in the notice of meeting given by or at the direction of the Board of Directors, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting. Stockholders seeking to nominate persons for election to the Board must comply with Article ~~2.16~~2.15 and this Article ~~2.17~~2.16 shall not be applicable to nominations except as expressly provided in Article ~~2.16~~2.15.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder, the stockholder must (i) provide Timely Notice (as defined below) thereof in writing and in proper form to the Secretary of the Corporation either by personal delivery or by United States mail, postage prepaid, and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Article ~~2.17~~2.16. To be timely, a stockholder's notice must be delivered to, or mailed and received at, the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the one-year anniversary of the preceding year's annual meeting; provided, however, that if the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date, notice by the stockholder to be timely must be so delivered, or mailed and received, not later than the ninetieth (90th) day prior to such annual meeting or, if such annual meeting is announced later than the ninetieth day prior to the date of such annual meeting, the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"). In no event shall any adjournment of an annual meeting or the announcement thereof commence a new time period for the giving of Timely Notice as described above.

(c) To be in proper form for purposes of this Article ~~2.17~~2.16, a stockholder's notice to the Secretary shall set forth:

(i) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, if applicable, the name and address that appear on the Corporation's books and records); and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Persons, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (i) and (ii) are referred to as "Stockholder Information");

(ii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Article 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the

shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "Responsible Person"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including their names), and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Article 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner;

(iii) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including the text of any resolutions proposed for consideration), and (C) a reasonably detailed description of all

text of any resolutions proposed for consideration), and (C) a reasonably detailed description of all agreements, arrangements and understandings (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including their names) in connection with the proposal of such business by such stockholder;

(iv) A representation that the Proposing Person is a holder or record or beneficial owner of shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to propose the business specified in the notice; and

(v) A representation as to whether the Proposing Person intends to solicit proxies in support of such person's proposal.

For purposes of this Article ~~2.17~~2.16, the term "Proposing Person" shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for purposes of these Bylaws) of such stockholder or beneficial owner, and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

A person shall be deemed to be "Acting in Concert" with another person for purposes of these Bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (A) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (B) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; provided, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Article 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(d) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Article ~~2.17~~2.16 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to) any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary, no business shall be conducted at an annual meeting except in accordance with this Article ~~2.17~~2.16. The presiding officer of the meeting shall, if the facts warrant, determine that the business was not properly brought before the meeting in accordance with this Article ~~2.17~~2.16, and if he or she should so determine, he or she shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

(f) This Article ~~2.17~~2.16 is expressly intended to apply to any business proposed to be brought before an annual meeting of stockholders other than any proposal made pursuant to Rule 14a-8 under the Exchange Act. In addition to the requirements of this Article ~~2.17~~2.16 with respect to any business proposed to be brought before an annual meeting, each Proposing Person shall comply with all applicable requirements of the Exchange Act with respect to any such business. Nothing in this Article ~~2.17~~2.16 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(g) For purposes of these Bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Articles 13, 14 or 15(d) of the Exchange Act.

Section ~~18~~17. CONDUCT OF MEETINGS:

(a) Meetings of stockholders shall be presided over by the Chairman or in the Chairman's absence by the Chief Executive Officer, or in the Chief Executive Officer's absence by the President (if the President shall be a different individual than the Chief Executive Officer), or in the President's absence by a Vice President, or in the absence of all of the foregoing persons by a chairman designated by the Board of Directors, or in the absence of such designation by a chairman chosen by vote of the stockholders at the meeting. The Secretary shall act as secretary of the meeting, but in the Secretary's absence the chairman of the meeting may appoint any person to act as secretary of the meeting.

(b) The Board of Directors of the Corporation may adopt by resolution such rules, regulations and procedures for the conduct of any meeting of stockholders of the Corporation as it shall deem appropriate including, without limitation, such guidelines and procedures as it may deem appropriate regarding the participation by means of remote communication of stockholders and proxyholders not physically present at a meeting. Except to the extent inconsistent with such rules, regulations and procedures as adopted by the Board of Directors, the chairman of any meeting of stockholders shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board of Directors or prescribed by the chairman of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as shall be determined; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (v) limitations on the time allotted to questions or comments by participants.

Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

(c) The chairman of the meeting shall announce at the meeting when the polls for each matter to be voted upon at the meeting will be opened and closed. If no announcement is made, the polls shall be deemed to have opened when the meeting is convened and closed upon the final adjournment of the meeting. After the polls close, no ballots, proxies or votes or any revocations or changes thereto may be accepted.

(d) In advance of any meeting of stockholders, the Board of Directors, the Chairman or the Chief Executive Officer shall appoint one or more inspectors of election to act at the meeting and make a written report thereof. One or more other persons may be designated as alternate inspectors to

replace any inspector who fails to act. If no inspector or alternate is present, ready and willing to act at a meeting of stockholders, the chairman of the meeting shall appoint one or more inspectors to act at the meeting. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Each inspector, before entering upon the discharge of such inspector's duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of such inspector's ability. The inspector shall have the duties prescribed by law and shall take charge of the polls and, when the vote is completed, shall make a certificate of the result of the vote taken and of such other facts as may be required by law.

ARTICLE III – DIRECTORS

Section 1. NUMBER AND TERM. The business of this Corporation shall be managed by a Board of Directors which shall consist of not less than three (3) directors nor more than nine (9) directors, who need not be residents of the State of Delaware or stockholders of the Corporation. The exact number of directors within the minimum and maximum limitations specified in the preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors, which number shall initially be six (6). Except as otherwise provided in the Certificate of Incorporation, each director shall serve for a term ending on the date of the annual meeting of stockholders next following the annual meeting at which such director was elected. Notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders.

Section 2. REGULAR MEETINGS: Each newly elected Board of Directors may hold its first meeting for the purpose of organization and the transaction of business, if a quorum is present, immediately after and at the same place as the annual meeting of the stockholders. Notice of such meeting shall not be required. At the first meeting of the Board of Directors in each year at which a quorum shall be present, held next after the annual meeting of stockholders, the Board of Directors shall proceed to the election of the officers of the Corporation. Regular meetings of the Board of Directors shall be held at such times and places as shall be designated from time to time by resolution of the Board of Directors. Notice of such regular meetings shall not be required.

Section 3. SPECIAL MEETINGS: Special meetings of the Board of Directors may be called by the Chairman of the Board, or on the written request of any two directors, by the Secretary, in each case on at least twenty-four (24) hours personal, written, telegraphic, cable or wireless notice to each director. Such notice, or any waiver thereof pursuant to Article 3.4 hereof, shall state the time and place of the special meeting, but need not state the purpose or purposes of such meeting, except as may otherwise be required by law or provided for in the Certificate of Incorporation or these Bylaws. If the day or date, time and place of a meeting of the Board of Directors has been announced at a previous meeting of the board, no notice is required. Notice of an adjourned meeting of the Board of Directors need not be given other than by announcement at the meeting at which adjournment is taken.

Section 4. NOTICE WAIVER: Notice of any meeting of the Board of Directors may be waived by any director either before, at or after such meeting orally or in a writing signed by such director. A director, by his or her attendance at any meeting of the Board of Directors, shall be deemed to have waived notice of such meeting, except where the director objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened and does not participate thereafter in the meeting. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the Board of Directors need be specified in the notice or waiver of notice of such meeting.

Section 5. QUORUM AND MANNER OF ACTING: Unless otherwise provided in the Certificate of Incorporation, a majority of the total number of directors then in office shall constitute a quorum for the transaction of business of the Board of Directors and the vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 6. RESIGNATION. Any director may resign at any time by giving notice in writing or by electronic transmission to the Board of Directors or to the Secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 7. NEWLY CREATED DIRECTORSHIPS. A directorship to be filled by reason of any increase in the number of directors may be filled (i) by election at an annual or special meeting of stockholders called for that purpose or (ii) by the Board of Directors for a term of office continuing only until the next election of one or more directors by the stockholders.

Section 8. VACANCIES IN THE BOARD OF DIRECTORS. Any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 9. REMOVAL OF DIRECTORS. Except as may otherwise be provided by law, any director or the entire Board of Directors may be removed, with or without cause, at an annual meeting or at a special meeting called for that purpose, by the affirmative vote of the holders of a majority of the shares then entitled to vote at an election of directors.

Section 10. ACTION WITHOUT A MEETING; TELEPHONE CONFERENCE MEETING: Unless otherwise restricted by the Certificate of Incorporation, any action required or permitted to be taken at any meeting of the Board of Directors, or any committee designated by the Board of Directors, may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, either originally or in counterparts, consent thereto in writing. Such consent shall have the same force and effect as a unanimous vote at a meeting, and may be stated as such in any document or instrument filed with the Secretary of State of Delaware.

Unless otherwise restricted by the Certificate of Incorporation, subject to the requirement for notice of meetings, members of the Board of Directors, or members of any committee designated by the Board of Directors, may participate in a meeting of such Board of Directors or committee, as the case may be, by means of a conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in such a meeting shall constitute presence in person at such meeting, except where a person participates in the meeting for the express purpose of objecting to the transaction of any business on the grounds that the meeting is not lawfully called or convened.

Section 10. EXECUTIVE AND OTHER COMMITTEES:

(a) The Board of Directors, by resolution adopted by a majority of the number of directors then in office may designate from among its members an executive committee and one or more other committees, each consisting of two or more directors, and each of which, to the extent provided in

the resolution or in the charter or these Bylaws shall have and may exercise all of the authority of the Board of Directors except the power to:

(i) Declare dividends or distributions on stock;

(ii) Issue stock other than as provided in subsection (b) of this Article.

(iii) Recommend to the stockholders any action which requires stockholder approving, including, but not limited to, adopting an agreement of merger or consolidation, the sale, lease or exchange of all or substantially all of the Corporation's property and assets, a dissolution of the Corporation or a revocation of a dissolution of the Corporation; or

(iv) Amend the Certificate of Incorporation or the Bylaws.

(b) If the Board of Directors has given general authorization for the issuance of stock, a committee of the Board, in accordance with a general formula or method specified by the board by resolution or by adoption of a stock option or other plan, may fix the terms of stock subject to classification or reclassification and the terms on which any stock may be issued, including all terms and conditions required or permitted to be established or authorized by the Board of Directors under the Delaware General Corporation Law.

(c) The appointment of any committee, the delegation of authority to it or action by it under that authority does not constitute of itself, compliance by any director not a member of the committee, with the standard provided by statute for the performance of duties of directors.

(d) Any committee designated pursuant to this Article 3.10 shall choose its own chairman, shall keep regular minutes of its proceedings and report the same to the Board of Directors when requested, shall fix its own rules or procedures, and shall meet at such times and at such place or places as may be provided by such rules, or by resolution of such committee or resolution of the Board of Directors. At every meeting of any such committee, the presence of a majority of all the members thereof shall constitute a quorum and the affirmative vote of a majority of the members present shall be necessary for the adoption by it of any resolution.

(e) The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of such committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not constituting a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

Section 11. CHAIRMAN OF THE BOARD: The Board shall elect from its members a Chairman, which Chairman shall preside at all meetings of the stockholders and the directors. The Chairman shall serve in such capacity until his or her successor is elected by the Board or until his or her earlier

resignation or removal from the Board. He or she shall also perform such other duties the Board may assign to him or her from time to time.

Section 12. COMPENSATION: By resolution of the Board of Directors, each director may be paid his expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a stated salary as director or a fixed sum for attendance at each meeting of the Board of Directors or both. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

Section 13. PRESUMPTION OF ASSENT: A director of the Corporation who is present at a meeting of the board of Directors at which action on any corporate matter is taken unless he shall announce his dissent at the meeting and his dissent is entered in the minutes and he shall forward such dissent by registered mail to the secretary of the corporation immediately after the adjournment of the meeting. Such right to dissent shall not apply to a director who voted in favor of such action.

ARTICLE IV – OFFICERS

Section 1. NUMBER, TITLES, AND TERM OF OFFICE: The officers of the Corporation shall be chosen by the Board of Directors and shall include a Chief Executive Officer, President, Chief Operating Officer, Chief Financial Officer, President, one or more Vice Presidents (any one or more of whom may be designated Executive Vice President or Senior Vice President), a Treasurer, a Secretary, and such other officers as the Board of Directors may from time to time elect or appoint. Each officer shall hold office until his successor shall be duly elected and shall qualify or until his death or until he shall resign or shall have been removed in the manner hereinafter provided. Any number of offices may be held by the same person, unless the Certificate of Incorporation provides otherwise. Except for the Chairman of the Board, if any, no officers need be a director.

Section 2. SALARIES: The salaries or other compensation of the officers and agents of the Corporation shall be fixed from time to time by the Board of Directors.

Section 3. REMOVAL: Any officer or agent elected or appointed by the Board of Directors may be removed, either with or without cause, by the vote of a majority of the whole Board of Directors at a special meeting called for the purpose, or at any regular meeting of the Board of Directors, provided the notice for such meeting shall specify that the matter of any such proposed removal will be considered at the meeting but such removal shall be without prejudice to the contract rights, if any, of the person so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

Section 4. VACANCIES: Any vacancy occurring in any office of the Corporation may be filled by the Board of Directors.

Section 5. CHIEF EXECUTIVE OFFICER: The Chief Executive Officer shall, in the absence of the Chairman, preside at all meetings of the stockholders. Subject to the control of the Board of Directors and the executive committee (if any), the Chief Executive Officer shall have general executive charge, management and control of the properties, business and operations of the Corporation with all such powers as may be reasonably incident to such responsibilities; he may agree upon and execute all leases, contracts, evidences of indebtedness and other obligations in the name of the Corporation and may sign all certificates for shares of capital stock of the Corporation and shall have such other powers and duties

as designated in accordance with these Bylaws and as from time to time may be assigned to him by the Board of Directors.

Section 6. PRESIDENT: Subject to such supervisory powers, if any, as may be given by the Board to the Chief Executive Officer, the President shall have general supervision, direction, and control of the business and other officers of the corporation. The President shall have the general powers and duties of management usually vested in the office of President of a corporation and shall have such other powers and duties as may be prescribed by the Board or these Bylaws. If, for any reason, the Corporation does not have a Chairman or Chief Executive Officer, or such officers are unable to act, the President shall assume the duties of those officers.

Section 7. CHIEF OPERATING OFFICER: The Chief Operating Officer shall supervise the operation of the Corporation, subject to the policies and directions of the Board. He or she shall provide for the proper operation of the Corporation and oversee the internal interrelationship amongst any and all departments of the Corporation. He or she shall submit to the Chief Executive Officer, the President, the Chairman and the Board timely reports on the operations of the Corporation.

Section 8. CHIEF FINANCIAL OFFICER: The Chief Financial Officer shall have general supervision, direction and control of the financial affairs of the Corporation. He or she shall provide for the establishment of internal controls and see that adequate audits are currently and regularly made. He or she shall submit to the Chief Executive Officer, the President, the Chief Operating Officer, the Chairman and the Board timely statements of the accounts of the Corporation and the financial results of the operations thereof. The Chief Financial Officer shall perform such other duties and have such other powers as may be prescribed by the Board or these Bylaws, all in accordance with basic policies as established by and subject to the oversight of the Board and the Chief Executive Officer. In the absence of a named Treasurer, the Chief Financial Officer shall also have the powers and duties of the Treasurer as hereinafter set forth and shall be authorized and empowered to sign as Treasurer in any case where such officer's signature is required.

Section 9. VICE PRESIDENTS: In the absence of the President, or in the event of his inability or refusal to act, a Vice President designated by the Board of Directors shall perform the duties of the President, and when so acting shall have all the powers of and be subject to all the restrictions of the President. In the absence of a designation by the Board of Directors of a Vice President to perform the duties of the President, or in the event of his absence or inability or refusal to act, the Vice President who is present and who is senior in terms of time as a Vice President of the Corporation shall so act. The Vice Presidents shall perform such other duties and have such other powers as the chief executive officer or the Board of Directors may from time to time prescribe.

Section 10. TREASURER: The Treasurer shall have responsibility for the custody and control of all the funds and securities of the Corporation, and he shall have such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the Board of Directors. He shall perform all acts incident to the position of Treasurer, subject to the control of the chief executive officer and the Board of Directors; and he shall, if required by the Board of Directors, give such bond for the faithful discharge of his duties in such form as the Board of Directors may require.

Section 11. ASSISTANT TREASURERS: Each Assistant Treasurer shall have the usual powers and duties pertaining to his office, together with such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the chief executive officer or the Board of Directors. The Assistant Treasurers shall exercise the powers of the Treasurer during that officer's absence or inability or refusal to act.

Section 12. SECRETARY: The Secretary shall keep the minutes of all meetings of the Board of Directors, committees of directors and the stockholders, in books provided for that purpose; he shall attend to the giving and serving of all notices; he may in the name of the Corporation affix the seal of the Corporation to all contracts of the Corporation and attest the affixation of the seal of the Corporation thereto; he may sign with the other appointed officers all certificates for shares of capital stock of the Corporation; he shall have charge of the certificate books, transfer books and stock ledgers, and such other books and papers as the Board of Directors may direct, all of which shall at all reasonable times be open to inspection of any director upon application at the office of the Corporation during business hours; he shall have such other powers and duties as designated in these Bylaws and as from time to time

may be assigned to him by the Board of Directors; and he shall in general perform all acts incident to the office of Secretary, subject to the control of the chief executive officer and the Board of Directors.

Section 13. ASSISTANT SECRETARIES: Each Assistant Secretary shall have the usual powers and duties pertaining to his office, together with such other powers and duties as designated in these Bylaws and as from time to time may be assigned to him by the chief executive officer or the Board of Directors. The Assistant Secretaries shall exercise the powers of the Secretary during that officer's absence or inability or refusal to act.

ARTICLE V – INDEMNIFICATION OF OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS

Section 1. INDEMNIFICATION: The Corporation shall indemnify and hold harmless, to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), any person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than action by or in the right of the Corporation) by reason of the fact that he is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (an "indemnitee"), against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by an indemnitee in connection with such action, suit or proceeding if such indemnitee acted in good faith and in a manner such indemnitee reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such conduct was unlawful; provided, however, that, except as provided in Article 5.3 with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such indemnitee in connection with a proceeding (or part thereof) initiated by such indemnitee only if such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the indemnitee did not act in good faith and in a manner which such indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that such conduct was unlawful. The right to indemnification conferred by this Article 5.1 shall vest at the time an individual becomes an indemnitee.

Section 2. RIGHT TO ADVANCEMENT OF EXPENSES: The right to indemnification conferred in Article 5.1 shall include the right to be paid by the Corporation the expenses incurred in defending any such proceeding in advance of its final disposition (hereinafter an "advancement of expenses"); provided, however, that, if the Delaware General Corporation Law requires, an advancement of expenses incurred by an indemnitee in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "undertaking"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal (hereinafter a "final adjudication") that such indemnitee is not entitled to be indemnified for such

expenses under this Article 5.2 or otherwise. The rights to indemnification and to the advancement of expenses conferred in Articles 5.1 and 5.2 shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the indemnitee's heirs, executors, and administrators.

Section 3. RIGHT OF INDEMNITEE TO BRING SUIT: If a claim under Article 5.1 or 5.2 is not paid in full by the Corporation within sixty (60) days after a written claim has been received by the corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be twenty (20) days, the indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit. In (i) any suit brought by the indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the indemnitee to enforce a right to an advancement of expenses) it shall be a defense that, and (ii) in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that, the indemnitee has not met any applicable standard for indemnification set forth in the Delaware General Corporation Law. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to indemnification, or to such advancement of expenses, under this Article 5 or otherwise shall be on the Corporation.

Section 4. NON-EXCLUSIVITY OF RIGHTS: The rights to indemnification and to the advancement of expenses conferred in this Article 5 shall not be exclusive of any other right which any person may have or hereafter acquire under any statute, the corporation's Certificate of Incorporation, Bylaws, agreement, vote of stockholders, or disinterested directors or otherwise.

Section 5. INSURANCE: The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee, or agent of the Corporation or another corporation, partnership, joint venture, trust, or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

Section 6. INDEMNIFICATION OF EMPLOYEES AND AGENTS OF THE CORPORATION: The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation to the fullest extent of the provisions of this Article 5 with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

Section 7. AMENDMENT OR MODIFICATION: This Article 5 may be altered or amended at any time as provided in these Bylaws, but no such amendment shall have the effect of diminishing the rights of any person who is or was an officer or director as to any acts or omissions taken or omitted to be taken prior to the effective date of such amendment.

ARTICLE VI – CONTRACTS, LOANS, CHECKS AND DEPOSITS

Section 1. CONTRACTS: The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or execute and deliver any instrument in the name of on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2. LOANS: No loans shall be contracted on behalf of the Corporation and no evidences of indebtedness shall be issued in its name unless authorized by a resolution of the Board of Directors. Such authority may be general or confined to specific instances.

Section 3. CHECKS, DRAFTS, ETC.: All checks, drafts, or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation, shall be signed by such officer or officers, agent or agents of the Corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 4. DEPOSITS: All funds of the Corporation not otherwise employed shall be deposited from time to time to the credit of the Corporation in such banks, trust companies or other depositories as the Board of Directors may select.

ARTICLE VII CERTIFICATES FOR SHARES AND THEIR TRANSFER

Section 1. CERTIFICATES FOR SHARES: Notwithstanding any other provision in these Bylaws, any or all classes and series of shares of the Corporation, or any part thereof, may be represented by uncertificated shares, except that shares represented by a certificate that is issued and outstanding shall continue to be represented thereby until the certificate is surrendered to the corporation. Within a reasonable time after the issuance or transfer of uncertificated shares, the Corporation shall send to the registered owner thereof, a written notice containing the information required to be set forth or stated on certificates. The rights and obligations of the holders of shares represented by certificates and the rights and obligations of the holders of uncertificated shares of the same class or series shall be identical. If certificates for the shares of the Corporation are issued, each will be in such form as shall be determined by the Board of Directors. Such certificates shall be signed by the president or vice president and countersigned by the secretary or an assistant secretary and sealed with the Corporation seal or a facsimile thereof. The signatures of such officers upon a certificate may be facsimile signatures if the certificate is manually signed on behalf of a transfer agent or a registrar other than the Corporation or an employee of the Corporation. Each certificate for shares shall be consecutively numbered or otherwise identified. The name and address of the person to whom the shares represented thereby are issued, with the number of shares and date of issue, shall be entered on the stock transfer books of the Corporation. All certificates surrendered to the Corporation for transfer shall be cancelled and no new certificates shall be issued until the former certificates for a like number of shares shall have been surrendered and cancelled, except that in case of a lost, destroyed or mutilated certificate, a new one may be issued therefor upon such terms and indemnity to the Corporation as the Board of Directors may prescribe.

Section 2. TRANSFER OF SHARES: Transfer of shares of the Corporation shall be made only on the stock transfer books of the Corporation by the holder of record thereof or by his legal representative, who shall furnish proper evidence of authority to transfer, or by his attorney thereunto authorized by power of attorney duly executed and filed with the secretary of the corporation, and on surrender for cancellation of the certificate for such shares. The person in whose name shares stand on the books of the Corporation shall be deemed by the Corporation to be the owner thereof for all purposes.

ARTICLE VIII – FISCAL YEAR

Section 1. The fiscal year of the Corporation shall be determined by the Board of Directors.

ARTICLE IX – DIVIDENDS

Section 1. The Board of Directors may, from time to time, declare and the Corporation may pay dividends on its outstanding shares in the manner, and upon the terms and conditions provided by law and its Certificate of Incorporation.

ARTICLE X – CORPORATE SEAL

Section 1. The Board of Directors shall provide a corporate seal which shall be circular in form and shall have inscribed thereon the name of the Corporation, the year of its incorporation and the words, "Corporate Seal," and "Delaware."

ARTICLE XI – WAIVER OF NOTICE

Section 1. Whenever notice is required to be given by law, the Certificate of Incorporation or under any of the provisions of these Bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors, or members of a committee of directors need be specified in any written waiver of notice unless so required by the Certificate of Incorporation or the Bylaws.

ARTICLE XII – FORUM FOR ADJUDICATION OF DISPUTES

Section 1. Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Certificate of Incorporation or Bylaws (as either may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine shall be the Court of Chancery in the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware). If any action the subject matter of which is within the scope of the preceding sentence is filed in a court other than a court located within the State of Delaware (a "Foreign Action") in the name of any stockholder, such stockholder shall be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the preceding sentence and (ii) having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

ARTICLE XIII – AMENDMENTS

Section 1. Stockholders of the Corporation holding at least 66 2/3% of the Corporation's outstanding voting stock shall have the power to adopt, amend or repeal the Bylaws. To the extent provided in the Corporation's Certificate of Incorporation, the Board of Directors of the Corporation shall also have the power to adopt, amend or repeal the Bylaws of the Corporation.

Summary report: **Litera Compare for Word 11.3.0.46 Document comparison done on 3/25/2024 2:21:46 PM**	
Style name: ReedSmith Standard	
Intelligent Table Comparison: Active	
Original DMS: iw://us-digitalfile.reedsmith.com/US_ACTIVE/177079042/1	
Modified DMS: iw://us-digitalfile.reedsmith.com/US_ACTIVE/177079042/4	
Changes:	
Add	44
~~Delete~~	45
~~Move From~~	0
Move To	0
Table Insert	0
~~Table Delete~~	0
Table moves to	0
~~Table moves from~~	0
Embedded Graphics (Visio, ChemDraw, Images etc.)	0
Embedded Excel	0
Format changes	0
Total Changes:	89

Exhibit 10.6

PROPHASE LABS, INC.

2022 DIRECTORS' EQUITY COMPENSATION PLAN

OPTION AWARD AGREEMENT

THIS AGREEMENT (the "Agreement"), is made effective as of the ____th day of _____ (hereinafter called the "Date of Grant"), between ProPhase Labs, Inc., a Delaware corporation (hereinafter called the "Company"), and _____ (hereinafter called the "Participant"):

RECITALS:

WHEREAS, the Company has adopted 2022 Directors' Equity Compensation Plan (as amended from time to time, the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement. Capitalized terms not otherwise defined herein shall have the same meanings as in the Plan; and

WHEREAS, the Committee has determined that it would be in the best interests of the Company and its shareholders to grant the option provided for herein to the Participant pursuant to the Plan and the terms set forth herein.

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1. Grant of the Option. The Company hereby grants to the Participant the right and option (the "Option") to purchase, on the terms and conditions hereinafter set forth, all or any part of an aggregate of _____ Shares, subject to adjustment as set forth in the Plan. The purchase price of the Shares subject to the Option shall be $_____ per Share (the "Option Price"). The Option is intended to be a non-qualified stock option, and is not intended to be treated as an option that complies with Section 422 of the Internal Revenue Code of 1986, as amended.

2. Vesting.

(a) All Options granted pursuant to the Plan shall vest and become exercisable: _____

3. Exercise of Option.

(a) Period of Exercise. Subject to the provisions of the Plan and this Agreement, the Participant may exercise all or any part of the vested portion of the Option at any time prior to the earliest to occur of:

(i) the seventh anniversary of the Date of Grant;

(ii) one year following the date of the Participant's separation from service due to death or Disability; and

(iii) the date of the Participant's separation from service by the Company for Cause.

For purposes of this agreement, "Cause" shall mean (i) the willful failure or refusal by such Participant to perform his or her duties to the Company or its Affiliates (other than any such failure resulting from such Participant's incapacity due to physical or mental illness), which has not ceased within ten days after a written demand for substantial performance is delivered to such Participant by the Company, which demand identifies the manner in which the Company believes that such Participant has not performed such duties; (ii) the willful engaging by such Participant in misconduct which is materially injurious to the Company or its Affiliates, monetarily or otherwise (including breach of any confidentiality or non-competition covenants to which such Participant is bound); (iii) the conviction of such Participant of, or the entering of a plea of nolo contendere by such Participant with respect to, a felony or to any crime which is materially injurious to the Company or its Affiliates; or (iv) substantial or repeated acts of dishonesty by such Participant in the performance of his/her duties to the Company or its Affiliates. The determination of the existence of Cause shall be made by the remainder of the Board in good faith.

(b) Method of Exercise.

(i) Subject to Section 3(a), the vested portion of the Option may be exercised by delivering to the Company at its principal office written notice of intent to so exercise; provided that, the Option may be exercised with respect to whole Shares only. Such notice shall specify the number of Shares for which the Option is being exercised and shall be accompanied by payment in full of the Option Price. The payment of the Option Price may be made at the election of the Participant (i) in cash or its equivalent (e.g., by check), (ii) to the extent permitted by the Committee, in Shares having a Fair Market Value equal to the aggregate Option Price for the Shares being purchased and satisfying such other requirements as may be imposed by the Committee; provided, that such Shares have been held by the Participant for no less than six months (or such other period as established from time to time by the Committee in order to avoid adverse accounting treatment applying generally accepted accounting principles), (iii) partly in cash and, to the extent permitted by the Committee, partly in such Shares, (iv) if there is a public market for the Shares at such time, through the delivery of irrevocable instructions to a broker to sell Shares obtained upon the exercise of the Option and to deliver promptly to the Company an amount out of the proceeds of such Sale equal to the aggregate option price for the Shares being purchased, or (v) through a "net settlement" as described in Section 6(c) of the Plan. No Participant shall have any rights to dividends or other rights of a stockholder with respect to Shares subject to an Option until the Participant has given written notice of exercise of the Option, paid in full for such Shares and, if applicable, has satisfied any other conditions imposed by the Committee pursuant to the Plan.

(ii) Notwithstanding any other provision of the Plan or this Agreement to the contrary, the Option may not be exercised prior to the completion of any registration or qualification of the Option or the Shares under applicable state and federal securities or other laws, or under any ruling or regulation of any governmental body or national securities exchange that the Committee shall in its sole discretion determine to be necessary or advisable.

(iii) In the event of the Participant's death, the vested portion of the Option shall remain exercisable by the Participant's executor or administrator, or the person or persons to whom the Participant's rights under this Agreement shall pass by will or by the laws of descent and distribution as the case may be, to the extent set forth in Section 3(a). Any heir or legatee of the Participant shall take rights herein granted subject to the terms and conditions hereof.

4. Change of Control. Upon a Change of Control (as defined by the Plan), the terms of the Plan shall apply.

5. Option Recovery. If the Committee determines that the Participant (a) engaged in conduct that constituted Cause as defined in Section 3(a) of this Agreement at any prior to the Participant's termination of services, (b) engaged in conduct during the 6 month period after the Participant's termination of services that would have constituted Cause if the Participant had not ceased to provide services, or (c) violates the terms of any non-compete agreement, non-solicitation agreement, confidentiality agreement, or any other restriction on the Participant's post-termination activities established under any agreement with the Company or other Company policy or arrangement during the 6 months after the Participant's ceases to provide services to the Company, then (i) any Option held by the Participant shall immediately terminate, and the Participant shall automatically forfeit all Shares underlying any exercised portion of an Option for which the Company has not yet delivered the Share certificates, upon refund by the Company of the Exercise Price paid by the Participant for such Shares and (ii) the Participant shall return any Shares received upon exercise of this Option or repay to the Company any proceeds received from the sale of other disposition of the Shares transferred pursuant to this Option less the Exercise Price. Upon any exercise of an Option, the Company may withhold delivery of share certificates pending resolution of an inquiry that could lead to a finding resulting in a forfeiture under this Section.

6. Transferability. The Option may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by the Participant otherwise than by will or by the laws of descent and distribution, and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable against the Company or any Affiliate; provided that the designation of a beneficiary shall not constitute an assignment, alienation, pledge, attachment, sale, transfer or encumbrance. No such permitted transfer of the Option to heirs or legatees of the Participant shall be effective to bind the Company unless the Committee shall have been furnished with written notice thereof and a copy of such evidence as the Committee may deem necessary to establish the validity of the transfer and the acceptance by the transferee or transferees of the terms and conditions hereof. During the Participant's lifetime, the Option is exercisable only by the Participant.

7. Withholding. The Participant may be required to pay to the Company or any Affiliate and the Company shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Option, its exercise or any payment or transfer under or with respect to the Option and to take such

other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes.

8. Securities Laws. Upon the acquisition of any Shares pursuant to the exercise of the Option, the Participant will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or with this Agreement.

9. Notices. Any notice necessary under this Agreement shall be addressed to the Company in care of its Secretary at the principal executive office of the Company and to the Participant at the address appearing in the personnel records of the Company for the Participant or to either party at such other address as either party hereto may hereafter designate in writing to the other. Any such notice shall be deemed effective upon receipt thereof by the addressee.

10. Choice of Law. This Agreement shall be governed by and construed in accordance with the laws of the state of Delaware without regard to conflicts of laws.

11. Option Subject to Plan. By entering into this Agreement the Participant agrees and acknowledges that the Participant has received and read a copy of the Plan. The Option is subject to the Plan. The terms and provisions of the Plan, as they may be amended from time to time, are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern and prevail.

12. 13. Section 409A. The Company intends that income realized by the Participant pursuant to the Plan and this Agreement will not be subject to taxation under Section 409A of the Code. The provisions of the Plan and this Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A of the Code. In the event that it is reasonably determined by the Committee that, as a result of Section 409A of the Code, any payment or delivery of Shares in respect of the Option may not be made at the time contemplated by the terms of the Plan or the this Agreement, as the case may be, without causing Participant to be subject to taxation under Section 409A of the Code, the Company shall use reasonably commercial efforts to make such payment or delivery of Shares on the first day that would not result in the Participant incurring any tax liability under Section 409A of the Code. If Participant is a "specified employee" (within the meaning of Section 409A(a)(2)(B)(i) of the Code), any payment and/or delivery of Shares in respect of the Option that are linked to the date of the Participant's separation from service shall not be made prior to the date which is six (6) months after the date of such Participant's separation from service from the Company, determined in accordance with Section 409A of the Code and the regulations promulgated thereunder. The Company, in its reasonable discretion, may amend (including retroactively) the Plan and this Agreement in order to conform to the applicable requirements of Section 409A of the Code, including amendments to facilitate the Participant's ability to avoid taxation under Section 409A of the Code. However, the preceding provisions shall not be construed as a guarantee by the Company of any particular tax result for income realized by the Participant pursuant to the Plan or this Agreement. In any event, the Company shall be responsible for the payment of any applicable taxes on income realized by the Participant pursuant to the Plan or this Agreement.

13. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[*Signatures on next page.*]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the day and year first above written.

PROPHASE LABS, INC.

Name:
Title:

PARTICIPANT

Name:
Title:

Exhibit 10.5

PROPHASE LABS, INC.

2022 EQUITY COMPENSATION PLAN

OPTIONS AWARD AGREEMENT

ProPhase Labs, Inc. (the "Company") has granted you an Incentive Stock Option (the "Option") under the 2022 Equity Compensation Plan (as amended from time to time, the "Plan"). The terms of the Option are set forth in the Option Grant Agreement provided to you (the "Agreement"). The following provides a summary of the key terms of the Option; however, you should read the entire Agreement, along with the terms of the Plan, to fully understand the Option.

SUMMARY OF STOCK OPTION GRANT

Option Number:
Participant:
Date of Grant:
Vesting Schedule:
Exercise Price Per Share:
Total Number of Options Granted:
Term/Expiration Date:

PROPHASE LABS, INC.

2022 EQUITY COMPENSATION PLAN

OPTION AWARD AGREEMENT

THIS AGREEMENT (the "Agreement"), is made effective as of the ___th day of _____ (hereinafter called the "Date of Grant"), between ProPhase Labs, Inc., a Delaware corporation (hereinafter called the "Company"), and _____ (hereinafter called the "Participant"):

R E C I T A L S:

WHEREAS, the Company has adopted The 2022 Equity Compensation Plan (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement. Capitalized terms not otherwise defined herein shall have the same meanings as in the Plan; and

WHEREAS, the Committee has determined that it would be in the best interests of the Company and its shareholders to grant the option provided for herein to the Participant pursuant to the Plan and the terms set forth herein.

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1. Grant of the Option. The Company hereby grants to the Participant the right and option (the "Option") to purchase, on the terms and conditions hereinafter set forth, all or any part of an aggregate of _____ Shares, subject to adjustment as set forth in the Plan. The purchase price of the Shares subject to the Option shall be **$**____ per Share (the "Option Price"). The Option is intended to be an incentive stock option, and is not intended to be treated as an option that complies with Section 422 of the Internal Revenue Code of 1986, as amended.

2. Vesting.

(a) All Options granted pursuant to the Plan shall vest and become exercisable in accordance with the following schedule:

_____

3. Exercise of Option.

(a) Period of Exercise. Subject to the provisions of the Plan and this Agreement, the Participant may exercise all or any part of the Vested portion of the Option at any time prior to the earliest to occur of:

(i) the seventh anniversary of the Date of Grant;

(ii) one year following the date of the Participant's termination of Employment due to death or Disability;

(iii) three months following the date of the Participant's termination of Employment by the Company without Cause;

(iv) the date of the Participant's termination of Employment by the Company for Cause or by the Participant for any reason.

For purposes of this agreement, "Cause" shall mean "Cause" as defined in any employment agreement then in effect between the Participant and the Company or if not defined therein or, if there shall be no such agreement, (i) the willful failure or refusal by such Participant to perform his or her duties to the Company or

its Affiliates (other than any such failure resulting from such Participant's incapacity due to physical or mental illness), which has not ceased within ten days after a written demand for substantial performance is delivered to such Participant by the Company, which demand identifies the manner in which the Company believes that such Participant has not performed such duties; (ii) the willful engaging by such Participant in misconduct which is materially injurious to the Company or its Affiliates, monetarily or otherwise (including breach of any confidentiality or non-competition covenants to which such Participant is bound); (iii) the conviction of such Participant of, or the entering of a plea of nolo contendere by such Participant with respect to, a felony or to any crime which is materially injurious to the Company or its Affiliates; or (iv) substantial or repeated acts of dishonesty by such Participant in the performance of his/her duties to the Company or its Affiliates. The determination of the existence of Cause shall be made by the Committee in good faith.

(b) Method of Exercise.

(i) Subject to Section 3(a), the Vested Portion of the Option may be exercised by delivering to the Company at its principal office written notice of intent to so exercise; provided that, the Option may be exercised with respect to whole Shares only. Such notice shall specify the number of Shares for which the Option is being exercised and shall be accompanied by payment in full of the Option Price. The payment of the Option Price may be made at the election of the Participant (i) in cash or its equivalent (e.g., by check), (ii) to the extent permitted by the Committee, in Shares having a Fair Market Value equal to the aggregate Option Price for the Shares being purchased and satisfying such other requirements as may be imposed by the Committee; provided, that such Shares have been held by the Participant for no less than six months (or such other period as established from time to time by the Committee in order to avoid adverse accounting treatment applying generally accepted accounting principles), (iii) partly in cash and, to the extent permitted by the Committee, partly in such Shares, or (iv) if there is a public market for the Shares at such time, through the delivery of irrevocable instructions to a broker to sell Shares obtained upon the exercise of the Option and to deliver promptly to the Company an amount out of the proceeds of such Sale equal to the aggregate option price for the Shares being purchased. No Participant shall have any rights to dividends or other rights of a stockholder with respect to Shares subject to an Option until the Participant has given written notice of exercise of the Option, paid in full for such Shares and, if applicable, has satisfied any other conditions imposed by the Committee pursuant to the Plan.

(ii) Notwithstanding any other provision of the Plan or this Agreement to the contrary, the Option may not be exercised prior to the completion of any registration or qualification of the Option or the Shares under applicable state and federal securities or other laws, or under any ruling or regulation of any governmental body or national securities exchange that the Committee shall in its sole discretion determine to be necessary or advisable.

(iii) In the event of the Participant's death, the Vested Portion of the Option shall remain exercisable by the Participant's executor or administrator, or the person or persons to whom the Participant's rights under this Agreement shall pass by will or by the laws of descent and distribution as the case may be, to the extent set forth in Section 3(a). Any heir or legatee of the Participant shall take rights herein granted subject to the terms and conditions hereof.

4. Change of Control. Upon a Change of Control (as defined by the Plan), the terms of the Plan shall apply.

5. Option Recovery. If the Committee determines that the Participant (a) engaged in conduct that constituted Cause as defined in Section 3(a) of this Agreement at any time prior to the Participant's termination of services, (b) engaged in conduct during the 6 month period after the Participant's termination of services that would have constituted Cause if the Participant had not ceased to provide services, or (c) violates the terms of any non-compete agreement, non-solicitation agreement, confidentiality agreement, or any other restriction on the Participant's post-termination activities established under any agreement with the Company or other Company policy or arrangement during the 6 months after the Participant's ceases to provide services to the Company, then (i) any Option held by the Participant shall immediately terminate, and the Participant shall automatically forfeit all Shares underlying any exercised portion of an Option for which the Company has not yet delivered the Share certificates, upon refund by the Company of the Exercise Price paid by the Participant for such Shares and (ii) the Participant shall return any Shares received upon exercise of this Option or repay to the Company any proceeds received from the sale of other disposition of the Shares transferred pursuant to this Option less the Exercise Price. Upon any exercise of an Option, the Company may withhold delivery of share certificates pending resolution of an inquiry that could lead to a finding resulting in a forfeiture under this Section.

6. No Right to Continued Employment. The granting of the Option evidenced hereby and this Agreement shall impose no obligation on the Company or any Affiliate to continue the Employment of the

Participant and shall not lessen or affect the Company's or its Affiliate's right to terminate the Employment of such Participant.

7. Transferability. The Option may not be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by the Participant otherwise than by will or by the laws of descent and distribution, and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable against the Company or any Affiliate; provided that the designation of a beneficiary shall not constitute an assignment, alienation, pledge, attachment, sale, transfer or encumbrance. No such permitted transfer of the Option to heirs or legatees of the Participant shall be effective to bind the Company unless the Committee shall have been furnished with written notice thereof and a copy of such evidence as the Committee may deem necessary to establish the validity of the transfer and the acceptance by the transferee or transferees of the terms and conditions hereof. During the Participant's lifetime, the Option is exercisable only by the Participant.

8. Withholding. The Participant may be required to pay to the Company or any Affiliate and the Company shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Option, its exercise or any payment or transfer under or with respect to the Option and to take such other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes.

9. Securities Laws. Upon the acquisition of any Shares pursuant to the exercise of the Option, the Participant will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or with this Agreement.

10. Notices. Any notice necessary under this Agreement shall be addressed to the Company in care of its Secretary at the principal executive office of the Company and to the Participant at the address appearing in the personnel records of the Company for the Participant or to either party at such other address as either party hereto may hereafter designate in writing to the other. Any such notice shall be deemed effective upon receipt thereof by the addressee.

11. Choice of Law. This Agreement shall be governed by and construed in accordance with the laws of the state of Delaware without regard to conflicts of laws.

12. Option Subject to Plan. By entering into this Agreement the Participant agrees and acknowledges that the Participant has received and read a copy of the Plan. The Option is subject to the Plan. The terms and provisions of the Plan, as they may be amended from time to time, are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern and prevail.

13. Section 409A. The Company intends that income realized by the Participant pursuant to the Plan and this Agreement will not be subject to taxation under Section 409A of the Code. The provisions of the Plan and this Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A of the Code. In the event that it is reasonably determined by the Committee that, as a result of Section 409A of the Code, any payment or delivery of Shares in respect of the Option may not be made at the time contemplated by the terms of the Plan or this Agreement, as the case may be, without causing Participant to be subject to taxation under Section 409A of the Code, the Company shall use reasonably commercial efforts to make such payment or delivery of Shares on the first day that would not result in the Participant incurring any tax liability under Section 409A of the Code. If Participant is a "specified employee" (within the meaning of Section 409A(a)(2)(B)(i) of the Code), any payment and/or delivery of Shares in respect of the Option that are linked to the date of the Participant's separation from service shall not be made prior to the date which is six (6) months after the date of such Participant's separation from service from the Company, determined in accordance with Section 409A of the Code and the regulations promulgated thereunder. The Company, in its reasonable discretion, may amend (including retroactively) the Plan or this Agreement in order to conform to the applicable requirements of Section 409A of the Code, including amendments to facilitate the Participant's ability to avoid taxation under Section 409A of the Code. However, the preceding provisions shall not be construed as a guarantee by the Company of any particular tax result for income realized by the Participant pursuant to the Plan or this Agreement. In any event, the Company shall be responsible for the payment of any applicable taxes on income realized by the Participant pursuant to the Plan or this Agreement.

14. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[*Signatures on next page.*]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the day and year first above written.

PROPHASE LABS, INC.

_____
Name:
Title:

PARTICIPANT

_____
Name:

Exhibit 10.4

PROPHASE LABS, INC.

2022 EQUITY COMPENSATION PLAN

OPTION AWARD AGREEMENT

THIS AGREEMENT (the "Agreement"), is made effective as of the __th day of _____ (hereinafter called the "Date of Grant"), between ProPhase Labs, Inc., a Delaware corporation (hereinafter called the "Company"), and _____ (hereinafter called the "Participant"):

RECITALS:

WHEREAS, the Company has adopted The 2022 Equity Compensation Plan (as amended from time to time, the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement. Capitalized terms not otherwise defined herein shall have the same meanings as in the Plan; and

WHEREAS, the Committee has determined that it would be in the best interests of the Company and its shareholders to grant the option provided for herein to the Participant pursuant to the Plan and the terms set forth herein.

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1. Grant of the Option. The Company hereby grants to the Participant the right and option (the "Option") to purchase, on the terms and conditions hereinafter set forth, all or any part of an aggregate of _____ Shares, subject to adjustment as set forth in the Plan. The purchase price of the Shares subject to the Option shall be $_____ per Share (the "Option Price"). The Option is intended to be a non-qualified stock option, and is not intended to be treated as an option that complies with Section 422 of the Internal Revenue Code of 1986, as amended.

2. Vesting. All Options granted pursuant to the Plan shall vest and become exercisable in accordance with the following schedule:

_____

3. Exercise of Option.

(a) Period of Exercise. Subject to the provisions of the Plan and this Agreement, the Participant may exercise all or any part of the Vested Portion of the Option at any time prior to the earliest to occur of:

(i) the seventh anniversary of the Date of Grant;

(ii) one year following the date of the Participant's termination of service due to death or Disability;

(iii) three months following the date of the Participant's termination of service by the Company without Cause; and

(iv) the date of the Participant's termination of service by the Company for Cause or by the Participant for any reason.

For purposes of this agreement, "Cause" shall mean "Cause" as defined in any services agreement then in effect between the Participant and the Company or if not defined therein or, if there shall be no such agreement, (i) the willful failure or refusal by such Participant to perform his or her duties to the Company or its Affiliates (other than any such failure resulting from such Participant's incapacity due to physical or mental illness), which has not ceased within ten days after a written demand for substantial performance is delivered to such Participant by the Company, which demand identifies the manner in which the Company believes that such Participant has not performed such duties; (ii) the willful engaging by such Participant in misconduct which is materially injurious to the Company or its Affiliates, monetarily or otherwise (including breach of any confidentiality or non-competition covenants to which such Participant is bound); (iii) the conviction of such Participant of, or the entering of a plea of nolo contendere by such Participant with respect to, a felony or to any crime which is materially injurious to the Company or its Affiliates; or (iv) substantial or repeated acts of dishonesty

by such Participant in the performance of his/her duties to the Company or its Affiliates. The determination of the existence of Cause shall be made by the Committee in good faith.

(b) Method of Exercise.

(i) Subject to Section 3(a), the Vested Portion of the Option may be exercised by delivering to the Company at its principal office written notice of intent to so exercise; provided that, the Option may be exercised with respect to whole Shares only. Such notice shall specify the number of Shares for which the Option is being exercised and shall be accompanied by payment in full of the Option Price. The payment of the Option Price may be made at the election of the Participant (i) in cash or its equivalent (e.g., by check), (ii) to the extent permitted by the Committee, in Shares having a Fair Market Value equal to the aggregate Option Price for the Shares being purchased and satisfying such other requirements as may be imposed by the Committee; provided, that such Shares have been held by the Participant for no less than six months (or such other period as established from time to time by the Committee in order to avoid adverse accounting treatment applying generally accepted accounting principles), (iii) partly in cash and, to the extent permitted by the Committee, partly in such Shares, or (iv) if there is a public market for the Shares at such time, through the delivery of irrevocable instructions to a broker to sell Shares obtained upon the exercise of the Option and to deliver promptly to the Company an amount out of the proceeds of such Sale equal to the aggregate option price for the Shares being purchased. No Participant shall have any rights to dividends or other rights of a stockholder with respect to Shares subject to an Option until the Participant has given written notice of exercise of the Option, paid in full for such Shares and, if applicable, has satisfied any other conditions imposed by the Committee pursuant to the Plan.

(ii) Notwithstanding any other provision of the Plan or this Agreement to the contrary, the Option may not be exercised prior to the completion of any registration or qualification of the Option or the Shares under applicable state and federal securities or other laws, or under any ruling or regulation of any governmental body or national securities exchange that the Committee shall in its sole discretion determine to be necessary or advisable.

(iii) In the event of the Participant's death, the Vested Portion of the Option shall remain exercisable by the Participant's executor or administrator, or the person or persons to whom the Participant's rights under this Agreement shall pass by will or by the laws of descent and distribution as the case may be, to the extent set forth in Section 3(a). Any heir or legatee of the Participant shall take rights herein granted subject to the terms and conditions hereof.

4. Change of Control. Upon a Change of Control (as defined by the Plan), the terms of the Plan shall apply.

5. Option Recovery. If the Committee determines that the Participant (a) engaged in conduct that constituted Cause as defined in Section 3(a) of this Agreement at any prior to the Participant's termination of services, (b) engaged in conduct during the 6 month period after the Participant's termination of services that would have constituted Cause if the Participant had not ceased to provide services, or (c) violates the terms of any non-compete agreement, non-solicitation agreement, confidentiality agreement, or any other restriction on the Participant's post-termination activities established under any agreement with the Company or other Company policy or arrangement during the 6 months after the Participant's ceases to provide services to the Company, then (i) any Option held by the Participant shall immediately terminate, and the Participant shall automatically forfeit all Shares underlying any exercised portion of an Option for which the Company has not yet delivered the Share certificates, upon refund by the Company of the Exercise Price paid by the Participant for such Shares and (ii) the Participant shall return any Shares received upon exercise of this Option or repay to the Company any proceeds received from the sale of other disposition of the Shares transferred pursuant to this Option less the Exercise Price. Upon any exercise of an Option, the Company may withhold delivery of share certificates pending resolution of an inquiry that could lead to a finding resulting in a forfeiture under this Section.

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necessary to establish the validity of the transfer and the acceptance by the transferee or transferees of the terms and conditions hereof. During the Participant's lifetime, the Option is exercisable only by the Participant.

8. Withholding. The Participant may be required to pay to the Company or any Affiliate and the Company shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Option, its exercise or any payment or transfer under or with respect to the Option and to take such other action as may be necessary in the opinion of the Committee to satisfy all obligations for the payment of such withholding taxes.

9. Securities Laws. Upon the acquisition of any Shares pursuant to the exercise of the Option, the Participant will make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or with this Agreement.

10. Notices. Any notice necessary under this Agreement shall be addressed to the Company in care of its Secretary at the principal executive office of the Company and to the Participant at the address appearing in the personnel records of the Company for the Participant or to either party at such other address as either party hereto may hereafter designate in writing to the other. Any such notice shall be deemed effective upon receipt thereof by the addressee.

11. Choice of Law. This Agreement shall be governed by and construed in accordance with the laws of the state of Delaware without regard to conflicts of laws.

12. Option Subject to Plan. By entering into this Agreement the Participant agrees and acknowledges that the Participant has received and read a copy of the Plan. The Option is subject to the Plan. The terms and provisions of the Plan, as they may be amended from time to time, are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern and prevail.

13. Section 409A. The Company intends that income realized by the Participant pursuant to the Plan and this Agreement will not be subject to taxation under Section 409A of the Code. The provisions of the Plan and this Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A of the Code. In the event that it is reasonably determined by the Committee that, as a result of Section 409A of the Code, any payment or delivery of Shares in respect of the Option may not be made at the time contemplated by the terms of the Plan or the this Agreement, as the case may be, without causing Participant to be subject to taxation under Section 409A of the Code, the Company shall use reasonably commercial efforts to make such payment or delivery of Shares on the first day that would not result in the Participant incurring any tax liability under Section 409A of the Code. If Participant is a "specified employee" (within the meaning of Section 409A(a)(2)(B)(i) of the Code), any payment and/or delivery of Shares in respect of the Option that are linked to the date of the Participant's separation from service shall not be made prior to the date which is six (6) months after the date of such Participant's separation from service from the Company, determined in accordance with Section 409A of the Code and the regulations promulgated thereunder. The Company, in its reasonable discretion, may amend (including retroactively) the Plan and this Agreement in order to conform to the applicable requirements of Section 409A of the Code, including amendments to facilitate the Participant's ability to avoid taxation under Section 409A of the Code. However, the preceding provisions shall not be construed as a guarantee by the Company of any particular tax result for income realized by the Participant pursuant to the Plan or this Agreement. In any event, the Company shall be responsible for the payment of any applicable taxes on income realized by the Participant pursuant to the Plan or this Agreement.

14. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

[*Signatures on next page.*]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the day and year first above written.

PROPHASE LABS, INC.

Name:
Title:

PARTICIPANT

Name:
Title:

PROPHASE LABS, INC.
INSIDER TRADING POLICY

The Need For A Policy Statement

Federal securities laws make it illegal for you-- the officers, directors and employees of ProPhase Labs, Inc. (the "Company") and its subsidiaries-- to buy or sell or otherwise transact in the Company's securities at a time when you possess material non-public information (also referred to hereafter as "Inside Information") relating to the Company. This conduct is known as "insider trading." Passing such material nonpublic information on to someone else who may buy or sell securities-- known as "tipping"-- is also illegal. These prohibitions apply to stock, options, debt securities or any other securities of the Company, as well as to securities of other companies if you learn something in the course of your duties that may affect their value.

We are adopting this Policy Statement to avoid even the appearance of improper conduct on the part of anyone employed by or associated with our Company (not just so-called insiders). We have all worked very hard over the years to establish our reputation vis-à- vis our integrity and ethical conduct. We cannot afford to have it damaged.

The Consequences

The consequences of insider trading violations can be staggering:

For individuals who trade on Inside Information (or disclose Inside Information to others who trade):

- Disgorgement of any profit gained or loss avoided;
- A civil penalty (in addition to disgorgement) of up to greater of $1 million or three times the profit gained or loss avoided;
- A criminal fine (no matter how small the profit) of up to $5 million; and
- A jail term of up to 20 years.

For the Company (as well as possibly any supervisory person) that fails to take appropriate steps to prevent illegal trading:

- A civil penalty of the greater of $1 million or three times the profit gained or loss avoided as a result of the violation; and
- A criminal penalty of up to $2.5 million.

For an officer, director or employee who violates this Company Policy Statement, Company- imposed sanctions, including dismissal for cause (as defined in an officer's or employee's contract, if applicable), could result.

Needless to say, any of the above consequences-- even an investigation by the United States Securities and Exchange Commission (the " SEC") that does not result in prosecution-- can tarnish one's reputation and irreparably damage a career.

Designation of Certain Persons.

Section 16 Individuals. The Company has determined that those persons listed on Exhibit A attached hereto are the directors and executive officers of the Company who are subject to the reporting and penalty provisions of Section 16 of the Securities and Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder (" Section 16 Individuals"). Exhibit A will be amended by the Company from time to time to reflect the election of new officers or directors, any change in function of current officers and the resignation or departure of current officers and directors.

Other Restricted Persons and Trading Windows. The Company has determined that those persons and/or categories of personnel listed on Exhibit B ("Restricted Persons") will have general access to the Company's internal financial statements or Inside Information relating to the Company's financial results during a given financial quarter. Restricted Persons may not execute transactions involving the purchase or sale (or otherwise make any transfer, gift, pledge or loan) of the Company's securities without the express written permission of the Company's Chief Executive Officer or Chief Financial Officer (or their designee) or at any time other than during the period (the "Trading Window") commencing at the close of business on the second trading day following the date of public disclosure of the financial results for a particular fiscal quarter or year and ending one calendar month prior to the end of the next fiscal quarter. Exhibit B will be amended by the Company from time to time. These pre-clearance procedures will also apply to transactions by such Restricted Persons' family members.

Unless revoked, a transaction that has been approved by the Company's Chief Executive Officer or Chief Financial Officer (or their designee) will normally remain valid until the close of trading two business days following the day on which it was granted. If the transaction does not occur during the two-day period, pre-clearance of the transaction must be re-requested.

Certain persons not listed on Exhibit B may come to have access to the Company's internal financial results or other Inside Information for a period of time. During that period, such persons should also follow the Trading Window procedures and refrain from trading while in possession of Inside Information. The Company may impose special blackout periods during which such persons are prohibited from trading in the Company's securities. If the Company imposes a special blackout period, it will notify the persons affected.

Company Policy on Insider Trading

If an officer, director or any employee has material non-public information relating to our Company, including any of its subsidiaries, it is our policy that neither that person nor any related person (including any family member) may (1) buy or sell or otherwise transact in securities of the Company or engage in any other action to take advantage of that information or (2) communicate that information to other persons not having a need to know the information for legitimate, Company- related reasons. This policy also applies to information relating to any other company, including our customers, financing sources or merger prospects, obtained in the course of employment.

Even transactions that may be necessary or justifiable for independent reasons (such as the need to raise money for an emergency expenditure) are no exception. Even the appearance of an improper transaction must be avoided to preserve our reputation for adhering to the highest standards of conduct.

Material Information Defined. Material information is any information that a reasonable investor would consider important in a decision to buy, hold or sell stock. In short, any information which could reasonably affect the price of the stock.

Examples of Material Information. Common examples of information that will frequently be regarded as material are: unpublished financial results; non-public projections of future earnings or losses; news of a pending or proposed merger, acquisition or tender offer; news of a significant sale of assets or the disposition of a subsidiary; changes in dividend policies or the declaration of a stock dividend or split; the offering of additional securities; changes in management; changes in auditors or auditor notification that the Company may no longer rely on an audit report; entry into or termination of material agreements; results or material data from clinical trials or preclinical studies, or other significant research or development milestones; significant intellectual property developments; developments regarding significant litigation or government agency investigations or significant communications; impending bankruptcy or financial liquidity problems; and the gain or loss of a substantial customer. We emphasize that this list is merely illustrative. Either positive or negative information may be material.

Twenty-Twenty Hindsight. Remember, if your securities transactions become the subject of scrutiny, they will be viewed after-the-fact with the benefit of hindsight. As a result, before engaging in any transaction you should carefully consider how regulators and others might view your transaction in hindsight.

Transactions by Family Members. The very same restrictions apply to your family members and others living in your household. Officers, directors and employees are expected to be responsible for the compliance of their family members. Officers, directors and employees should not discuss material non- public information with family members. To avoid the appearance of impropriety, during times when you are in possession of material non-public information, family members should be prevented from trading without revealing the information youpossess.

For purposes of this policy, “family member” means a person's spouse, parents, children, siblings, mothers and fathers-in-law, sons and daughters-in-law, brothers and sisters-in-law, and anyone (other than domestic employees) who shares such person's home.

Disclosing Information to Others. Whether information is proprietary information about our Company or information that could have an impact on our stock price, you must not pass the information on to others (including other persons within the Company, family members or friends) unless the person has a need to know the information for legitimate Company-related reasons. You should also not discuss such information in public places where it can be overheard, such as elevators, restaurants, taxis and airplanes. An officer, director or employee who improperly reveals Inside Information to another person can be held liable for the trading activities of his “tippee” and any other person with whom the tippee shares the information. The above penalties apply whether or not you benefit financially from such trades and whether or not you knew or intended that another person would trade Company stock on the basis of the information revealed. In order to avoid even the appearance of impropriety, it is recommended that officers, directors and employees refrain from providing advice or making recommendations regarding the purchase or sale of the Company’s stock, whether or not you are then in possession of material non- public information.

Trading in Securities of Customers, etc. The penalties for insider trading and the Company’s insider trading policy apply equally to material nonpublic information concerning other companies obtained through your employment or association with the Company, including information concerning our customers, borrowers, suppliers, merger prospects or others with whom we have business dealings. You must refrain from trading securities of another company while in possession of such material nonpublic information concerning it, and you must not disclose such information

to others unless the person has a need to know the information for legitimate, Company-related reasons.

When Information Is Public. If you are in possession of material information which has not previously been made public, it is also improper for you to enter a trade immediately after the Company has made a public announcement of the information, including earnings releases. Before entering into a trade, the Company's stockholders and the investing public must be afforded sufficient time to receive the information and act upon it. Although the amount of time you must wait varies with the type and complexity of the information released, a good general rule is to wait until the third business day following the Company's public release of the information before engaging in a trade. Thus, if an announcement is made on a Monday, Thursday generally would be the first day on which you should trade (assuming you have no knowledge of other material information that has not been publicly disclosed). If an announcement is made on a Friday, the following Wednesday generally would be the first day.

Rule 10b5-1 Trading Plans. Rule 10b5-l of the Exchange Act (the "Rule 10b5-1") provides an affirmative defense to insider trading liability for anyone who sells or purchases securities at a time when such person is in possession of material nonpublic information, if such transaction was made pursuant to a "pre-established trading plan" complying with the Rule (a "Rule 10b5-1 Plan").

The trading restrictions in this policy do not apply to transactions under a Rule 10b5-1 Plan that:

1. has been reviewed and approved at least one week in advance of the adoption of such Rule 10b5-1 Plan by the Chief Executive Officer or Chief Financial Officer of the Company (or their designee);

2. was entered into in good faith by the officer, director or employee at a time when such person was not in possession of material nonpublic information about the Company (and for Restricted Persons, only during a Trading Window);

3. gives a third party the discretionary authority to execute such purchases and sales, outside the control of the officer, director or employee entering into such Rule 10b5-1 Plan, so long as such third party does not possess any material nonpublic information about the Company; or explicitly specifies the security or securities to be purchased or sold, the number of shares, the prices and/or dates of the transactions, or other formula(s) describing such transactions;

4. does not permit the direct or indirect exercise of any influence over the timing or terms of the purchase or sale by the officer, director or employee entering into the 10b5-1 Plan;

5. provides for a mandatory "cooling off" period between the time the 10b5-1 Plan is adopted, amended or modified and the date of the first trade under the plan (as described below);

6. for any officer or director, includes a certification (i) that such person is not aware of any material nonpublic information and (ii) that such person is adopting the plan in good faith and not as part of a plan to evade the prohibition against illegal insider trading; and

7. otherwise complies with the requirements of Rule 10b5-1.

For officers and directors of the Company, the "cooling-off" period shall begin on the date the 10b5- 1 Plan is adopted, amended or modified and end the *later* of (1) 90 days thereafter and (2) two business days following the filing of the Company's quarterly report on Form 10-Q or annual report on 10-K covering the financial reporting period in which the plan was adopted, amended or modified, but in no event later than 120 days. For all other persons, the "cooling-off" period shall be 30 days after the 10b5-1 Plan is adopted, amended or modified.

Pre-clearance is not required for purchases and sales of securities under an approved 10b5-1 Plan. With respect to any purchase or sale under an approved 10b5-1 Plan, the third party effecting transactions on behalf of the officer, director or employee should be instructed to send duplicative confirmations of all such transactions to the Company.

Rule 10b5-1 restricts the use of multiple overlapping Rule 10b5-1 Plans, subject to limited exceptions.

Once a Rule 10b5-1 plan is implemented, a Rule 10b5-1 Plan may not be amended, modified, suspended or terminated without the Company's approval. Modification or termination of 10b5-1 Plans are generally discouraged absent compelling circumstances. Any amendment or modification to a Rule 10b5-1 Plan (other than an amendment or modification that does not change the pricing, amount of securities or timing of trades) is treated as the entry into a new plan and must comply with all of the above requirements.

Other Prohibited Activities. Finally, it is the Company's policy that officers, directors and employees should not engage in any of the following activities with respect to the securities of the Company:

1. Trading in securities on a short-term basis by directors and officers -- Any security of the Company purchased by an officer or director must be held for a minimum of six (6) months prior to sale, unless the security is subject to forced sale (e.g., as a consequence of a merger or acquisition involving the Company);

2. Purchases on margin;

3. Short sales;

4. Buying or selling puts, calls or options to purchase or sell any of the Company's securities, other than options granted by the Company or bona fide pledges; or

5. Heading or monetization transactions or similar arrangements with respect to the Company's securities.

Certification

You will be required to certify that you understand and will comply with this Policy Statement. Also, you will be required to certify on an annual basis that you have complied with this Policy Statement during the preceding year. Failure to comply with this Policy Statement may constitute grounds for your dismissal from employment for cause or, if you are a director, your removal from the Board.

Company Assistance

Any person who has any questions about specific transactions or general questions about this Policy Statement may obtain additional guidance from the Chief Executive Officer or Chief Financial Officer of the Company. Please remember, however, that the ultimate responsibility for adhering to this Policy

Statement and avoiding improper transactions rests with you. In this regard, it is imperative that you use your best judgment.

Adopted November 1, 2009
Updated June 16, 2023

Read and Acknowledged

_____
Name

_____
Date

PROPHASE LABS, INC. INSIDER TRADING POLICY

The Need For A Policy Statement

Federal securities laws make it illegal for you-- the officers, directors and employees of ProPhase Labs, Inc. (the "Company") and its subsidiaries-- to buy or sell or otherwise transact in the Company's securities at a time when you possess material non-public information (also referred to hereafter as "Inside Information") relating to the Company. This conduct is known as "insider trading." Passing such material nonpublic information on to someone else who may buy or sell securities-- known as "tipping"-- is also illegal. These prohibitions apply to stock, options, debt securities or any other securities of the Company, as well as to securities of other companies if you learn something in the course of your duties that may affect their value.

We are adopting this Policy Statement to avoid even the appearance of improper conduct on the part of anyone employed by or associated with our Company (not just so-called insiders). We have all worked very hard over the years to establish our reputation vis-à- vis our integrity and ethical conduct. We cannot afford to have it damaged.

The Consequences

The consequences of insider trading violations can be staggering:

For individuals who trade on Inside Information (or disclose Inside Information to others who trade):

- Disgorgement of any profit gained or loss avoided;
- A civil penalty (in addition to disgorgement) of up to greater of $1 million or three times the profit gained or loss avoided;
- A criminal fine (no matter how small the profit) of up to $5 million; and
- A jail term of up to 20 years.

For the Company (as well as possibly any supervisory person) that fails to take appropriate steps to prevent illegal trading:

- A civil penalty of the greater of $1 million or three times the profit gained or loss avoided as a result of the violation; and
- A criminal penalty of up to $2.5 million.

For an officer, director or employee who violates this Company Policy Statement, Company- imposed sanctions, including dismissal for cause (as defined in an officer's or employee's contract, if applicable), could result.

Needless to say, any of the above consequences-- even an investigation by the United States Securities and Exchange Commission (the " SEC") that does not result in prosecution-- can tarnish one's reputation and irreparably damage a career.

Designation of Certain Persons.

Section 16 Individuals. The Company has determined that those persons listed on Exhibit A attached hereto are the directors and executive officers of the Company who are subject to the reporting and penalty provisions of Section 16 of the Securities and Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder (" Section 16 Individuals"). Exhibit A will be amended by the Company from time to time to reflect the election of new officers or directors, any change in function of current officers and the resignation or departure of current officers and directors.

Other Restricted Persons and Trading Windows. The Company has determined that those persons and/or categories of personnel listed on Exhibit B ("Restricted Persons") will have general access to the Company's internal financial statements or Inside Information relating to the Company's financial results during a given financial quarter. Restricted Persons may not execute transactions involving the purchase or sale (or otherwise make any transfer, gift, pledge or loan) of the Company's securities without the express written permission of the Company's Chief Executive Officer or Chief Financial Officer (or their designee) or at any time other than during the period (the "Trading Window") commencing at the close of business on the second trading day following the date of public disclosure of the financial results for a particular fiscal quarter or year and ending one calendar month prior to the end of the next fiscal quarter. Exhibit B will be amended by the Company from time to time. These pre-clearance procedures will also apply to transactions by such Restricted Persons' family members.

Unless revoked, a transaction that has been approved by the Company's Chief Executive Officer or Chief Financial Officer (or their designee) will normally remain valid until the close of trading two business days following the day on which it was granted. If the transaction does not occur during the two-day period, pre-clearance of the transaction must be re-requested.

Certain persons not listed on Exhibit B may come to have access to the Company's internal financial results or other Inside Information for a period of time. During that period, such persons should also follow the Trading Window procedures and refrain from trading while in possession of Inside Information. The Company may impose special blackout periods during which such persons are prohibited from trading in the Company's securities. If the Company imposes a special blackout period, it will notify the persons affected.

Company Policy on Insider Trading

If an officer, director or any employee has material non-public information relating to our Company, including any of its subsidiaries, it is our policy that neither that person nor any related person (including any family member) may (1) buy or sell or otherwise transact in securities of the Company or engage in any other action to take advantage of that information or (2) communicate that information to other persons not having a need to know the information for legitimate, Company- related reasons. This policy also applies to information relating to any other company, including our customers, financing sources or merger prospects, obtained in the course of employment.

Even transactions that may be necessary or justifiable for independent reasons (such as the need to raise money for an emergency expenditure) are no exception. Even the appearance of an improper

transaction must be avoided to preserve our reputation for adhering to the highest standards of conduct.

Material Information Defined. Material information is any information that a reasonable investor would consider important in a decision to buy, hold or sell stock. In short, any information which could reasonably affect the price of the stock.

Examples of Material Information. Common examples of information that will frequently be regarded as material are: unpublished financial results; non-public projections of future earnings or losses; news of a pending or proposed merger, acquisition or tender offer; news of a significant sale of assets or the disposition of a subsidiary; changes in dividend policies or the declaration of a stock dividend or split; the offering of additional securities; changes in management; changes in auditors or auditor notification that the Company may no longer rely on an audit report; entry into or termination of material agreements; results or material data from clinical trials or preclinical studies, or other significant research or development milestones; significant intellectual property developments; developments regarding significant litigation or government agency investigations or significant communications; impending bankruptcy or financial liquidity problems; and the gain or loss of a substantial customer. We emphasize that this list is merely illustrative. Either positive or negative information may bematerial.

Twenty-Twenty Hindsight. Remember, if your securities transactions become the subject of scrutiny, they will be viewed after-the-fact with the benefit of hindsight. As a result, before engaging in any transaction you should carefully consider how regulators and others might view your transaction in hindsight.

Transactions by Family Members. The very same restrictions apply to your family members and others living in your household. Officers, directors and employees are expected to be responsible for the compliance of their family members. Officers, directors and employees should not discuss material non- public information with family members. To avoid the appearance of impropriety, during times when you are in possession of material non-public information, family members should be prevented from trading without revealing the information youpossess.

For purposes of this policy, “family member” means a person's spouse, parents, children, siblings, mothers and fathers-in-law, sons and daughters-in-law, brothers and sisters-in-law, and anyone (other than domestic employees) who shares such person's home.

Disclosing Information to Others. Whether information is proprietary information about our Company or information that could have an impact on our stock price, you must not pass the information on to others (including other persons within the Company, family members or friends) unless the person has a need to know the information for legitimate Company-related reasons. You should also not discuss such information in public places where it can be overheard, such as elevators, restaurants, taxis and airplanes. An officer, director or employee who improperly reveals Inside Information to another person can be held liable for the trading activities of his “tippee” and any other person with whom the tippee shares the information. The above penalties apply whether or not you benefit financially from such trades and whether or not you knew or intended that another person would trade Company stock on the basis of the information revealed. In order to avoid even the appearance of impropriety, it is recommended that officers, directors and employees refrain from providing advice or making recommendations regarding the purchase or sale of the Company’s stock, whether or not you are then in possession of material non- public information.

Trading in Securities of Customers, etc. The penalties for insider trading and the Company’s insider trading policy apply equally to material nonpublic information concerning other companies obtained through your employment or association with the Company, including information concerning our

customers, borrowers, suppliers, merger prospects or others with whom we have business dealings. You must refrain from trading securities of another company while in possession of such material nonpublic information concerning it, and you must not disclose such information to others unless the person has a need to know the information for legitimate, Company-related reasons.

When Information Is Public. If you are in possession of material information which has not previously been made public, it is also improper for you to enter a trade immediately after the Company has made a public announcement of the information, including earnings releases. Before entering into a trade, the Company's stockholders and the investing public must be afforded sufficient time to receive the information and act upon it. Although the amount of time you must wait varies with the type and complexity of the information released, a good general rule is to wait until the third business day following the Company's public release of the information before engaging in a trade. Thus, if an announcement is made on a Monday, Thursday generally would be the first day on which you should trade (assuming you have no knowledge of other material information that has not been publicly disclosed). If an announcement is made on a Friday, the following Wednesday generally would be the first day.

Rule 10b5-1 Trading Plans. Rule 10b5-l of the Exchange Act (the "Rule 10b5-1") provides an affirmative defense to insider trading liability for anyone who sells or purchases securities at a time when such person is in possession of material nonpublic information, if such transaction was made pursuant to a "pre-established trading plan" complying with the Rule (a "Rule 10b5-1 Plan").

The trading restrictions in this policy do not apply to transactions under a Rule 10b5-1 Plan that:

1. has been reviewed and approved at least one week in advance of the adoption of such Rule 10b5-1 Plan by the Chief Executive Officer or Chief Financial Officer of the Company (or their designee);

2. was entered into in good faith by the officer, director or employee at a time when such person was not in possession of material nonpublic information about the Company (and for Restricted Persons, only during a Trading Window);

3. gives a third party the discretionary authority to execute such purchases and sales, outside the control of the officer, director or employee entering into such Rule 10b5-1 Plan, so long as such third party does not possess any material nonpublic information about the Company; or explicitly specifies the security or securities to be purchased or sold, the number of shares, the prices and/or dates of the transactions, or other formula(s) describing such transactions;

4. does not permit the direct or indirect exercise of any influence over the timing or terms of the purchase or sale by the officer, director or employee entering into the 10b5-1 Plan;

5. provides for a mandatory "cooling off" period between the time the 10b5-1 Plan is adopted, amended or modified and the date of the first trade under the plan (as described below);

6. for any officer or director, includes a certification (i) that such person is not aware of any material nonpublic information and (ii) that such person is adopting the plan in good faith and not as part of a plan to evade the prohibition against illegal insider trading; and

7. otherwise complies with the requirements of Rule 10b5-1.

For officers and directors of the Company, the "cooling-off" period shall begin on the date the 10b5- 1 Plan is adopted, amended or modified and end the *later* of (1) 90 days thereafter and (2) two business days following the filing of the Company's quarterly report on Form 10-Q or annual report on 10-K covering the financial reporting period in which the plan was adopted, amended or modified, but in no event later than 120 days. For all other persons, the "cooling-off" period shall be 30 days after the 10b5-1 Plan is adopted, amended or modified.

Pre-clearance is not required for purchases and sales of securities under an approved 10b5-1 Plan. With respect to any purchase or sale under an approved 10b5-1 Plan, the third party effecting transactions on behalf of the officer, director or employee should be instructed to send duplicative confirmations of all such transactions to the Company.

Rule 10b5-1 restricts the use of multiple overlapping Rule 10b5-1 Plans, subject to limited exceptions.

Once a Rule 10b5-1 plan is implemented, a Rule 10b5-1 Plan may not be amended, modified, suspended or terminated without the Company's approval. Modification or termination of 10b5-1 Plans are generally discouraged absent compelling circumstances. Any amendment or modification to a Rule 10b5-1 Plan (other than an amendment or modification that does not change the pricing, amount of securities or timing of trades) is treated as the entry into a new plan and must comply with all of the above requirements.

Other Prohibited Activities. Finally, it is the Company's policy that officers, directors and employees should not engage in any of the following activities with respect to the securities of the Company:

1. Trading in securities on a short-term basis by directors and officers -- Any security of the Company purchased by an officer or director must be held for a minimum of six (6) months prior to sale, unless the security is subject to forced sale (e.g., as a consequence of a merger or acquisition involving the Company);

2. Purchases on margin;

3. Short sales;

4. Buying or selling puts, calls or options to purchase or sell any of the Company's securities, other than options granted by the Company or bona fide pledges; or

5. Heading or monetization transactions or similar arrangements with respect to the Company's securities.

Certification

You will be required to certify that you understand and will comply with this Policy Statement. Also, you will be required to certify on an annual basis that you have complied with this Policy Statement during the preceding year. Failure to comply with this Policy Statement may constitute grounds for your dismissal from employment for cause or, if you are a director, your removal from the Board.

Company Assistance

Any person who has any questions about specific transactions or general questions about this Policy Statement may obtain additional guidance from the Chief Executive Officer or Chief

Financial Officer of the Company. Please remember, however, that the ultimate responsibility for adhering to

this Policy Statement and avoiding improper transactions rests with you. In this regard, it is imperative that you use your best judgment.

Adopted November 1, 2009
Updated June 16, 2023

Read and Acknowledged

_____

Name

_____

Date

EXHIBIT 21.1

SUBSIDIARIES OF PROPHASE LABS, INC.

Subsidiaries	State or other Jurisdiction of Incorporation	Ownership Percentage
Nebula Genomics Holdings, Inc.	Delaware	100 %
Nebula Genomics, Inc.	Delaware	100 %
Pharmaloz Manufacturing Inc.	Delaware	100 %
Pharmaloz Real Estate Holdings, Inc.	Delaware	100 %
ProPhase Biopharma, Inc.	Delaware	100 %
ProPhase Diagnostics, Inc.	Delaware	100 %
ProPhase Diagnostics NY, Inc.	Delaware	100 %
ProPhase Diagnostics UT, Inc.	Delaware	100 %
ProPhase Global Healthcare, Inc.	Delaware	100 %
ProPhase Digital Media, Inc.	Delaware	100 %
Quigley Pharma Inc.	Delaware	100 %
TK Supplements, Inc.	Delaware	100 %

The above subsidiaries are included in the consolidated financial statements for the year ended December 31, 2023.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements of ProPhase Labs, Inc. and Subsidiaries on Forms S-8 (No. 333-268353, No. 333-265304, No. 333-261447, No. 333-259009, No. 333-256747, No. 333-225496, No. 333-224369, No. 333-217484, No. 333-189875 and No. 333-169697), and Forms S-3 (No. 333-260848) of our report dated March 29, 2024, with respect to the consolidated financial statements and internal control over financial reporting of ProPhase Labs, Inc. and Subsidiaries included in this Annual Report (Form 10-K) for the years ended December 31, 2023.

/s/ Morison Cogen LLP
March 28, 2024

Exhibit 31.1

OFFICER'S CERTIFICATION PURSUANT TO
RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, Ted Karkus, certify that:

1. I have reviewed this Annual Report on Form 10-K of ProPhase Labs, Inc.;

2. Based on my knowledge, this Annual Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Annual Report;

3. Based on my knowledge, the financial statements, and other financial information included in this Annual Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Annual Report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 131-15(f) and 15d015(f) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Annual Report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Annual Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 28, 2024

By: */s/ Ted Karkus*

Ted Karkus
Chairman of the Board and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

OFFICER'S CERTIFICATION PURSUANT TO
RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

I, Jed Latkin, certify that:

1. I have reviewed this Annual Report on Form 10-K of ProPhase Labs, Inc.;

2. Based on my knowledge, this Annual Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Annual Report;

3. Based on my knowledge, the financial statements, and other financial information included in this Annual Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Annual Report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rule 131-15(f) and 15d015(f) for the registrant and have:

   (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this Annual Report is being prepared;

   (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this Annual Report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 28, 2024

By: */s/ Jed Latkin*

Jed Latkin
Chief Operating Officer
(Principal Finance and Principal Accounting Officer)

Exhibit 32.1

PROPHASE LABS, INC.
CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(b) OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Ted Karkus, Chief Executive Officer of ProPhase Labs, Inc., a Delaware corporation (the "Registrant"), in connection with the Registrant's Annual Report on Form 10-K for the period ended December 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), do hereby represent, warrant and certify, in compliance with Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ *Ted Karkus*

Ted Karkus
Chairman of the Board and
Chief Executive Officer
(Principal Executive Officer)

Date: March 28, 2024

Exhibit 32.2

PROPHASE LABS, INC.
CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(b) OF THE SECURITIES EXCHANGE ACT OF 1934
AND 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Jed Latkin, Chief Operating Officer, Principal Financial Officer and Principal Accounting Officer of ProPhase Labs, Inc., a Delaware corporation (the "Registrant"), in connection with the Registrant's Annual Report on Form 10-K for the period ended December 31, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), do hereby represent, warrant and certify, in compliance with Rule 13a-14(b) of the Securities Exchange Act of 1934 and 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

/s/ Jed Latkin

Jed Latkin
Chief Operating Officer
(Principal Financial Officer and Principal Accounting Officer)

Date: March 28, 2024

CLAWBACK POLICY

Purpose

ProPhase Labs, Inc. (the "**Company**") is establishing this policy to align the interests of executive officers of the Company with those of shareholders, to create and maintain a culture that emphasizes integrity and accountability and to enforce the Company's pay-for-performance compensation philosophy. This policy provides for the recoupment of certain executive compensation in the event of an accounting restatement resulting from material noncompliance with financial reporting requirements under the federal securities laws (the "**Policy**"). This Policy is designed to comply with Section 10D of the Securities Exchange Act of 1934 (the "**Exchange Act**"), Rule 10D-1 promulgated under the Exchange Act ("**Rule 10D-1**"), and Nasdaq Listing Rule 5608 (the "**Listing Standards**").

Administration

This Policy shall be administered by the Board of Directors (the "**Board**") of the Company or, if so designated by the Board, a committee thereof including the Compensation Committee, in which case references herein to the Board shall be deemed references to such committee. The Board is authorized to interpret and construe this Policy and to make all determinations and rules as it deems to be necessary or advisable for its administration. It is intended that this Policy be interpreted in a manner that is consistent with the requirements of Section 10D of the Exchange Act and any applicable rules or standards adopted by the Securities and Exchange Commission or the Nasdaq Stock Market ("**Nasdaq**"). Any determinations made by the Board shall be final and binding on all affected individuals. The Board may delegate administrative duties with respect to this Policy to one or more directors or employees of the Company, as permitted under applicable law, including any Listing Standards.

Covered Executives

This Policy applies to the Company's current and former executive officers, as determined by the Board in accordance with Section 10D of the Exchange Act, the definition of executive officer set forth in Rule 10D-1 and the Listing Standards ("**Covered Executives**"), and such other employees who may from time to time be deemed subject to the Policy by the Board. For this purpose, an "executive officer" includes the Company's president, principal financial officer, principal accounting officer (or controller), any vice president in charge of a principal business unit, division or function or any other officer or person who performs a "policy-making" function for the Company.

Recoupment; Accounting Restatement

In the event that the Company is required to prepare an Accounting Restatement, as defined herein, the Board will promptly require reimbursement or forfeiture of any Excess Incentive Compensation, as defined herein, received by any Covered Executive during the three completed fiscal years immediately preceding the date on which the Company is required to prepare an Accounting Restatement, and including any transition period (that results from a change in the Company's fiscal year) within or immediately following those three completed fiscal years, except that a transition period comprising a period of at least nine months shall count as a full fiscal year. The Policy applies to all Incentive-Based Compensation received by a Covered

Executive (i) after beginning service as an executive officer; (ii) who served as an executive officer at any time during the performance period for that Incentive-Based Compensation; and (iii) while the Company has a listed class of securities. Recovery of amounts under this Policy with respect to a Covered Executive shall not require the finding of any misconduct by such Covered Executive or that such Covered Executive caused or contributed to any error associated with an Accounting Restatement. For clarity, the recovery of any executive compensation under this Policy will not give rise to any person's right to voluntarily terminate employment for "good reason," or due to a "constructive termination" (or any similar term of like effect) under any plan, program or policy of or agreement with the Company or any of its affiliates.

For purposes of this Policy, an "**Accounting Restatement**" means an accounting restatement of the Company's financial statements due to the Company's material noncompliance with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period. Also for purposes of this Policy, the date on which the Company is required to prepare an accounting restatement is the earlier of (i) the date the Board concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement; or (ii) the date a court, regulator, or other legally authorized body directs the Company to prepare an Accounting Restatement, in each case regardless of whether or when the restated financial statements are filed.

Excess Incentive Compensation: Amount Subject to Recovery

The amount subject to recovery (the "**Excess Incentive Compensation**") is the excess of the Incentive-Based Compensation paid to the Covered Executive based on the erroneous data over the Incentive-Based Compensation that would have been paid to the Covered Executive had it been based on the restated results. Excess Incentive Compensation shall be determined by the Board without regard to any taxes paid by the Covered Executive with respect to the Excess Incentive Compensation.

For Incentive-Based Compensation based on stock price or total shareholder return: (i) the Board shall determine the amount of the Excess Incentive Compensation based on a reasonable estimate of the effect of the Accounting Restatement on the stock price or total shareholder return upon which the Incentive-Based Compensation was received; and (ii) the Company shall maintain documentation of the determination of that reasonable estimate and provide such documentation to Nasdaq.

"**Incentive-Based Compensation**" means any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a Financial Reporting Measure. Incentive-Based Compensation is received for purposes of this Policy in the Company's fiscal period during which the Financial Reporting Measure specified in the Incentive-Based Compensation award is attained, even if the payment or grant of the Incentive-Based Compensation occurs after the end of that period.

A "**Financial Reporting Measure**" means any measure that is determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measure that is derived in whole or in part from such measure. For purposes of this Policy, Financial Reporting Measures include, but are not limited to, the following, and any measures derived from the following: revenues; earnings before interest, taxes, depreciation and

amortization; net income; Company stock price; and total shareholder return. A Financial Reporting Measure need not be presented within the Company's financial statements or included in a filing with the Securities Exchange Commission.

Method of Recoupment

The Board shall determine, in its sole discretion, the timing and method for promptly recouping Excess Incentive Compensation, which may include without limitation:

(a) seeking reimbursement of all or part of any cash or equity Incentive-Based Compensation previously paid,

(b) seeking recovery of any gain realized on the vesting, exercise, settlement, sale, transfer, or other disposition of any equity-based awards,

(c) cancelling prior cash or equity-based awards, whether vested or unvested or paid or unpaid,

(d) cancelling or offsetting against any planned future cash or equity-based awards,

(e) forfeiture of deferred compensation, subject to compliance with Section 409A of the Internal Revenue Code (the "**Code**") and the regulations promulgated thereunder, and
(f) any other method authorized by applicable law or contract.
Subject to compliance with any applicable law, the Board may recover amounts under this Policy from any amount otherwise payable to the Covered Executive.
The Company is authorized and directed pursuant to this Policy to recoup Excess Incentive Compensation in compliance with this Policy unless the Compensation Committee of the Board has determined that recovery would be impracticable solely for the following limited reasons, and subject to the following procedural and disclosure requirements:

a. The direct expense paid to a third party to assist in enforcing the Policy would exceed the amount to be recovered; provided that prior to concluding that it would be impracticable to recover any amount of Excess Incentive Compensation based on expense of enforcement, the Board must make a reasonable attempt to recover such erroneously awarded compensation, document such reasonable attempt(s) to recover and provide that documentation to Nasdaq; or

a. Recovery would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of 26 U.S.C. 401(a)(13) or 26 U.S.C. 411(a) and regulations thereunder.

No Indemnification of Covered Executives; No Liability

The Company shall not indemnify any Covered Executives against the loss of any incorrectly awarded Excess Incentive Compensation. The Company is prohibited from paying or reimbursing a Covered Executive for purchasing insurance to cover any such loss. None of the Company, an affiliate of the Company or any member of the Board shall have any liability to any person as a result of actions taken under this Policy.

Board Indemnification

Any members of the Board or its delegates shall not be personally liable for any action, determination or interpretation made with respect to this Policy and shall be fully indemnified by the Company to the fullest extent under applicable law and Company organizational documents and policy with respect to any such action, determination or interpretation. The foregoing sentence shall not limit any other rights to indemnification of the members of the Board or its delegates under applicable law or Company organizational documents and policy.

Effective Date

This Policy shall be effective as of the effective date of the Listing Standards (the "**Effective Date**"). The terms of this Policy shall apply to any Incentive-Based Compensation that is received by Covered Executives on or after the Effective Date, even if such Incentive-Based Compensation was approved, awarded, granted or paid to Covered Executives prior to the Effective Date.

Amendment and Termination

The Board may amend this Policy from time to time in its discretion and shall amend this Policy as it deems necessary to reflect final regulations adopted by the Securities and Exchange Commission under Section 10D of the Exchange Act, to comply with any rules or standards adopted by Nasdaq, and to comply with (or maintain an exemption from the application of) Section 409A of the Code. The Board may terminate this Policy at any time. This Policy will terminate automatically when the Company does not have a class of securities listed on a national securities exchange or association.

Other Recoupment Rights

The Board intends that this Policy will be applied to the fullest extent of the law. The Board may require that any employment agreement, equity award agreement, or similar agreement entered into on or after the Effective Date shall, as a condition to the grant of any benefit thereunder, require a Covered Executive to agree to abide by the terms of this Policy. Any right of recoupment under this Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of any similar policy in any employment agreement, equity award agreement, or similar agreement and any other legal remedies available to the Company.

Severability

The provisions in this Policy are intended to be applied to the fullest extent of the law. To the extent that any provision of this Policy is found to be unenforceable or invalid under any applicable law, such provision shall be applied to the maximum extent permitted, and shall automatically be deemed amended in a manner consistent with its objectives to the extent necessary to conform to any limitations required under applicable law.

Governing Law

This Policy and all rights and obligations hereunder are governed by and construed in accordance with the internal laws of the State of Delaware, excluding any choice of law rules or principles that may direct the application of the laws of another jurisdiction.

Successors

This Policy shall be binding and enforceable against all Covered Executives and their beneficiaries, heirs, executors, administrators or other legal representatives.

Exhibit Filing Requirement

A copy of this Policy and any amendments thereto shall be posted on the Company's website and filed as an exhibit to the Company's annual report on Form 10-K.

[FOR SIGNATURE BY THE COMPANY'S COVERED EXECUTIVES]

Clawback Policy Acknowledgment

I, the undersigned, agree and acknowledge that I am fully bound by, and subject to, all of the terms and conditions of the ProPhase Labs, Inc. Clawback Policy (as may be amended, restated, supplemented or otherwise modified from time to time, the "Policy"). In the event of any inconsistency between the Policy and the terms of any employment agreement to which I am a party, or the terms of any compensation plan, program or agreement under which any compensation has been granted, awarded, earned or paid, the terms of the Policy shall govern. In the event it is determined by the Board, or such committee thereof that is charged with administration of the Policy, that any amounts granted, awarded, earned or paid to me must be forfeited or reimbursed to the Company, I will promptly take any action necessary to effectuate such forfeiture and/or reimbursement. Any capitalized terms used in this Acknowledgment without definition shall have the meaning set forth in the Policy.

By: _____ Date: _____
Name:
Title: