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

FORM 10-K

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

For the fiscal year ended December 31, 2020

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 001-37752

CHROMADEX CORPORATION

(Exact name of Registrant as specified in its Charter)

Delaware	**26-2940963**
(State or other jurisdiction of incorporation)	(I.R.S. Employer Identification No.)
10900 Wilshire Blvd. Suite 600, Los Angeles, CA	**90024**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code (310) 388-6706

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, $0.001 par value per share	CDXC	The 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 during the preceding 12 months (or for 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, or a smaller reporting company. See the definitions of "accelerated filer," "large accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Non-accelerated filer	☒
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 financing 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. ☐

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

As of June 30, 2020, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $190.2 million, based on the closing price of the registrant's common stock on the NASDAQ Capital Market on June 30, 2020.

Number of shares of common stock of the registrant outstanding as of March 5, 2021: 66,739,000

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's proxy statement (the "Proxy Statement") to be filed with the Securities and Exchange Commission ("SEC" or the "Commission") pursuant to Regulation 14A in connection with the registrant's 2021 Annual Meeting of Stockholders, which will be filed subsequent to the date hereof, are incorporated by reference into Part III of this Form 10-K. Such Proxy Statement will be filed with the SEC not later than 120 days following the end of the registrant's fiscal year ended December 31, 2020.

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PART I

CAUTIONARY NOTICE REGARDING FORWARD LOOKING STATEMENTS

This Annual Report on Form 10-K (the "Form 10-K") 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, which are subject to the safe harbor created by those sections.

We may, in some cases, use words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of these terms, and similar expressions that convey uncertainty of future events or outcomes to identify these forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements and are based upon our current expectations, beliefs, estimates and projections, and various assumptions, many of which, by their nature, are inherently uncertain and beyond our control. Such statements, include, but are not limited to, statements contained in this Form 10-K relating to our business, business strategy, products and services we may offer in the future, the outcome and impact of litigation, the timing and results of future regulatory filings, the timing and results of future clinical trials, our ability to collect from major customers, sales and marketing strategy and capital outlook. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our actual results may differ materially from those contemplated by the forward-looking statements. They are neither statement of historical fact nor guarantees of assurance of future performance. We caution you therefore against relying on any of these forward-looking statements. Important factors that could cause actual results to differ materially from those in the forward looking statements include, but are not limited to, a decline in general economic conditions nationally and internationally; decreased demand for our products and services; market acceptance of our products; the ability to protect our intellectual property rights; impact of any litigation or infringement actions brought against us; competition from other providers and products; risks in product development; inability to raise capital to fund continuing operations; changes in government regulation; the ability to complete customer transactions and capital raising transactions, and other factors (including the risks contained in Item 1A of this Form 10-K under the heading "Risk Factors") relating to our industry, our operations and results of operations and any businesses that may be acquired by us. Should one or more of these risks or uncertainties materialize, or should the underlying assumptions prove incorrect, actual results may differ significantly from those anticipated, believed, estimated, expected, intended or planned.

Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We cannot guarantee future results, levels of activity, performance or achievements. Except as required by applicable law, we undertake no obligation to and do not intend to update any of the forward-looking statements to conform these statements to actual results.

SUMMARY OF RISK FACTORS

Below is a summary of the principal factors that make an investment in our common stock speculative or risky. This summary does not address all of the risks that we face. Additional discussion of the risks summarized in this risk factor summary, and other risks that we face, can be found below under the heading "Item 1A - Risk Factors" in Part I of this Form 10-K and should be carefully considered, together with other information in this Form 10-K and our other filings with the SEC, before making an investment decision regarding our common stock.

- The COVID-19 pandemic has adversely affected, and is expected to continue to pose risks to our business, results of operations, financial condition and cash flows, and other epidemics or outbreaks of infectious diseases may have a similar impact.
- We have a history of operating losses, may need additional financing to meet our future long-term capital requirements and may be unable to raise sufficient capital on favorable terms or at all.
- Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain and may be inadequate, which would have a material and adverse effect on us.
- We are currently engaged in substantial and complex litigation with Elysium Health, Inc. and Elysium Health LLC (collectively, "Elysium"), the outcome of which could materially harm our business and financial results.
- Our TRU NIAGEN® products are not approved by the United States Food and Drug Administration or any foreign regulatory authority to mitigate, prevent, treat, diagnose or cure COVID-19 or any other disease or condition.
- The future growth and profitability of our consumer product business will depend in large part upon the effectiveness and efficiency of our marketing efforts and our ability to select effective markets and media in which to market and advertise.
- Unfavorable publicity or consumer perception of our products and any similar products distributed by other companies could have a material adverse effect on our business.
- Our operating results may fluctuate significantly as a result of a variety of factors, many of which are outside of our control.
- We rely on single or a limited number of third-party suppliers for the raw materials required to produce our products.
- If we are unable to maintain sales, marketing and distribution capabilities or maintain arrangements with third parties to sell, market and distribute our products, our business may be harmed.
- Our failure to establish and maintain effective internal control over financial reporting could result in material misstatements in our financial statements, our failure to meet our reporting obligations and cause investors to lose confidence in our reported financial information, which in turn could cause the trading price of our common stock to decline.
- Government regulations of our customer's business are extensive and are constantly changing. Changes in these regulations can significantly affect customer demand for our products and services.
- The market price of our common stock may be volatile and adversely affected by several factors.
- We have not paid cash dividends in the past and do not expect to pay cash dividends in the foreseeable future. Any return on investment may be limited to the value of our common stock.
- We have a significant number of outstanding options. Future sales of these shares could adversely affect the market price of our common stock.
- We may become involved in securities class action litigation that could divert management's attention and harm our business.

Item 1. Business

Unless otherwise indicated or the context otherwise requires, references to the "Company", "ChromaDex", "we", "us" and "our" refer to ChromaDex Corporation and its consolidated subsidiaries.

Company Overview

ChromaDex is a global bioscience company dedicated to healthy aging. The ChromaDex team, which includes world-renowned scientists, is pioneering research on nicotinamide adenine dinucleotide ("NAD+"), levels of which decline with age.

NAD+ is an essential coenzyme and a key regulator of cellular metabolism. Best known for its role in cellular energy production, NAD+ is now thought to play an important role in healthy aging. Many cellular functions related to health and healthy aging are sensitive to levels of locally available NAD+ and this represents an active area of research in the field of NAD+.

NAD+ levels are not constant, and in humans, NAD+ levels have been shown to decline by more than 50% from young adulthood to middle age. NAD+ continues to decline as humans grow older. There are other causes of NAD+ depletion, such as poor diet, alcohol consumption and a number of disease states. NAD+ levels may also be increased, including through calorie restriction and moderate exercise. Healthy aging, mitochondrial health and NAD+ continue to be areas of focus in the research community. As of 2020, there were over 350 published human clinical studies related to NAD+. The areas of study include understanding NAD+'s role in Alzheimer's disease, Parkinson's disease, neuropathy and heart failure.

In 2013, ChromaDex commercialized NIAGEN® nicotinamide riboside ("NR"), a novel form of vitamin B3. Data from numerous preclinical studies, and confirmed in human clinical trials, show that NR is a highly efficient NAD+ precursor that significantly raises NAD+ levels. NIAGEN® is safe for human consumption. NIAGEN® has twice been successfully reviewed under the U.S. Food and Drug Administration's new dietary ingredient ("NDI") notification program, has been successfully notified to the U.S. Food and Drug Administration (the "FDA") as generally recognized as safe ("GRAS"), and has been approved as safe by Health Canada, the European Commission and the Therapeutic Goods Administration of Australia. Clinical studies of NIAGEN® have demonstrated a variety of outcomes including increased NAD+ levels, increased cellular metabolism and increased energy production. NIAGEN® is the trade name for our proprietary ingredient NR, and is protected by patents to which we are the exclusive licensee.

ChromaDex is among the world leaders in the emerging NAD+ space. ChromaDex has amassed more than 200 research partnerships with leading universities and research institutions around the world including the National Institutes of Health, Cornell, Dartmouth, Harvard, Massachusetts Institute of Technology, University of Cambridge and the Mayo Clinic. Additional relationships are currently being developed.

Our scientific advisory board is led by Chairman Dr. Roger Kornberg, Nobel Laureate Stanford Professor, Dr. Charles Brenner, one of the world's recognized experts in NAD+ and inventor of nicotinamide riboside, Dr. Rudy Tanzi, the co-chair of the department of neurology at Harvard Medical School and one of the world's leading experts in food and nutrition, Sir John Walker, Nobel Laureate and Emeritus Director, MRC Mitochondrial Biology Unit in the University of Cambridge, England, Dr. Bruce German, Chairman of food, nutrition and health at the University of California, Davis, Dr. Brunie Felding, Associate Professor, Department of Molecular Medicine at Scripps Research Institute, California Campus, and Dr. David Katz, the founder and former director of Yale University's Yale-Griffin Prevention Research Center.

STRATEGIC SHIFT TO GLOBAL CONSUMER PRODUCT COMPANY

In 2017, ChromaDex made the strategic decision to commercialize TRU NIAGEN® as a consumer brand for the product containing NIAGEN® ingredient. This marked our strategic shift from an ingredient testing company to a global, bioscience company dedicated to healthy aging.

We began the international expansion of our TRU NIAGEN® brand with the launch in Hong Kong and Macau with our strategic partner, A.S. Watson Group, in 2017, followed by the launch in Singapore in 2018. In 2018, we also launched TRU NIAGEN® in New Zealand with retail partner Matakana Superfoods and in Canada by making it available at www.truniagen.ca and to healthcare practitioners at Fullscript Canada after receiving regulatory approval for sale from Health Canada. We are currently selling cross border in China on Tmall, JD.com, Kaola.com and Wechat and on Amazon in Canada, Japan, the United Kingdom, Germany, France, Italy, Spain, Netherlands and Sweden. In 2019, we received a positive opinion from the European Food Safety Authority on NR as a novel food ingredient for use in food supplement and approval from the Australian Therapeutic Goods Association ("TGA") for use in listed complementary medicines. With the TGA approval we extended our partnership with our New Zealand partner, Matakana Superfoods, to also include Australia. We will continue to focus on obtaining additional regulatory approvals required to expand our marketing and distribution of our TRU NIAGEN® brand in new strategic international markets.

INGREDIENTS AND ANALYTICAL REFERENCE STANDARDS AND SERVICES BUSINESS SEGMENTS

Through our ingredients business segment, we will continue to sell NIAGEN® in ingredient form to our strategic partners, including Nestec Ltd. ("Nestlé"), a global leader pioneering quality science-based nutritional health solutions. In 2018, we entered into a supply agreement with Nestlé, pursuant to which Nestlé is our exclusive customer for NIAGEN® for human use in the (i) medical nutritional and (ii) functional food and beverage categories in certain territories. As consideration for the rights granted to Nestlé, we received an upfront fee of $4.0 million. In 2020, we received an additional one-time fee of $1.0 million, following the launch of the products in the United States. Nestlé will potentially pay us multiple one-time fees for a total aggregate payment up to $6.0 million in product launch fees, following the launch of the products in certain territories.

We are a leading provider of research and quality-control products and services to the natural products and life science industries. Through our analytical reference standards and services segment, customers worldwide in the dietary supplement, food and beverage, cosmetic, pharmaceutical, and life science industries use our products, which are small quantities of highly-characterized, research-grade, plant-based materials, to ensure the quality of their raw materials and finished products. We have conducted this analytical reference standards and services business since 1999.

For the fiscal years ended December 31, 2020 and December 31, 2019, our revenues were approximately $59.3 million and $46.3 million, respectively. The following table summarizes the Company's total sales for each of the business segments in the last two years. Please refer to Item 8 Financial Statements and Supplementary Data of this Form 10-K for additional financial information for each of the business segments.

Fiscal Years	Consumer Products Segment	Ingredients Segment	Analytical Reference Standards and Services Segment	Total
2020	$47.1 million	$9.2 million	$3.0 million	$59.3 million
2019	$36.1 million	$6.2 million	$4.0 million	$46.3 million

Company Background

On May 21, 2008, Cody Resources, Inc., a Nevada corporation and a public company, ("Cody") entered into an Agreement and Plan of Merger (the "Merger Agreement"), by and among Cody, CDI Acquisition, Inc., a California corporation and wholly-owned subsidiary of Cody ("Acquisition Sub"), and ChromaDex, Inc. (the "Merger"). Subsequent to the signing of the Merger Agreement, Cody merged with and into a Delaware corporation. On June 20, 2008, Cody amended its articles of incorporation to change its name to ChromaDex Corporation. ChromaDex Corporation was traded on the Over the Counter market under the symbol "CDXC." On April 25, 2016, ChromaDex Corporation became listed on the NASDAQ Capital Market under the symbol "CDXC."

ChromaDex, Inc., a wholly owned subsidiary of ChromaDex Corporation, was originally formed as a California corporation on February 19, 2000.

On March 12, 2017, ChromaDex Corporation acquired Healthspan Research LLC, a consumer product company offering TRU NIAGEN® branded products. This marked the strategic shift to become a global, science-based bioscience company dedicated to healthy aging. On September 5, 2017, the Company completed the sale of its operating assets that were used with the Company's quality verification program testing and analytical chemistry business for food and food related products to Covance Laboratories Inc. On January 15, 2021, Healthspan Research LLC was dissolved. Prior to its dissolution, Healthspan Research, LLC contributed its assets and liabilities to ChromaDex, Inc.

Business Market

According to the data from Global Wellness Institute, the global wellness industry market was approximately $4.5 trillion in 2018. Personal care, beauty and anti-aging market was approximately $1.1 trillion, healthy eating, nutrition and weight loss was approximately $702 billion and traditional and complementary medicine market was approximately $360 billion.

According to the data from Grand View Research, the global dietary supplements market size was estimated at $123 billion in 2019, and is expected to grow at a CAGR of 8.2% to about $231 billion by 2027.

Business Model

CONSUMER PRODUCTS SEGMENT

Our business model is to sell TRU NIAGEN® to consumers worldwide. As one of the world leaders in the emerging NAD+ space and the science of aging, we will continue to seek to discover and enhance patented technology and evolve our TRU NIAGEN® products to potentially improve health by safely raising NAD+ levels. The TRU NIAGEN® brand is built on scientific evidence, trust and the direct impact to our consumers of aging better.

We intend to expand to the worldwide NAD+-related healthy aging market by entering into new international markets. We will continue to focus on obtaining additional regulatory approvals required to expand our marketing and distribution of our TRU NIAGEN® products in new international markets. We will utilize our proprietary ecommerce platforms, and the ecommerce and brick and mortar platforms of strategic regional and local partners. Our United States ("U.S.") based business will continue to support our global operations, including:

- Corporate development and strategy
- Research and development activities
- Science
- Global premium brand management and brand guidelines
- Multi-platform global marketing campaigns and know-how
- Build and evolve propriety ecommerce platform and data analytics
- Global manufacturing and supply chain operations

We expect to continue to supply our international operations with finished products manufactured in the U.S, and to continue to provide all our marketing materials and know-how to our international strategic partners.

INGREDIENTS SEGMENT

We intend to continue to sell NIAGEN® in ingredient form to our strategic partners. In addition, we expect to continue to identify, acquire and commercialize other innovative new proprietary ingredients and technologies. We have an experienced team that is capable of advancing products through development into commercialization with the required regulatory approval, safety, toxicology, clinical trials, supply chain management, manufacturing, and ultimately either directly selling the products or licensing to third parties.

ANALYTICAL REFERENCE STANDARDS AND SERVICES SEGMENT

We have taken advantage of both supply chain needs and regulatory requirements to build our analytical reference standards and services segment. We believe that we create value throughout the supply chain of the dietary supplements, functional foods, life science research, and personal care markets. We intend to capitalize on additional opportunities in product development and commercialization of various kinds of intellectual property that we have largely discovered and acquired through the sales process associated with this segment.

Overview of our Products and Services

Current products and services provided are as follows:

CONSUMER PRODUCTS

- *TRU NIAGEN® branded dietary supplements.* We currently offer our NIAGEN® NR through our TRU NIAGEN® finished bottles. We will continue to build TRU NIAGEN® as a global brand and offer TRU NIAGEN® to consumers worldwide.

INGREDIENTS

- *Nicotinamide riboside NIAGEN®*. We intend to continue to develop and sell NIAGEN® in ingredient form to strategic partners.

- *Spirulina Extract Immulina™*. IMMULINA™ is a spirulina extract and the predominant active compounds are Braun-type lipoproteins which are useful for supporting human immune function. These lipoproteins are present at much greater levels than those found within commonly used immune enhancing botanicals such as Echinacea and ginseng.

ANALYTICAL REFERENCE STANDARDS AND SERVICES

- *Supply of reference standards and fine chemicals.* We supply a wide range of products necessary to conduct quality control of raw materials and consumer products. Reference standards and fine chemicals are used for research and quality control in the dietary supplements, cosmetics, food and beverages, life science, and pharmaceutical industries. In addition, we provide research services for customers exploring the frontier of natural product research and development. We assist by providing unique and well-characterized natural products, in the format of botanical libraries or as requested on custom "Scope of Work" request.

Impact of COVID-19

The COVID-19 pandemic continues to drive global uncertainty and disruption, which has created headwinds for our business. Our ecommerce consumer products business segment continues to perform relatively well in this challenging environment.

Our consumer products retail business, including sales to A.S. Watson group and other partners in international markets, has been more impacted by the effects of COVID-19, due to store closures and reduced operating hours. To date, we have successfully navigated the business during the COVID-19 pandemic, managing our working capital effectively.

We have experienced shipment delays from our suppliers; however, we have not encountered any major disruptions in our supply chain. We have been maintaining adequate safety stocks to support our growth and we currently have adequate inventory on hand to meet our current demands. Overall, we believe the supply chain disruptions due to the COVID-19 pandemic will not have a material impact to our business operations.

In response to the outbreak, we prioritized the health and safety of our employees by closing our offices or enhancing safety protocols in place to ensure the well-being of our employees. We have been able to successfully conduct business virtually.

Sales and Marketing Strategy

For our consumer products segment, we employ a variety of strategies to drive sales and consumer awareness of TRU NIAGEN®, including social media and internet advertising, managing websites, influencers, paid spokespersons and talent, events and tradeshows, e-mail, paid search, distribution of research publications and press releases. We also have a customer care department that handles day-to-day communications with our end customers addressing any needs or concerns related to our TRU NIAGEN® product.

For our ingredients segment and analytical reference standards and services segment, our strategy is based on a direct, technically-oriented model. We recruit and hire sales and marketing staff with appropriate commercial and scientific backgrounds.

USA:

For our consumer products segment, we distribute our TRU NIAGEN® products direct to consumers through our propriety ecommerce platform TRUNIAGEN.com, Amazon and other established internet marketplaces. We also have specialty retailers and direct healthcare practitioners who are authorized resellers of TRU NIAGEN® in the U.S.

For our ingredients segment and analytical reference standards and services segment, we intend to continue to use a direct marketing approach in the U.S. to promote our products and services.

International:

For our consumer products segment, we utilize strategic partners on a regional or local country basis to expand our distribution of TRU NIAGEN® products. Our strategic partnerships include brick and mortar and/or ecommerce channels. We began the international expansion of our TRU NIAGEN® brand with the launch in Hong Kong and Macau with our strategic partner, A.S. Watson Group, in 2017, followed by the launch in Singapore in 2018. In 2018, we also launched TRU NIAGEN® in New Zealand with retail partner Matakana Superfoods and in Canada by making it available at www.truniagen.ca and to healthcare practitioners at Fullscript Canada after receiving regulatory approval for sale from Health Canada. We are currently selling cross border in China on Tmall, JD.com, Kaola.com and Wechat and on Amazon in Canada, Japan, the United Kingdom, Germany, France, Italy, Spain, Netherlands and Sweden. In 2019, we received a positive opinion from the European Food Safety Authority on NR as a novel food ingredient for use in food supplement and approval from the Australian Therapeutic Goods Association ("TGA") for use in listed complementary medicines. With the TGA approval we extended our partnership with our New Zealand partner, Matakana Superfoods, to also include Australia. We will continue to focus on obtaining additional regulatory approvals required to expand our marketing and distribution of our TRU NIAGEN® brand in new strategic international markets.

For our ingredients segment, most of our customers are based currently in the U.S. and Europe.

For our analytical reference standards and services segment outside of the U.S., we use international distributors to market and sell to several foreign countries or markets.

Government Regulation

Some of our operations are subject to regulation by various United States federal agencies and similar state and international agencies, including the Food and Drug Administration ("FDA"), the Federal Trade Commission ("FTC"), the Department of Commerce, the Department of Transportation, the Department of Agriculture and other state and international agencies. These regulators govern a wide variety of production activities, from design and development to labeling, manufacturing, handling, selling and distributing of products. From time to time, federal, state and international legislation is enacted that may have the effect of materially increasing the cost of doing business or limiting or expanding our permissible activities. We cannot predict whether or when potential legislation or regulations will be enacted, and, if enacted, the effect of such legislation, regulation, implementation, or any implemented regulations or supervisory policies would have on our financial condition or results of operations. In addition, the outcome of any litigation, investigations or enforcement actions initiated by state or federal authorities could result in changes to our operations being necessary and in increased compliance costs.

U.S. FDA Regulation

In the United States dietary supplements and food are subject to FDA regulations. For example, the FDA's final rule on Good Manufacturing Practices ("GMPs") for dietary supplements published in June 2007 requires companies to evaluate products for identity, strength, purity and composition. Other regulations, for new dietary ingredients ("NDI"), require a pre-market notification that must be submitted to the FDA along with evidence of safety. In addition, depending on the type of product, whether a dietary supplement, cosmetic, food, or pharmaceutical, the FDA, under the Food, Drug and Cosmetic Act (the "FDCA"), can regulate:

- product testing;
- ingredient testing;
- documentation process, batch records, specifications;
- product labeling;
- product manufacturing and storage;
- product claims, advertising and promotion;
- product sales and distribution; and
- Product post-market surveillance

The FDCA has been amended several times with respect to dietary supplements, most notably by the Dietary Supplement Health and Education Act of 1994 ("DSHEA"). DSHEA established a new framework for governing the composition and labeling of dietary supplements. Generally, under DSHEA, dietary ingredients that were marketed in the United States before October 15, 1994, may be used in dietary supplements without notifying the FDA. However, an NDI (a dietary ingredient that was not marketed in the United States before October 15, 1994) is subject to NDI notification that must be submitted to the FDA unless the ingredient has previously been "present in the food supply as an article used for food" without being "chemically altered." An NDI notification must provide the FDA with evidence of a "history of use or other evidence of safety" establishing that the use of the dietary ingredient "will reasonably be expected to be safe." An NDI notification must be submitted to the FDA at least 75 days before the initial marketing of the NDI. There can be no assurance that the FDA will accept the evidence of safety for any NDIs that we may want to commercialize, and the FDA's objection to such evidence could render products containing such dietary ingredients to be adulterated. The FDA is in the process of developing guidance for the industry that will aim to clarify the agency's interpretation of the NDI notification requirements, and this guidance may raise new and significant regulatory barriers for NDIs.

For any new ingredient developed by us to be used in conventional food or beverage products in the United States, the product either must be approved by the FDA as a food additive pursuant to a food additive petition ("FAP") or be generally recognized as safe ("GRAS"). The FDA does not have to approve a company's determination that an ingredient is GRAS. However, a company can voluntarily notify the FDA of its own self-determination. There can be no assurance that the FDA will approve any FAP for any ingredient that we may want to commercialize, or agree with our determination that an ingredient is GRAS, either of which could impact the marketing of such ingredient.

U.S. Advertising Regulations

In addition to FDA regulations, the FTC regulates the advertising of dietary supplements, foods, cosmetics, and over-the-counter ("OTC") drugs. In recent years, the FTC has instituted numerous enforcement actions against dietary supplement companies for failure to adequately substantiate claims made in advertising or for the use of false or misleading advertising claims. These enforcement actions have often resulted in consent decrees and the payment of civil penalties, restitution, or both, by the companies involved. We may be subject to regulation under various state and local laws that include provisions governing, among other things, the formulation, manufacturing, packaging, labeling, advertising and distribution of dietary supplements, foods, cosmetics and OTC drugs.

In addition, The National Advertising Division of the Council of Better Business Bureaus reviews national advertising for truthfulness and accuracy. The National Advertising Division of the Council of Better Business Bureaus uses a form of alternative dispute resolution, working closely with in-house counsel, marketing executives, research and development departments and outside consultants to decide whether claims have been substantiated.

International Regulations

Our international sales for the consumer products segment and ingredients segment are subject to foreign government regulations, which vary substantially from country to country. Most countries, in particular major markets, have established regulations for (a) authorizing the introduction of novel ingredients to market in the food and/or dietary/food/health supplement sectors and (b) for allowing finished goods to be placed on the market for consumer access. Typically, novel ingredients must go through an extensive safety review process (similar to the NDI notification process in the US) by a regulatory or scientific authoritative body. Finished products typically must either be notified or registered (a limited approval process) with the relevant authorities. In some cases, new products can be brought to market without notifying the authorities.

The time required to obtain approval by a foreign country may be longer or shorter than that required for the FDA notification process, and the requirements may differ. We may be unable to obtain on a timely basis, if at all, any foreign government approvals necessary for the marketing of our products abroad.

Regulation of foods/food supplements in Europe is exercised primarily through the European Union, which regulates the combined market of each of its member states. Other countries, such as Switzerland, have voluntarily adopted laws and regulations that mirror those of the European Union with respect to novel foods or new dietary ingredients.

Regulation in other major and established markets, including Canada, Japan, Brazil and Australia all maintain and enforce a clear regulatory framework for novel ingredients and dietary supplements (or their equivalent).

Major Customers

Major customers who accounted for more than 10% of the Company's total sales were as follows:

Major Customers	Years Ended December 31 2020	2019
A.S. Watson Group - Related Party	13.0%	15.8%

Generally, we do not depend upon a single customer, or a few customers, and the loss of any one or more would not have a material adverse effect on the Company. However, due to the volume of consumer products and ingredients we are selling in relation to the overall Company's sales, we do expect that at times one or more of our customers may account for more than 10% of the Company's sales.

Competitive Business Conditions

For our consumer products segment, we are in direct competition with Elysium Health who offers a similar product to TRU NIAGEN®. There are also a few resellers of NIAGEN® as consumer products that are our customers. We believe these resellers are focused on specific channels that we believe are complementary to our business.

We also face strong indirect competition from other ingredient suppliers who may supply alternative ingredients that may have similar characteristics to ingredients we offer. Below is a list of some of the competitors for our ingredients segment.

Ingredients Business Segment Indirect Competitors

- Royal DSM (the Netherlands)
- Glanbia plc (Ireland)
- BASF (Germany)
- Lonza Group Ltd (Switzerland)
- Sabinsa Corporation (India/USA)

For the analytical reference standards and services segment, we face competition within the standardization and quality testing niche of the markets we serve. Below is a current list of certain competitors. These competitors have already developed reference standards or services or are currently taking steps to develop them. Of the competitors listed, some currently sell fine chemicals, which, by default, are sometimes used as reference standards, and others are closely aligned with our market niche to reduce any barriers to entry if these companies wish to compete.

Analytical Reference Standards and Services Segment Competitors

- MilliporeSigma (USA)
- Phytolab (Germany)
- US Pharmacopoeia (USA)
- Extrasynthese (France)

Patents, Trademarks, Licenses, Franchises, Concessions, Royalty Agreements or Labor Contracts, Including Duration

We currently protect our intellectual property through patents, trademarks, designs and copyrights on our products and services. Our business strategy is to use the intellectual property harnessed from our analytical reference standards and services segment as the basis for providing new proprietary ingredients to our customers. Our strategy is to develop these proprietary ingredients on our own as well as to license our intellectual property to companies who will commercialize it.

The following table sets forth our existing patents and those to which we have licensed rights:

Patent Number	Title	Filing Date	Issued Date	Expires	Licensor
7,205,284	Potent immunostimulants from microalgae	7/10/2001	4/17/2007	3/9/2022	Licensed from University of Mississippi
7,776,326	Methods and compositions for treating neuropathies	6/3/2005	8/17/2010	6/24/2026	Licensed from Washington University
7,846,452	Potent immunostimulatory extracts from microalgae	7/28/2005	12/7/2010	7/28/2025	Licensed from University of Mississippi
8,106,184	Nicotinyl Riboside Compositions and Methods of Use	11/17/2006	1/31/2012	9/20/2027	Licensed from Cornell University
8,114,626	Yeast strain and method for using the same to produce Nicotinamide Riboside	3/26/2009	2/14/2012	1/5/2026	Licensed from Dartmouth College
8,133,917	Pterostilbene as an agonist for the peroxisome proliferator-activated receptor alpha isoform	10/25/2010	3/13/2012	8/18/2025	Licensed from the University of Mississippi and U.S. Department of Agriculture
8,197,807	Nicotinamide Riboside Kinase compositions and Methods for using the same	4/20/2006	6/12/2012	11/19/2026	Licensed from Dartmouth College
8,252,845	Pterostilbene as an agonist for the peroxisome proliferator-activated receptor alpha isoform	2/1/2012	8/28/2012	8/18/2025	Licensed from the University of Mississippi and U.S. Department of Agriculture

8,383,086	Nicotinamide Riboside Kinase compositions and Methods for using the same	4/12/2012	2/26/2013	4/20/2026	Licensed from Dartmouth College
8,809,400	Method to Ameliorate Oxidative Stress and Improve Working Memory Via Pterostilbene Administration	8/8/2011	8/19/2014	10/2/2028	Licensed from the University of Mississippi and U.S. Department of Agriculture
8,841,350	Method for treating non-melanoma skin cancer by inducing UDP-Glucuronosyltransferase activity using pterostilbene	5/8/2012	9/23/2014	5/8/2032	Co-owned by ChromaDex and University of California
8,889,126	Methods and compositions for treating neuropathies	5/28/2010	11/18/2014	6/3/2025	Licensed from Washington University
9,000,147	Nicotyl riboside compositions and methods of use	1/17/2012	4/7/2015	11/17/2026	Licensed from Cornell University
9,028,887	Method improve spatial memory via pterostilbene administration	5/22/2014	5/12/2015	6/10/2028	Licensed from the University of Mississippi and U.S. Department of Agriculture
9,295,688	Methods and compositions for treating neuropathies	10/10/2014	3/29/2016	6/3/2025	Licensed from Washington University
9,321,797	Nicotyl riboside compositions and methods of use	11/17/2014	4/26/2016	11/17/2026	Licensed from Cornell University
9,439,875	Anxiolytic effect of pterostilbene	5/11/2011	9/13/2016	12/11/2031	Licensed from the University of Mississippi and U.S. Department of Agriculture

9,975,915	Crystalline forms of nicotinoyl ribosides, modified derivatives thereof, and phosphorylated analogs thereof, and methods of preparation thereof	11/10/2017	5/22/2018	11/10/2037	Co-owned by ChromaDex and The Queen's University of Belfast
10,000,519	Methods of Preparing Nicotinamide Riboside and Derivatives Thereof	7/24/2014	6/19/2018	7/24/2034	Licensed from The Queen's University of Belfast
10,000,520	B-vitamin and amino acid conjugates ofnicotinoyl ribosides and reduced nicotinoyl ribosides, derivatives thereof, and methods of preparation thereof	3/16/2017	6/19/2018	3/16/2037	Co-owned by ChromaDex and The Queen's University of Belfast
10,183,036	Use of nicotinic acid riboside or nicotinamide riboside derivatives, and reduced derivatives thereof, as NAD+ increasing precursors	4/20/2017	1/22/2019	4/20/2037	Owned by ChromaDex
10,280,190	Nicotinic acid riboside or nicotinamide riboside compositions, reduced derivatives thereof, and the use thereof to enhance skin permeation in treating skin conditions	3/16/2016	5/7/2019	5/31/2036	Co-owned by ChromaDex and The Queen's University of Belfast
10,688,118	Nicotinamide riboside compositions for topical use in treating skin conditions	10/30/2014	6/23/2020	4/6/2035	Owned by ChromaDex
10,689,411	Efficient and scalable syntheses of nicotinoyl ribosides and reduced nicotinoyl ribosides, modified derivatives thereof, phosphorylated analogs thereof, adenylyl dinucleotide conjugates thereof, and novel crystalline forms thereof	11/10/2017	6/23/2020	11/10/2037	Co-owned by ChromaDex and The Queen's University of Belfast
10,857,172	Methods for delivering at least one compound selected from nicotinamide riboside (NR), nicotinic acid riboside (NAR), and nicotinamide mononucleotide (NMN), derivatives thereof, or salts thereof, in combination with at least one of thiamine (vitamin B1), riboflavin (vitamin B2), niacin (vitamin B3), and pyridoxine (vitamin B6), to an infant human subject in need of said compound or compounds are provided	4/14/2017	12/8/2020	4/14/2037	Owned by ChromaDex

Manufacturing

We currently utilize third-party manufacturers to produce and supply dietary supplement, ingredients, products, and services. Following the receipt of products or product components from third-party manufacturers, we inspect and ensure conformance of each product and product component to our specifications. We will also consider manufacturing certain products or product components internally, if our capacity permits, when demand or quality requirements make it appropriate to do so.

We intend to work with manufacturing companies that can meet the standards imposed by the FDA, the International Organization for Standardization and the quality standards that we will require for our own internal policies and procedures. We expect to monitor and manage supplier performance through a corrective action program developed by us. We believe these manufacturing relationships can minimize our capital investment, help control costs, and allow us to compete with larger volume manufacturers of dietary supplements, phytochemicals and ingredients.

W.R. Grace & Co. -Conn. ("Grace") is the Company's exclusive manufacturer for the supply of NR. Effective as of September 17, 2020, the Company entered into a Sixth Amendment (the "Sixth Amendment") to the Manufacturing and Supply Agreement (such agreement as amended, the "Grace Manufacturing Agreement"), originally effective in January 2016 with Grace. In January 2019, Grace was issued patents related to the manufacturing of the crystalline form of NR (the "Grace Patents"). Pursuant to the Sixth Amendment, the Grace Manufacturing Agreement expires on December 31, 2021, subject to additional two-year renewal periods to be negotiated by the parties. In addition, the Grace Manufacturing Agreement may be terminated by (a) the Company by providing 12 months' notice prior to the end of the current term, (b) Grace by providing 12 months' notice of its intent to cease manufacture of NR (a "Market Exit") and (c) a party in the case of (1) a material breach by the other party that is not cured within 30 days, (2) three material breaches by the other party in any 12 month period, or (3) bankruptcy of the other party. In the event that certain conditions are met, then the Company will become a licensee of the Grace Patents.

Sources and Availability of Raw Materials

For all three business segments, and subject to the risks related to our Company and our Business recited below, we believe that we have identified reliable sources and suppliers of ingredients, chemicals, phytochemicals and reference materials that will provide products in compliance with our guidelines.

Research and Development

To date, 11 human clinical trials have been published on our proprietary ingredient NIAGEN® demonstrating its safety and/or efficacy in healthy human volunteers. In addition, no adverse effects have been attributed to NIAGEN®. In both 2015 and 2018, NIAGEN® was successfully notified to the FDA as a "New Dietary Ingredient." NIAGEN® was also successfully notified to FDA as "Generally Recognized as Safe" in August 2016.

In June of 2020, the ChromaDex External Research Program (CERP) achieved its 200th research agreement and over 100 preclinical studies and 11 peer-reviewed human clinical trial publications involving NIAGEN®.

Through our research and development laboratory in Longmont, Colorado, we intend to develop and evaluate products that we are planning to take to market as well as explore cost saving processes for existing products.

Research and development costs for the fiscal years ended December 31, 2020, and December 31, 2019, were approximately $3.7 million and $4.4 million, respectively.

Environmental Compliance

We incur significant expense in complying with GMPs and safe handling and disposal of materials used in our research and manufacturing activities. We do not anticipate incurring additional material expense to comply with federal, state and local environmental laws and regulations.

Working Capital

The Company's working capital at the end of years 2020 and 2019 was approximately $4.9 million and $4.1 million, respectively. The Company measures working capital by adding trade receivables and inventories, and subtracting accounts payable. Most of the working capital is consumed by our consumer products segment and ingredients segment as the operations require a large amount of inventory to be on hand. As the consumer products segment and ingredients segment grow, more working capital will likely be needed to support the operations.

Backlog Orders

For our consumer products segment where we ship products internationally to distributors, we may have a backlog from time to time as the production of TRU NIAGEN® finished bottles require up to three months lead time by our third-party contract manufacturers. As of December 31, 2020 we did not have any significant backlog orders from the distributors that have not been shipped. For products that are directly shipped to consumers, we have minimal backlog orders as we carry inventory on hand to ship upon the receipt of order.

For our ingredients segment, we also have minimal backlog orders as we carry inventory on hand for most of the products we offer and we ship upon the receipt of customer's order.

For our analytical reference standards and services segment, we normally have a small backlog of orders for reference standards. These orders amount to approximately $25,000 or less. Because we list over 1,500 phytochemicals and 300 botanical reference materials in our catalog, we may not always have the items in stock at the time of customers' orders. These backlog orders are normally fulfilled within 2 to 3 months.

Facilities

For information on our facilities, see "Properties" in Item 2 of this Form 10-K.

Employees

As of December 31, 2020, ChromaDex had approximately 110 employees. We consider our relationships with our employees to be satisfactory. None of our employees is covered by a collective bargaining agreement.

Financial Information about Geographic Areas

Please refer to Item 8 Financial Statements and Supplementary Data of this Annual Report on Form 10-K for financial information about geographic areas.

Available Information

Our Internet website address is *www.chromadex.com*. Information found on, or accessible through, our website is not a part of, and is not incorporated into, this Annual Report on Form 10-K. We make available free of charge on our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practical after we file such material with, or furnish it to, the Securities and Exchange Commission. This information is also available in print to any stockholder who requests it, with any such requests addressed to ChromaDex Corporation, 10900 Wilshire Blvd. Ste 600, Los Angeles, CA 90024. Certain of these documents may also be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, and other information regarding issuers that file electronically with the SEC at *www.sec.gov*. We also make available free of charge on our website our Code of Business Conduct and Ethics, and the Charters of our Audit Committee, Nominating and Corporate Governance Committee, and Compensation Committee of our Board of Directors.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Current investors and potential investors should consider carefully the risks and uncertainties described below together with all other information contained in this Form 10-K before making investment decisions with respect to our common stock. If any of the following risks occurs, our business, financial condition, results of operations and our future growth prospects would be materially and adversely affected. Under these circumstances, the trading price and value of our common stock could decline, resulting in a loss of all or part of your investment. The risks and uncertainties described in this Form 10-K are not the only ones facing our Company. Additional risks and uncertainties of which we are not presently aware, or that we currently consider immaterial, may also affect our business operations.

Risks Related to our Company and our Business

The COVID-19 pandemic has adversely affected, and is expected to continue to pose risks to our business, results of operations, financial condition and cash flows, and other epidemics or outbreaks of infectious diseases may have a similar impact.

As previously disclosed, we face risks related to the ongoing COVID-19 pandemic. COVID-19 has spread across the globe during 2020 and is impacting economic activity worldwide. COVID-19 has caused disruption and volatility in the global capital markets, and has caused an economic slowdown. The COVID-19 pandemic and its associated economic uncertainty may negatively impact our sales volumes in 2021. In response to COVID-19, national and local governments around the world have instituted certain measures, including travel bans, prohibitions on group events and gatherings, shutdowns of certain businesses, curfews, shelter-in-place orders and recommendations to practice social distancing. The duration of these measures is unknown, may be extended and additional measures may be imposed.

Among the potential effects of COVID-19 include, but are not limited to, the following:

- Reduced consumer and investor confidence, instability in the credit and financial markets, volatile corporate profits, and reduced business and consumer spending, which may adversely affect our results of operations by reducing our sales, margins and/or net income as a result of a slowdown in customer orders.
- Reduced demand for our products due to store closures and reduced operating hours of our customers.
- Disruptions in supply chain, leading to inadequate levels of inventory that may lower our sales.

For example, our retail business, including sales to A.S. Watson group and other partners in international markets, has been impacted by the effects of COVID-19, due to store closures and reduced operating hours.

To the extent the COVID-19 pandemic adversely affects our business, results of operations, financial condition and cash flows, it may also heighten many of the other risks described in this section. The ultimate impact of COVID-19 on our business, results of operations, financial condition and cash flows is dependent on future developments, including the duration of the pandemic and the related length of its impact on the global economy, which are uncertain and cannot be predicted at this time.

We have a history of operating losses, may need additional financing to meet our future long-term capital requirements and may be unable to raise sufficient capital on favorable terms or at all.

We have a history of losses and may continue to incur operating and net losses for the foreseeable future. We incurred net losses of approximately $19.9 million and $32.1 million for the years ended December 31, 2020 and December 31, 2019, respectively. We have not achieved profitability on an annual basis. We may not be able to reach a level of revenue to continue to achieve and sustain profitability. If our revenues grow slower than anticipated, or if operating expenses exceed expectations, then we may not be able to achieve and sustain profitability in the near future or at all, which may depress our stock price.

As of December 31, 2020, our cash and cash equivalents totaled approximately $16.7 million. Subsequent to the year ended December 31, 2020, we entered into a Securities Purchase Agreement with an investor, pursuant to which we sold and issued an aggregate of $25.0 million of the Company's common stock. While we anticipate that our current cash, cash equivalents, cash to be generated from operations, $25.0 million received from the financing described above and available line of credit up to $7.0 million from Western Alliance Bank will be sufficient to meet our projected operating plans through at least the next twelve months, we may require additional funds, either through additional equity or debt financings, including pursuant to the At Market Issuance Sales Agreement, dated as of June 12, 2020, with B. Riley FBR, Inc. and Raymond James & Associates, Inc. (the "ATM Facility"), or collaborative agreements or from other sources. We have no commitments to obtain such additional financing, and we may not be able to obtain any such additional financing on terms favorable to us, or at all. Further, as a result of the COVID-19 pandemic and actions taken to slow its spread, the global credit and financial markets have experienced extreme volatility, including diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. If equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult to obtain, more costly and/or more dilutive. If adequate financing is not available, the Company will further delay, postpone or terminate product and service expansion and curtail certain selling, general and administrative operations. The inability to raise additional financing may have a material adverse effect on the future performance of the Company.

Our capital requirements will depend on many factors.

Our capital requirements will depend on many factors, including:

- the revenues generated by sales of our products;
- the costs associated with expanding our sales and marketing efforts, including efforts to hire independent agents and sales representatives and obtain required regulatory approvals and clearances;
- the expenses we incur in developing and commercializing our products, including the cost of obtaining and maintaining regulatory approvals; and
- unanticipated general and administrative expenses, including expenses involved with our ongoing litigation with Elysium.

Because of these factors, we may seek to raise additional capital within the next twelve months both to meet our projected operating plans after the next twelve months and to fund our longer term strategic objectives. Additional capital may come from public and private equity or debt offerings, borrowings under lines of credit or other sources. These additional funds may not be available on favorable terms, or at all. There can be no assurance we will be successful in raising these additional funds. Furthermore, if we issue equity or debt securities to raise additional funds, our existing stockholders may experience dilution and the new equity or debt securities we issue may have rights, preferences and privileges senior to those of our existing stockholders. In addition, if we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to our products or proprietary technologies, or grant licenses on terms that are not favorable to us. If we cannot raise funds on acceptable terms, we may not be able to develop or enhance our products, obtain the required regulatory clearances or approvals, execute our business plan, take advantage of future opportunities, or respond to competitive pressures or unanticipated customer requirements. Any of these events could adversely affect our ability to achieve our development and commercialization goals, which could have a material and adverse effect on our business, results of operations and financial condition.

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain and may be inadequate, which would have a material and adverse effect on us.

Our success depends significantly on our ability to protect our proprietary rights to the technologies used in our products. We rely on patent protection, as well as a combination of copyright, trade secret and trademark laws and nondisclosure, confidentiality and other contractual restrictions to protect our proprietary technology, including our licensed technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. For example, our pending United States and foreign patent applications may not issue as patents in a form that will be advantageous to us or may issue and be subsequently successfully challenged by others and invalidated. In addition, our pending patent applications include claims to material aspects of our products and procedures that are not currently protected by issued patents. Both the patent application process and the process of managing patent disputes can be time consuming and expensive. Competitors may be able to design around our patents or develop products which provide outcomes which are comparable or even superior to ours. Steps that we have taken to protect our intellectual property and proprietary technology, including entering into confidentiality agreements and intellectual property assignment agreements with some of our officers, employees, consultants and advisors, may not provide us with meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements. Furthermore, the laws of foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

In the event a competitor infringes our licensed or pending patent or other intellectual property rights, enforcing those rights may be costly, uncertain, difficult and time consuming. Even if successful, litigation to enforce our intellectual property rights or to defend our patents against challenge could be expensive and time consuming and could divert our management's attention. We may not have sufficient resources to enforce our intellectual property rights or to defend our patents rights against a challenge. The failure to obtain patents and/or protect our intellectual property rights could have a material and adverse effect on our business, results of operations and financial condition.

Our patents and licenses may be subject to challenge on validity grounds, and our patent applications may be rejected.

We rely on our patents, patent applications, licenses and other intellectual property rights to give us a competitive advantage. Whether a patent is valid, or whether a patent application should be granted, is a complex matter of science and law, and therefore we cannot be certain that, if challenged, our patents, patent applications and/or other intellectual property rights would be upheld. If one or more of those patents, patent applications, licenses and other intellectual property rights are invalidated, rejected or found unenforceable, that could reduce or eliminate any competitive advantage we might otherwise have had.

We may become subject to claims of infringement or misappropriation of the intellectual property rights of others, which could prohibit us from developing our products, require us to obtain licenses from third parties or to develop non-infringing alternatives and subject us to substantial monetary damages.

Third parties could, in the future, assert infringement or misappropriation claims against us with respect to products we develop. Whether a product infringes a patent or misappropriates other intellectual property involves complex legal and factual issues, the determination of which is often uncertain. Therefore, we cannot be certain that we have not infringed the intellectual property rights of others. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for use related to the use or manufacture of our products, and our potential competitors may assert that some aspect of our product infringes their patents. Because patent applications may take years to issue, there also may be applications now pending of which we are unaware that may later result in issued patents upon which our products could infringe. There also may be existing patents or pending patent applications of which we are unaware upon which our products may inadvertently infringe.

Any infringement or misappropriation claim could cause us to incur significant costs, place significant strain on our financial resources, divert management's attention from our business and harm our reputation. If the relevant patents in such claim were upheld as valid and enforceable and we were found to infringe them, we could be prohibited from manufacturing or selling any product that is found to infringe unless we could obtain licenses to use the technology covered by the patent or are able to design around the patent. We may be unable to obtain such a license on terms acceptable to us, if at all, and we may not be able to redesign our products to avoid infringement, which could materially impact our revenue. A court could also order us to pay compensatory damages for such infringement, plus prejudgment interest and could, in addition, treble the compensatory damages and award attorney fees. These damages could be substantial and could harm our reputation, business, financial condition and operating results. A court also could enter orders that temporarily, preliminarily or permanently enjoin us and our customers from making, using, or selling products, and could enter an order mandating that we undertake certain remedial activities. Depending on the nature of the relief ordered by the court, we could become liable for additional damages to third parties.

The prosecution and enforcement of patents licensed to us by third parties are not within our control. Without these technologies, our products may not be successful and our business would be harmed if the patents were infringed on or misappropriated without action by such third parties.

We have obtained licenses from third parties for patents and patent application rights related to the products we are developing, allowing us to use intellectual property rights owned by or licensed to these third parties. We do not control the maintenance, prosecution, enforcement or strategy for many of these patents or patent application rights and as such are dependent in part on the owners of the intellectual property rights to maintain their viability. If any third-party licensor is unable to successfully maintain, prosecute or enforce the licensed patents and/or patent application rights related to our products, we may become subject to infringement or misappropriate claims or lose our competitive advantage. Without access to these technologies or suitable design-around or alternative technology options, our ability to conduct our business could be impaired significantly.

We are currently engaged in substantial and complex litigation with Elysium Health, Inc. and Elysium Health LLC (collectively, "Elysium"), the outcome of which could materially harm our business and financial results.

The litigation includes multiple complaints and counterclaims by us and Elysium in venues in California and New York, as well as a patent infringement complaint filed by the Company and Trustees of Dartmouth College. For further details on this litigation, please refer to Part I, Item 3 of this Annual Report on Form 10-K.

The litigation is substantial and complex, and it has caused and could continue to cause us to incur significant costs, as well as distract our management over an extended period. The litigation may substantially disrupt our business and we cannot assure you that we will be able to resolve the litigation on terms favorable to us. If we are unsuccessful in resolving the litigation on favorable terms to us, we may be forced to pay compensatory and punitive damages and restitution for any royalty payments that we received from Elysium, which payments could materially harm our business, or be subject to other remedies, including injunctive relief. We cannot predict the outcome of our litigation with Elysium, which could have any of the results described above or other results that could materially adversely affect our business.

Interruptions in our relationships or declines in our business with major customers could materially harm our business and financial results.

A.S. Watson Group accounted for approximately 13% of our sales during the year ended December 31, 2020. Any interruption in our relationship or decline in our business with this customer or other customers upon whom we become highly dependent could cause harm to our business. Factors that could influence our relationship with our customers upon whom we may become highly dependent include:

- our ability to maintain our products at prices that are competitive with those of our competitors;
- our ability to maintain quality levels for our products sufficient to meet the expectations of our customers;
- our ability to produce, ship and deliver a sufficient quantity of our products in a timely manner to meet the needs of our customers;
- our ability to continue to develop and launch new products that our customers feel meet their needs and requirements, with respect to cost, timeliness, features, performance and other factors;
- our ability to provide timely, responsive and accurate customer support to our customers; and
- the ability of our customers to effectively deliver, market and increase sales of their own products based on ours.

Our future success largely depends on sales of our TRU NIAGEN® product.

In connection with our strategic shift from an ingredient and testing company to a consumer-focused company, we expect to generate a significant percentage of our future revenue from sales of our TRU NIAGEN® product. As a result, the market acceptance of TRU NIAGEN® is critical to our continued success, and if we are unable to expand market acceptance of TRU NIAGEN®, our business, results of operations, financial condition, liquidity and growth prospects would be materially adversely affected.

Our TRU NIAGEN® products are not approved by the United States Food and Drug Administration or any foreign regulatory authority to mitigate, prevent, treat, diagnose or cure COVID-19 or any other disease or condition.

As previously disclosed, in November 2020, we received a warning letter (the "Letter") from the FDA and Federal Trade Commission ("FTC"). The Letter references statements related to preclinical and clinical research and data involving NR and COVID-19 that were included in certain press releases and social media posts issued by us (the "Public Disclosures"). The Letter asserts that our TRU NIAGEN® products are intended to mitigate, prevent, treat, diagnose or cure COVID-19 in violation of certain sections of the Federal Food, Drug, and Cosmetic Act (the "FD&C Act") and the Federal Trade Commission Act (the "FTC Act"). We provided a response (the "Response") to the Letter stating that we disagree with the assertion in the Letter that our products are intended to mitigate, prevent, treat, diagnose or cure COVID-19 in violation of certain sections of the FD&C Act and the FTC Act. The Response notes that the Public Disclosures accurately describe the scientific research regarding NR and COVID-19, and that such Public Disclosures were not intended to suggest the use of our products for therapeutic purposes. However, in order to address the concerns from the Letter, we deleted certain social media posts and removed certain press releases from our website, including the Public Disclosures.

In February 2021, we announced that results from the study "Combined Metabolic Activators Accelerates Recovery in Mild-to-Moderate COVID-19" conducted by a third party were published on a preprint publication website. The randomized, placebo-controlled, and double-blind Phase 3 clinical trial conducted in Turkey demonstrated that patients with mild-to-moderate COVID-19 receiving Turkish standard of care experienced a 3.5 day reduction in recovery time when receiving an added nutritional protocol. Aimed at improving mitochondrial function, the protocol included NR, L-serine, N-acetyl-L-cysteine (NAC), and L-carnitine tartrate. However, our TRU NIAGEN® products are not approved by the FDA or any foreign regulatory authority to mitigate, prevent, treat, diagnose or cure COVID-19 or any other disease or condition, and are not intended for such use, and may never be approved for such use by the FDA or any foreign regulatory authority.

Decline in the state of the global economy and financial market conditions could adversely affect our ability to conduct business and our results of operations.

Global economic and financial market conditions, including disruptions in the credit markets and the impact of the global economic deterioration may materially impact our customers and other parties with whom we do business. For example, the COVID-19 pandemic and actions taken to slow its spread, have caused the global credit and financial markets to experience extreme volatility, including diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. These conditions could negatively affect our future sales of our ingredient lines as many consumers consider the purchase of nutritional products discretionary. Decline in general economic and financial market conditions could materially adversely affect our financial condition and results of operations. Specifically, the impact of these volatile and negative conditions may include decreased demand for our products and services, a decrease in our ability to accurately forecast future product trends and demand, and a negative impact on our ability to timely collect receivables from our customers. The foregoing economic conditions may lead to increased levels of bankruptcies, restructurings and liquidations for our customers, scaling back of research and development expenditures, delays in planned projects and shifts in business strategies for many of our customers. Such events could, in turn, adversely affect our business through loss of sales.

We may need to increase the size of our organization, and we can provide no assurance that we will successfully expand operations or manage growth effectively.

Our significant increase in the scope and the scale of our product launches, including the hiring of additional personnel, has resulted in significantly higher operating expenses. As a result, we anticipate that our operating expenses will continue to increase. Expansion of our operations may also cause a significant demand on our management, finances and other resources. Our ability to manage the anticipated future growth, should it occur, will depend upon a significant expansion of our accounting and other internal management systems and the implementation and subsequent improvement of a variety of systems, procedures and controls. There can be no assurance that significant problems in these areas will not occur. Any failure to expand these areas and implement and improve such systems, procedures and controls in an efficient manner at a pace consistent with our business could have a material adverse effect on our business, financial condition and results of operations. There can be no assurance that our attempts to expand our marketing, sales, manufacturing and customer support efforts will be successful or will result in additional sales or profitability in any future period. As a result of the expansion of our operations and the anticipated increase in our operating expenses, as well as the difficulty in forecasting revenue levels, we expect to continue to experience significant fluctuations in our results of operations.

Changes in our business strategy, including entering the consumer product market, or restructuring of our businesses may increase our costs or otherwise affect the profitability of our businesses.

As changes in our business environment occur we may adjust our business strategies to meet these changes or we may otherwise decide to restructure our operations or businesses or assets. In addition, external events including changing technology, changing consumer patterns and changes in macroeconomic conditions may impair the value of our assets. When these changes or events occur, we may incur costs to change our business strategy and may need to write down the value of assets. In any of these events, our costs may increase, we may have significant charges associated with the write-down of assets or returns on new investments may be lower than prior to the change in strategy or restructuring. For example, if we are not successful in developing our consumer product business, our sales may decrease and our costs may increase.

The success of our consumer product and ingredient business is linked to the size and growth rate of the vitamin, mineral and dietary supplement market and an adverse change in the size or growth rate of that market could have a material adverse effect on us.

An adverse change in the size or growth rate of the vitamin, mineral and dietary supplement market could have a material adverse effect on our business. Underlying market conditions are subject to change based on economic conditions, consumer preferences and other factors that are beyond our control, including media attention and scientific research, which may be positive or negative.

The future growth and profitability of our consumer product business will depend in large part upon the effectiveness and efficiency of our marketing efforts and our ability to select effective markets and media in which to market and advertise.

Our consumer products business success depends on our ability to attract and retain customers, which significantly depends on our marketing practices. Our future growth and profitability will depend in large part upon the effectiveness and efficiency of our marketing efforts, including our ability to:

- create greater awareness of our brand;
- identify the most effective and efficient levels of spending in each market, media and specific media vehicle;
- determine the appropriate creative messages and media mix for advertising, marketing and promotional expenditures;
- effectively manage marketing costs (including creative and media) to maintain acceptable customer acquisition costs;
- acquire cost-effective television advertising;
- select the most effective markets, media and specific media vehicles in which to market and advertise; and
- convert consumer inquiries into actual orders.

Unfavorable publicity or consumer perception of our products and any similar products distributed by other companies could have a material adverse effect on our business.

We believe the nutritional supplement market is highly dependent upon consumer perception regarding the safety, efficacy and quality of nutritional supplements generally, as well as of products distributed specifically by us. Consumer perception of our products can be significantly influenced by scientific research or findings, regulatory investigations, litigation, national media attention and other publicity regarding the consumption of nutritional supplements. We cannot assure you that future scientific research, findings, regulatory proceedings, litigation, media attention or other favorable research findings or publicity will be favorable to the nutritional supplement market or any product, or consistent with earlier publicity. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favorable than, or that question, such earlier research reports, findings or publicity could have a material adverse effect on the demand for our products and consequently on our business, results of operations, financial condition and cash flows.

Our dependence upon consumer perceptions means that adverse scientific research reports, findings, regulatory proceedings, litigation, media attention or other publicity, if accurate or with merit, could have a material adverse effect on the demand for our products, the availability and pricing of our ingredients, and our business, results of operations, financial condition and cash flows. Further, adverse public reports or other media attention regarding the safety, efficacy and quality of nutritional supplements in general, or our products specifically, or associating the consumption of nutritional supplements with illness, could have such a material adverse effect. Any such adverse public reports or other media attention could arise even if the adverse effects associated with such products resulted from consumers' failure to consume such products appropriately or as directed and the content of such public reports and other media attention may be beyond our control.

We may incur material product liability claims, which could increase our costs and adversely affect our reputation, revenues and operating income.

As a consumer product and ingredient supplier we market and manufacture products designed for human and animal consumption, we are subject to product liability claims if the use of our products is alleged to have resulted in injury. Our products consist of vitamins, minerals, herbs and other ingredients that are classified as food ingredients, dietary supplements, or natural health products, and, in most cases, are not necessarily subject to pre-market regulatory approval in the United States. Some of our products contain innovative ingredients that do not have long histories of human consumption. Previously unknown adverse reactions resulting from human consumption of these ingredients could occur. In addition, the products we sell are produced by third-party manufacturers. As a marketer of products manufactured by third parties, we also may be liable for various product liability claims for products we do not manufacture. We may, in the future, be subject to various product liability claims, including, among others, that our products include inadequate instructions for use or inadequate warnings concerning possible side effects and interactions with other substances. A product liability claim against us could result in increased costs and could adversely affect our reputation with our customers, which, in turn, could have a materially adverse effect on our business, results of operations, financial condition and cash flows.

We acquire ingredients for our products from foreign suppliers, and may be negatively affected by the risks associated with international trade and importation issues.

We acquire ingredients for a number of our products from suppliers outside of the United States. Accordingly, the acquisition of these ingredients is subject to the risks generally associated with importing raw materials, including, among other factors, delays in shipments, changes in economic and political conditions, quality assurance, health epidemics affecting the region of such suppliers, including COVID-19, nonconformity to specifications or laws and regulations, tariffs, trade disputes and foreign currency fluctuations. While we have a supplier certification program and audit and inspect our suppliers' facilities as necessary both in the United States and internationally, we cannot assure you that raw materials received from suppliers outside of the United States will conform to all specifications, laws and regulations. There have in the past been quality and safety issues in our industry with certain items imported from overseas. We may incur additional expenses and experience shipment delays due to preventative measures adopted by the U.S. governments, our suppliers and our company.

The insurance industry has become more selective in offering some types of coverage and we may not be able to obtain insurance coverage in the future.

The insurance industry has become more selective in offering some types of insurance, such as product liability, product recall, property and directors' and officers' liability insurance. Our current insurance program is consistent with both our past level of coverage and our risk management policies. However, we cannot assure you that we will be able to obtain comparable insurance coverage on favorable terms, or at all, in the future. Certain of our customers as well as prospective customers require that we maintain minimum levels of coverage for our products. Lack of coverage or coverage below these minimum required levels could cause these customers to materially change business terms or to cease doing business with us entirely.

If we experience product recalls, we may incur significant and unexpected costs, and our business reputation could be adversely affected.

We may be exposed to product recalls and adverse public relations if our products are alleged to be mislabeled or to cause injury or illness, or if we are alleged to have violated governmental regulations. A product recall could result in substantial and unexpected expenditures, which would reduce operating profit and cash flow. In addition, a product recall may require significant management attention. Product recalls may hurt the value of our brands and lead to decreased demand for our products. Product recalls also may lead to increased scrutiny by federal, state or international regulatory agencies of our operations and increased litigation and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

We depend on key personnel, the loss of any of which could negatively affect our business.

We depend greatly on Frank L. Jaksch Jr., Robert N. Fried, Kevin M. Farr and Lisa H. Harrington, who are our Executive Chairman of the Board, Chief Executive Officer, Chief Financial Officer and General Counsel, respectively. We also depend greatly on other key employees, including key scientific and marketing personnel. In general, only highly qualified and trained scientists have the necessary skills to develop our products and provide our services. Only marketing personnel with specific experience and knowledge in health care are able to effectively market our products. In addition, some of our manufacturing, quality control, safety and compliance, information technology, sales and e-commerce related positions are highly technical as well. We face intense competition for these professionals from our competitors, customers, marketing partners and other companies throughout the industries in which we compete. Our success will depend, in part, upon our ability to attract and retain additional skilled personnel, which will require substantial additional funds. There can be no assurance that we will be able to find and attract additional qualified employees or retain any such personnel. Our inability to hire qualified personnel, the loss of services of our key personnel, or the loss of services of executive officers or key employees that may be hired in the future may have a material and adverse effect on our business.

Our operating results may fluctuate significantly as a result of a variety of factors, many of which are outside of our control.

We are subject to the following factors, among others, that may negatively affect our operating results:

- the announcement or introduction of new products by our competitors;
- our ability to upgrade and develop our systems and infrastructure to accommodate growth;
- the decision by significant customers to reduce purchases;
- disputes and litigation with competitors;
- our ability to attract and retain key personnel in a timely and cost-effective manner;
- technical difficulties;
- the amount and timing of operating costs and capital expenditures relating to the expansion of our business, operations and infrastructure;
- regulation by federal, state or local governments; and
- general economic conditions as well as economic conditions specific to the healthcare industry.

For example, our operating results may be harmed by the effect of the COVID-19 pandemic on global economic conditions. As a result of our limited operating history and the nature of the markets in which we compete, it is extremely difficult for us to make accurate forecasts. We have based our current and future expense levels largely on our investment plans and estimates of future events although certain of our expense levels are, to a large extent, fixed. Assuming our products reach the market, we may be unable to adjust spending in a timely manner to compensate for any unexpected revenue shortfall. Accordingly, any significant shortfall in revenues relative to our planned expenditures would have an immediate adverse effect on our business, results of operations and financial condition. Further, as a strategic response to changes in the competitive environment, we may from time to time make certain pricing, service or marketing decisions that could have a material and adverse effect on our business, results of operations and financial condition. Due to the foregoing factors, our revenues and operating results are and will remain difficult to forecast.

We face significant competition, including changes in pricing.

The markets for our products and services are both competitive and price sensitive. Many of our competitors have significant financial, operations, sales and marketing resources and experience in research and development. Competitors could develop new technologies that compete with our products and services or even render our products obsolete. If a competitor develops superior technology or cost-effective alternatives to our products and services, our business could be seriously harmed.

The markets for some of our products are also subject to specific competitive risks because these markets are highly price competitive. Our competitors have competed in the past by lowering prices on certain products. If they do so again, we may be forced to respond by lowering our prices. This would reduce sales revenues and increase losses. Failure to anticipate and respond to price competition may also impact sales and aggravate losses.

We believe that customers in our markets display a significant amount of loyalty to their supplier of a particular product. To the extent we are not the first to develop, offer and/or supply new products, customers may buy from our competitors or make materials themselves, causing our competitive position to suffer.

Many of our competitors are larger and have greater financial and other resources than we do.

Our products compete and will compete with other similar products produced by our competitors. These competitive products could be marketed by well-established, successful companies that possess greater financial, marketing, distributional, personnel and other resources than we possess. Using these resources, these companies can implement extensive advertising and promotional campaigns, both generally and in response to specific marketing efforts by competitors, and enter into new markets more rapidly to introduce new products. In certain instances, competitors with greater financial resources also may be able to enter a market in direct competition with us, offering attractive marketing tools to encourage the sale of products that compete with our products or present cost features that consumers may find attractive.

We may never develop any additional products to commercialize.

We have invested a substantial amount of our time and resources in developing various new products. Commercialization of these products will require additional development, clinical evaluation, regulatory approval, significant marketing efforts and substantial additional investment before they can provide us with any revenue. Despite our efforts, these products may not become commercially successful products for a number of reasons, including but not limited to:

- we may not be able to obtain regulatory approvals for our products, or the approved indication may be narrower than we seek;
- our products may not prove to be safe and effective in clinical trials;
- we may experience delays in our development program;
- any products that are approved may not be accepted in the marketplace;
- we may not have adequate financial or other resources to complete the development or to commence the commercialization of our products or will not have adequate financial or other resources to achieve significant commercialization of our products;
- we may not be able to manufacture any of our products in commercial quantities or at an acceptable cost;
- rapid technological change may make our products obsolete;
- we may be unable to effectively protect our intellectual property rights or we may become subject to claims that our activities have infringed the intellectual property rights of others; and
- we may be unable to obtain or defend patent rights for our products.

In addition, we may never achieve technical feasibility under the supply agreement with Nestec Ltd., and therefore our sales and profit expectations resulting from this agreement may be reduced.

We may not be able to partner with others for technological capabilities and new products and services.

Our ability to remain competitive may depend, in part, on our ability to continue to seek partners that can offer technological improvements and improve existing products and services that are offered to our customers. We are committed to attempting to keep pace with technological change, to stay abreast of technology changes and to look for partners that will develop new products and services for our customer base. We cannot assure prospective investors that we will be successful in finding partners or be able to continue to incorporate new developments in technology, to improve existing products and services, or to develop successful new products and services, nor can we be certain that newly developed products and services will perform satisfactorily or be widely accepted in the marketplace or that the costs involved in these efforts will not be substantial.

If we fail to maintain adequate quality standards for our products and services, our business may be adversely affected and our reputation harmed.

Dietary supplement, nutraceutical, food and beverage, functional food, analytical laboratories, pharmaceutical and cosmetic customers are often subject to rigorous quality standards to obtain and maintain regulatory approval of their products and the manufacturing processes that generate them. A failure to maintain, or, in some instances, upgrade our quality standards to meet our customers' needs, could cause damage to our reputation and potentially substantial sales losses.

We may be subject to damages resulting from claims that we, our employees, or our independent contractors have wrongfully used or disclosed alleged trade secrets of others.

Some of our employees were previously employed at other dietary supplement, nutraceutical, food and beverage, functional food, analytical laboratories, pharmaceutical and cosmetic companies. We may also hire additional employees who are currently employed at other such companies, including our competitors. Additionally, consultants or other independent agents with which we may contract may be or have been in a contractual arrangement with one or more of our competitors. We may be subject to claims that these employees or independent contractors have used or disclosed such other party's trade secrets or other proprietary information. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to our management. If we fail to defend such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key personnel or their work product could hamper or prevent our ability to market existing or new products, which could severely harm our business.

Litigation may harm our business.

Substantial, complex or extended litigation could cause us to incur significant costs and distract our management. For example, lawsuits by employees, stockholders, collaborators, distributors, customers, competitors or others could be very costly and substantially disrupt our business. Disputes from time to time with such companies, organizations or individuals are not uncommon, and we cannot assure you that we will always be able to resolve such disputes or on terms favorable to us. As further described in Part I, Item 3 of this Annual Report on Form 10-K, we are currently involved in substantial and complex litigation. Unexpected results could cause us to have financial exposure in these matters in excess of recorded reserves and insurance coverage, requiring us to provide additional reserves to address these liabilities, therefore impacting profits.

Our sales and results of operations for our analytical reference standards and services segment depend on our customers' research and development efforts and their ability to obtain funding for these efforts.

Our analytical reference standards and services segment customers include researchers at pharmaceutical and biotechnology companies, chemical and related companies, academic institutions, government laboratories and private foundations. Fluctuations in the research and development budgets of these researchers and their organizations could have a significant effect on the demand for our products. Our customers determine their research and development budgets based on several factors, including the need to develop new products, the availability of governmental and other funding, competition and the general availability of resources. As we continue to expand our international operations, we expect research and development spending levels in markets outside of the United States will become increasingly important to us.

Research and development budgets fluctuate due to changes in available resources, spending priorities, general economic conditions, institutional and governmental budgetary limitations and mergers of pharmaceutical and biotechnology companies. Our business could be harmed by any significant decrease in life science and high technology research and development expenditures by our customers. In particular, a small portion of our sales has been to researchers whose funding is dependent on grants from government agencies such as the United States National Institute of Health, the National Science Foundation, the National Cancer Institute and similar agencies or organizations. Government funding of research and development is subject to the political process, which is often unpredictable. Other departments, such as Homeland Security or Defense, or general efforts to reduce the United States federal budget deficit could be viewed by the government as a higher priority. Any shift away from funding of life science and high technology research and development or delays surrounding the approval of governmental budget proposals may cause our customers to delay or forego purchases of our products and services, which could seriously damage our business.

Some of our customers receive funds from approved grants at a particular time of year, many times set by government budget cycles. In the past, such grants have been frozen for extended periods or have otherwise become unavailable to various institutions without notice. The timing of the receipt of grant funds may affect the timing of purchase decisions by our customers and, as a result, cause fluctuations in our sales and operating results.

Demand for our products and services are subject to the commercial success of our customers' products, which may vary for reasons outside our control.

Even if we are successful in securing utilization of our products in a customer's manufacturing process, sales of many of our products and services remain dependent on the timing and volume of the customer's production, over which we have no control. The demand for our products depends on regulatory approvals and frequently depends on the commercial success of the customer's supported product. Regulatory processes are complex, lengthy, expensive, and can often take years to complete.

We may bear financial risk if we underprice our contracts or overrun cost estimates.

In cases where our contracts are structured as fixed price or fee-for-service with a cap, we bear the financial risk if we initially underprice our contracts or otherwise overrun our cost estimates. Such underpricing or significant cost overruns could have a material adverse effect on our business, results of operations, financial condition and cash flows.

We rely on single or a limited number of third-party suppliers for the raw materials required to produce our products.

Our dependence on a limited number of third-party suppliers or on a single supplier, and the challenges we may face in obtaining adequate supplies of raw materials, involve several risks, including limited control over pricing, availability, health epidemics affecting the region of such suppliers (including the coronavirus), quality and delivery schedules. We cannot be certain that our current suppliers will continue to provide us with the quantities of these raw materials that we require or satisfy our anticipated specifications and quality requirements. Due to COVID-19, there may be delays in shipments from our suppliers. Any supply interruption in limited or sole sourced raw materials could materially harm our ability to manufacture our products until a new source of supply, if any, could be identified and qualified. We may be unable to find a sufficient alternative supply channel in a reasonable time or on commercially reasonable terms. Any performance failure on the part of our suppliers could delay the development and commercialization of our products, or interrupt production of then existing products that are already marketed, which would have a material adverse effect on our business. For example, W.R. Grace & Co.-Conn. ("Grace") is the exclusive manufacturer to us for the supply of NR. There is no guarantee that we will be able to continue to contract with Grace for the supply of NR, or that such terms will be favorable to us.

We may not be successful in acquiring complementary businesses or products on favorable terms.

As part of our business strategy, we intend to consider acquisitions of similar or complementary businesses or products. No assurance can be given that we will be successful in identifying attractive acquisition candidates or completing acquisitions on favorable terms. In addition, any future acquisitions will be accompanied by the risks commonly associated with acquisitions. These risks include potential exposure to unknown liabilities of acquired companies or to acquisition costs and expenses, the difficulty and expense of integrating the operations and personnel of the acquired companies, the potential disruption to the business of the combined company and potential diversion of our management's time and attention, the impairment of relationships with and the possible loss of key employees and clients as a result of the changes in management, the incurrence of amortization expenses and write-downs and dilution to the shareholders of the combined company if the acquisition is made for stock of the combined company. In addition, successful completion of an acquisition may depend on consents from third parties, including regulatory authorities and private parties, which consents are beyond our control. There can be no assurance that products, technologies or businesses of acquired companies will be effectively assimilated into the business or product offerings of the combined company or will have a positive effect on the combined company's revenues or earnings. Further, the combined company may incur significant expense to complete acquisitions and to support the acquired products and businesses. Any such acquisitions may be funded with cash, debt or equity, which could have the effect of diluting or otherwise adversely affecting the holdings or the rights of our existing stockholders.

If we experience a significant disruption in our information technology systems or if we fail to implement new systems and software successfully, our business could be adversely affected.

We depend on information systems throughout our company to control our manufacturing processes, process orders, manage inventory, process and bill shipments and collect cash from our customers, respond to customer inquiries, contribute to our overall internal control processes, maintain records of our property, plant and equipment, and record and pay amounts due vendors and other creditors. Due to COVID-19, most of our employees have been working remotely from home and we have depended on communication tools and remote connections to our information technology systems to conduct business virtually. If we were to experience a prolonged disruption in our information systems that involve interactions amongst employees as well as with customers and suppliers, it could result in the loss of sales and customers and/or increased costs, which could adversely affect our overall business operation.

If we are unable to maintain sales, marketing and distribution capabilities or maintain arrangements with third parties to sell, market and distribute our products, our business may be harmed.

To achieve commercial success for our products, we must sell our product lines and/or technologies at favorable prices. In addition to being expensive, maintaining such a sales force is time-consuming. Qualified direct sales personnel with experience in the natural products industry are in high demand, and there can be no assurance that we will be able to hire or retain an effective direct sales team. Similarly, qualified independent sales representatives both within and outside the United States are in high demand, and we may not be able to build an effective network for the distribution of our product through such representatives. There can be no assurance that we will be able to enter into contracts with representatives on terms acceptable to us. Furthermore, there can be no assurance that we will be able to build an alternate distribution framework should we attempt to do so.

We may also need to contract with third parties in order to market our products. To the extent that we enter into arrangements with third parties to perform marketing and distribution services, our product revenue could be lower and our costs higher than if we directly marketed our products. Furthermore, to the extent that we enter into co-promotion or other marketing and sales arrangements with other companies, any revenue received will depend on the skills and efforts of others, and we do not know whether these efforts will be successful. If we are unable to establish and maintain adequate sales, marketing and distribution capabilities, independently or with others, we will not be able to generate product revenue, and may not become profitable.

Our business could be negatively impacted by cyber security threats.

In the ordinary course of our business, we use our data centers and our networks to store and access our proprietary business information. We face various cyber security threats, including cyber security attacks to our information technology infrastructure and attempts by others to gain access to our proprietary or sensitive information. Due to COVID-19, there may be additional cyber security threats as most of our employees work from home, utilizing network connections outside of the Company premises. Information security risks have significantly increased in recent years in part due to the proliferation of new technologies and the increased sophistication and activities of organized crime, hackers, data and related privacy breaches, terrorists and other external parties, including foreign private parties and state actors. Despite the implementation of preventative and detective security measures, our internal computer systems and those of our current and any future contractors, consultants, collaborators and third-party service providers, are vulnerable to damage or interruption from a variety of sources, including computer viruses, unauthorized access, accidental acts or omissions by those with authorized access, natural disasters, terrorism, war, telecommunication and electrical failure, and cybersecurity threats (including the deployment of harmful malware, ransomware, denial-of-service attacks, supply chain attacks, social engineering, and other means to affect service reliability and threaten the confidentiality, integrity, and availability of information). The procedures and controls we use to monitor these threats and mitigate our exposure may not be sufficient to prevent all cyber security incidents. The result of these incidents could include disrupted operations, lost opportunities, misstated financial data, liability for stolen assets or information, theft of our intellectual property, loss of data and other personally identifiable information, increased costs arising from the implementation of additional security protective measures, litigation and reputational damage. Any remedial costs or other liabilities related to cyber security incidents may not be fully insured or indemnified by other means. Additionally, some of the federal, state and foreign government requirements include obligations of companies to notify individuals of security breaches involving particular personally identifiable information, which could result from breaches experienced by us or by our vendors, contractors, or organizations with which we have formed strategic relationships. Notifications and follow-up actions related to a security breach could impact our reputation, cause us to incur significant costs, including legal expenses and remediation costs.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and, if applicable, process data globally, and the failure to comply with such requirements could have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. For example, the European Union's General Data Protection Regulation ("GDPR") imposes strict obligations on the processing of personal data, including, without limitation, personal health data, and the free movement of such data. The GDPR applies to any company established in the European Union as well as any company outside the European Union that processes personal data in connection with the offering of goods or services to individuals in the European Union or the monitoring of their behavior. The GDPR provides data protection obligations for processors and controllers of personal data, including, for example, obligations relating to: processing health and other sensitive data; obtaining consent of individuals; providing notice to individuals regarding data processing activities; responding to data subject requests; taking certain measures when engaging third-party processors; notifying data subjects and regulators of data breaches; implementing safeguards to protect the security and confidentiality of personal data; and transferring personal data to countries outside the European Union, including the U.S. The GDPR imposes fines for breaches of data protection requirements and provides other remedies for parties who suffer harm as a result of a data breach. Furthermore, the vote in the United Kingdom in favor of exiting the European Union, referred to as Brexit, has complicated data protection regulation in the United Kingdom. As of January 1, 2021, the GDPR has been converted into United Kingdom law and the United Kingdom is now a "third country" under the GDPR. The United Kingdom and European Union agreed to an extendable four-month period as of January 1, 2021 during which the United Kingdom will be treated like an European Union member state in relation to transfers of personal data to the United Kingdom. However, following the expiration of the specified period, there will be an increasing scope for divergence in application, interpretation and enforcement of the data protection law as between the United Kingdom and the European Economic Area ("EEA"). The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices or lead to government enforcement actions, private litigation or significant penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Similarly, European data protection laws also generally prohibit the transfer of personal data from Europe, including the EEA, United Kingdom and Switzerland, to the United States and most other countries unless the parties to the transfer have implemented specific safeguards to protect the transferred personal data. One of the primary safeguards used for transfers of personal data from the European Union to the United States, namely, the Privacy Shield framework administered by the U.S. Department of Commerce, was recently invalidated by a decision of the European Union's highest court. The same decision also cast doubt on the ability to use one of the primary alternatives to the Privacy Shield, namely, the European Commission's Standard Contractual Clauses, to lawfully transfer personal data from Europe to the United States and most other countries. At present, there are few if any viable alternatives to the Privacy Shield and the Standard Contractual Clauses. To the extent that we were to rely on the EU-U.S. Privacy Shield Framework or the Standard Contractual Clauses, we will not be able to do so in the future, which could increase our costs and limit our ability to process personal data from the European Union.

Additionally, the California Consumer Privacy Act (the "CCPA"), creates new individual privacy rights for consumers and places increased privacy and security obligations on entities handling personal data of consumers. Among other things, the CCPA requires covered companies to provide new disclosures to California consumers, and provides such consumers new ways to opt-out of certain sales of personal information. The CCPA provides for penalties for violations, as well as other remedies for parties who suffer harm as a result of a data breach, which may increase data breach litigation. Moreover, effective starting on January 1, 2023, the California Privacy Rights Act ("CPRA") will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. Likewise, new legislation proposed or enacted in Illinois, Massachusetts, Nevada, New Jersey, New York, Rhode Island, Virginia, Washington and other states, imposes, or has the potential to impose, additional obligations on companies that collect, store, use, retain, disclose, transfer and otherwise process confidential, sensitive and personal information. The CCPA, CPRA and other proposed or enacted state laws may increase our compliance costs and potential liability. We expect that there will continue to be new proposed laws and regulations concerning data privacy and security, and we cannot yet determine the impact such future laws, regulations and standards may have on our business.

Our failure to establish and maintain effective internal control over financial reporting could result in material misstatements in our financial statements, our failure to meet our reporting obligations and cause investors to lose confidence in our reported financial information, which in turn could cause the trading price of our common stock to decline.

Maintaining effective internal control over financial reporting is necessary for us to produce reliable financial statements. Our management previously identified a material weakness in our internal control over financial reporting and concluded that the material weakness has not been remediated and our disclosure controls and procedures were not effective as of December 31, 2020. The material weakness in internal control over financial reporting resulted from a deficiency in our disclosure controls and procedures which could have resulted in us not disclosing a material potential loss requiring a qualitative disclosure and recording a liability in our consolidated financial statements under ASC 450 – Contingencies. If not remediated, or if we identify further material weaknesses in our internal controls, our failure to establish and maintain effective disclosure controls and procedures and internal control over financial reporting could result in material misstatements in our financial statements and a failure to meet our reporting and financial obligations, each of which could have a material adverse effect on our financial condition and the trading price of our common stock.

We are subject to financial and operating covenants in our business financing agreement with Western Alliance Bank (the "Credit Agreement") and any failure to comply with such covenants, or obtain waivers in the event of non-compliance, could limit our borrowing availability under the Credit Agreement, resulting in our being unable to borrow under the Credit Agreement and materially adversely impact our liquidity. In addition, our operations may not provide sufficient cash to meet the repayment obligations of debt incurred under the Credit Agreement.

The Credit Agreement contains affirmative and restrictive covenants, including covenants regarding delivery of financial statements, maintenance of inventory, payment of taxes, maintenance of insurance, dispositions of property, business combinations or acquisitions and incurrence of additional indebtedness, among other customary covenants, in each case subject to limited exceptions.

There can be no assurance that we will be able to comply with the financial and other covenants in the Credit Agreement, and the effects of COVID-19 may make it more difficult for us to comply with such covenants. Our failure to comply with these covenants could cause us to be unable to borrow under the Credit Agreement and may constitute an event of default which, if not cured or waived, could result in the acceleration of the maturity of any indebtedness then outstanding under the Credit Agreement, which would require us to pay all amounts then outstanding. If we are unable to repay those amounts, Western Alliance Bank could proceed against the collateral granted to them to secure that debt, which would seriously harm our business. Such an event could materially adversely affect our financial condition and liquidity. Additionally, such events of non-compliance could impact the terms of any additional borrowings and/or any credit renewal terms. Any failure to comply with such covenants may be a disclosable event and may be perceived negatively. Such perception could adversely affect the market price for our common stock and our ability to obtain financing in the future.

Risks Related to Regulatory Approval of Our Products and Other Government Regulations

We are subject to regulation by various federal, state and foreign agencies that require us to comply with a wide variety of regulations, including those regarding the manufacture of products, advertising and product label claims, the distribution of our products and environmental matters. Failure to comply with these regulations could subject us to fines, penalties and additional costs.

Some of our operations are subject to regulation by various United States federal agencies and similar state and international agencies, including the Department of Commerce, the FDA, the FTC, the Department of Transportation and the Department of Agriculture. These regulations govern a wide variety of product activities, from design and development to labeling, manufacturing, handling, sales and distribution of products. If we fail to comply with any of these regulations, we may be subject to fines or penalties, have to recall products and/or cease their manufacture and distribution, which would increase our costs and reduce our sales.

We are also subject to various federal, state, local and international laws and regulations that govern the handling, transportation, manufacture, use and sale of substances that are or could be classified as toxic or hazardous substances. Some risk of environmental damage is inherent in our operations and the products we manufacture, sell, or distribute. Any failure by us to comply with the applicable government regulations could also result in product recalls or impositions of fines and restrictions on our ability to carry on with or expand in a portion or possibly all of our operations. If we fail to comply with any or all of these regulations, we may be subject to fines or penalties, have to recall products and/or cease their manufacture and distribution, which would increase our costs and reduce our sales.

Government regulations of our customer's business are extensive and are constantly changing. Changes in these regulations can significantly affect customer demand for our products and services.

The process by which our customers' industries are regulated is controlled by government agencies and depending on the market segment can be very expensive, time consuming, and uncertain. Changes in regulations or the enforcement practices of current regulations could have a negative impact on our customers and, in turn, our business. At this time, it is unknown how the FDA will interpret and to what extent it will enforce GMPs, and other regulations that will likely affect many of our customers. These uncertainties may have a material impact on our results of operations, as lack of enforcement or an interpretation of the regulations that lessens the burden of compliance for the dietary supplement marketplace may cause a reduced demand for our products and services.

Changes in government regulation or in practices relating to the pharmaceutical, dietary supplement, food and cosmetic industry could decrease the need for the services we provide.

Governmental agencies throughout the world, including in the United States, strictly regulate the pharmaceutical, dietary supplement, food and cosmetic industries. Changes in regulation, such as a relaxation in regulatory requirements or the introduction of simplified drug approval procedures, or an increase in regulatory requirements that we have difficulty satisfying or that make our services less competitive, could eliminate or substantially reduce the demand for our services. Also, if the government makes efforts to contain drug costs and pharmaceutical and biotechnology company profits from new drugs, our customers may spend less, or reduce their spending on research and development. If health insurers were to change their practices with respect to reimbursements for pharmaceutical products, our customers may spend less, or reduce their spending on research and development.

If we should in the future become required to obtain regulatory approval to market and sell our goods we will not be able to generate any revenues until such approval is received.

The pharmaceutical industry is subject to stringent regulation by a wide range of authorities. While we believe that, given our present business, we are not currently required to obtain regulatory approval to market our goods because, among other things, we do not (i) produce or market any clinical devices or other products, or (ii) sell any medical products or services to the customer, we cannot predict whether regulatory clearance will be required in the future and, if so, whether such clearance will at such time be obtained for any products that we are developing or may attempt to develop. Should such regulatory approval in the future be required, our goods may be suspended or may not be able to be marketed and sold in the United States until we have completed the regulatory clearance process as and if implemented by the FDA. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product or service and would require the expenditure of substantial resources.

If regulatory clearance of a good that we propose to propose to market and sell is granted, this clearance may be limited to those particular states and conditions for which the good is demonstrated to be safe and effective, which would limit our ability to generate revenue. We cannot ensure that any good that we develop will meet all of the applicable regulatory requirements needed to receive marketing clearance. Failure to obtain regulatory approval will prevent commercialization of our goods where such clearance is necessary. There can be no assurance that we will obtain regulatory approval of our proposed goods that may require it.

Risks Related to the Securities Markets and Ownership of our Equity Securities

The market price of our common stock may be volatile and adversely affected by several factors.

The market price of our common stock could fluctuate significantly in response to various factors and events, including, but not limited to:

- our ability to integrate operations, technology, products and services;
- our ability to execute our business plan;
- our operating results are below expectations;
- our issuance of additional securities, including debt or equity or a combination thereof,;
- announcements of technological innovations or new products by us or our competitors;
- acceptance of and demand for our products by consumers;
- media coverage regarding our industry or us;
- litigation;
- disputes with or our inability to collect from significant customers;
- loss of any strategic relationship;
- industry developments, including, without limitation, changes in healthcare policies or practices;
- economic and other external factors, including effects of the COVID-19 pandemic;
- reductions in purchases from our large customers;
- period-to-period fluctuations in our financial results; and
- whether an active trading market in our common stock develops and is maintained.

In addition, the securities markets have from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. These market fluctuations may also materially and adversely affect the market price of our common stock.

We have not paid cash dividends in the past and do not expect to pay cash dividends in the foreseeable future. Any return on investment may be limited to the value of our common stock.

We have never paid cash dividends on our capital stock and do not anticipate paying cash dividends on our capital stock in the foreseeable future. The payment of dividends on our capital stock will depend on our earnings, financial condition and other business and economic factors affecting us at such time as the board of directors may consider relevant. If we do not pay dividends, our common stock may be less valuable because a return on your investment will only occur if the common stock price appreciates.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

Our federal net operating losses ("NOL"s) generated in taxable years beginning on or prior to December 31, 2017 could expire unused. Under the Tax Cuts and Jobs Act, as modified by the CARES Act, federal NOLs incurred in taxable years beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such federal NOLs in tax years beginning after December 31, 2020, is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to the Tax Cuts and Jobs Act or the CARES Act. In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change income or taxes may be limited. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. As a result, if we earn net taxable income, our ability to use our pre-ownership change NOL carryforwards to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, California imposed limits on the usability of California state net operating losses to offset taxable income in tax years beginning after 2019 and before 2023.

We have a significant number of outstanding options. Future sales of these shares could adversely affect the market price of our common stock.

As of December 31, 2020, we had outstanding options for an aggregate of approximately 11.9 million shares of common stock at a weighted average exercise price of $3.99 per share. The holders may sell many of these shares in the public markets from time to time, without limitations on the timing, amount or method of sale. As and when our stock price rises, if at all, more outstanding options will be in-the-money and the holders may exercise their options and sell a large number of shares. This could cause the market price of our common stock to decline.

Our amended and restated bylaws, as amended (our "Bylaws") provide that the Court of Chancery of the State of Delaware is the exclusive forum for certain 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, officers or employees.

Our Bylaws provide that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to our company or our stockholders, (iii) any action asserting a claim against our company arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or Bylaws, or (iv) any action asserting a claim against our company governed by the internal affairs doctrine. This choice of forum provision does not apply to suits brought to enforce a duty or liability created by the Securities Act of 1933, as amended, or the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction.

This choice of forum provision may limit a stockholder's ability to bring certain claims in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. If a court were to find this choice of forum provision to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

General Risks

We may become involved in securities class action litigation that could divert management's attention and harm our business.

The stock market in general, and the stocks of early stage companies in particular, have experienced extreme price and volume fluctuations. These fluctuations have often been unrelated or disproportionate to the operating performance of the companies involved. If these fluctuations occur in the future, the market price of our shares could fall regardless of our operating performance. In the past, following periods of volatility in the market price of a particular company's securities, securities class action litigation has often been brought against that company. If the market price or volume of our shares suffers extreme fluctuations, then we may become involved in this type of litigation, which would be expensive and divert management's attention and resources from managing our business.

As a public company, we may also from time to time make forward-looking statements about future operating results and provide some financial guidance to the public markets. Projections may not be made in a timely manner or we might fail to reach expected performance levels and could materially affect the price of our shares. Any failure to meet published forward-looking statements that adversely affect the stock price could result in losses to investors, stockholder lawsuits or other litigation, sanctions or restrictions issued by the Securities and Exchange Commission.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, legislation enacted in 2017, informally titled the Tax Cuts and Jobs Act, enacted many significant changes to the U.S. tax laws. Future guidance from the Internal Revenue Service and other tax authorities with respect to the Tax Cuts and Jobs Act may affect us, and certain aspects of the Tax Cuts and Jobs Act could be repealed or modified in future legislation. For example, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"), modified certain provisions of the Tax Cuts and Jobs Act. In addition, it is uncertain if and to what extent various states will conform to the Tax Cuts and Jobs Act, the CARES Act, or any newly enacted federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses under the Tax Cuts and Jobs Act or future reform legislation could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future U.S. tax expense.

Our shares of common stock may be thinly traded, so you may be unable to sell at or near ask prices or at all.

We cannot predict the extent to which an active public market for our common stock will develop or be sustained. This situation may be attributable to a number of factors, including the fact that we are a small company that is relatively unknown to stock analysts, stock brokers, institutional investors and others in the investment community who generate or influence sales volume, and that even if we came to the attention of such persons, they tend to be risk averse and would be reluctant to follow an unproven company such as ours or purchase or recommend the purchase of our shares until such time as we have become more seasoned and viable. As a consequence, there may be periods of several days or weeks when trading activity in our shares is minimal or non-existent, as compared to a seasoned issuer which has a large and steady volume of trading activity that will generally support continuous sales without an adverse effect on share price. We cannot assure you that a broader or more active public trading market for our common stock will develop or be sustained, or that current trading levels will be sustained or not diminish.

Stockholders may experience significant dilution if future equity offerings are used to fund operations or acquire complementary businesses.

If future operations or acquisitions are financed through the issuance of additional equity securities, stockholders could experience significant dilution. Securities issued in connection with future financing activities or potential acquisitions may have rights and preferences senior to the rights and preferences of our common stock. In addition, the issuance of shares of our common stock upon the exercise of outstanding options or warrants may result in dilution to our stockholders.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2020, we lease (i) approximately 10,000 square feet of office space in Los Angeles, California with one year remaining on the lease, (ii) approximately 15,000 square feet of office space in Irvine, California on a month to month basis, and (iii) approximately 20,000 square feet of space for research and development laboratory in Longmont, Colorado with five years remaining on the lease. The below table illustrates the use of each property by our business segments.

Business Segment	Property Used
Consumer Products	All properties
Ingredients	All properties
Analytical Reference Standards and Services	Irvine, CA and Longmont, CO

We do not own any real estate. For the year ended December 31, 2020, our total annual rental expense was approximately $936,000**.**

Item 3. Legal Proceedings

The information set forth under the heading “Legal Proceedings” in Note 15, Commitments and Contingencies, in Notes to Consolidated Financial Statements in Item 8 of Part II of this Form 10-K, is incorporated herein by reference. For additional discussion of certain risks associated with legal proceedings, see Item 1A, Risk Factors.

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

Since April 25, 2016, our common stock has been traded on The Nasdaq Capital Market ("NASDAQ") under the symbol "CDXC." On March 5, 2021, the closing sale price was $10.73.

Holders of Our Common Stock

As of March 5, 2021, we had approximately 41 registered holders of record of our common stock.

Dividend Policy

We have not declared or paid any cash dividends on our common stock during either of the two most recent fiscal years and have no current intention to pay any cash dividends. Our ability to pay cash dividends is governed by applicable provisions of Delaware law and is subject to the discretion of our Board of Directors.

Recent Sales of Unregistered Securities

Other than as previously disclosed in our past Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, the Company did not have any sales of unregistered securities for the period covered by this Annual Report on Form 10-K.

Item 6. Selected Financial Data

Not Applicable.

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

You should read the following discussion and analysis of financial condition and results of operation together with "Selected Financial Data," the consolidated financial statements and the related notes included elsewhere this Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. When reviewing the discussion below, you should keep in mind the substantial risks and uncertainties that impact our business. In particular, we encourage you to review the risks and uncertainties described in "Risk Factors" in Part I, Item 1A in this Form 10-K. These risks and uncertainties could cause actual results to differ materially from those projected in forward-looking statements contained in this report or implied by past results and trends.

Overview

ChromaDex Corporation and its wholly owned subsidiaries, ChromaDex, Inc., ChromaDex Analytics, Inc., ChromaDex Asia Limited and ChromaDex Europa B.V. (collectively, "ChromaDex", the "Company" or, in the first person as "we" "us" and "our") are a global bioscience company dedicated to healthy aging. The ChromaDex team, which includes world-renowned scientists, is pioneering research on nicotinamide adenine dinucleotide ("NAD+"), levels of which decline with age. ChromaDex is the innovator behind NAD+ precursor nicotinamide riboside ("NR"), commercialized as the flagship ingredient NIAGEN®. Nicotinamide riboside and other NAD+ precursors are protected by ChromaDex's patent portfolio. ChromaDex delivers NIAGEN® as the sole active ingredient in its consumer product, TRU NIAGEN®. The Company also has an analytical reference standards and services segment, which focuses on natural product fine chemicals (known as "phytochemicals") and related chemistry services.

The discussion and analysis of our financial condition and results of operations are based on the ChromaDex financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The preparation of these financial statements requires making estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues, if any, and expenses during the reporting periods. On an ongoing basis, we evaluate such estimates and judgments, including those described in greater detail below. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

As of December 31, 2020, cash and cash equivalents totaled approximately $16.7 million. Subsequent to the year ended December 31, 2020, the Company entered into a Securities Purchase Agreement with an investor, pursuant to which the Company sold and issued an aggregate of $25.0 million of the Company's common stock. The Company anticipates that its current cash, cash equivalents and cash to be generated from operations, the $25.0 million received from the financing described above and available line of credit up to $7.0 million from Western Alliance Bank will be sufficient to meet its projected operating plans through at least the next twelve months from the issuance date of this report. The Company may, however, seek additional capital within the next twelve months, both to meet its projected operating plans within the next twelve months and/or to fund its longer term strategic objectives. In June 2020, we filed a $125.0 million registration statement on Form S-3 with the Commission, utilizing a "shelf" registration process. Under this shelf registration process, we may sell securities from time to time, including up to $50.0 million pursuant to the At Market Issuance Sales Agreement, dated as of June 12, 2020, with B. Riley FBR, Inc. and Raymond James & Associates, Inc. As of December 31, 2020, we have not sold any securities pursuant to the ATM Facility.

Additional capital may come from public and/or private stock or debt offerings, borrowings under lines of credit or other sources. These additional funds may not be available on favorable terms, or at all. Further, if we issue equity or debt securities to raise additional funds, our existing stockholders may experience dilution and the new equity or debt securities we issue may have rights, preferences and privileges senior to those of our existing stockholders. In addition, if we raise additional funds through collaboration, licensing or other similar arrangements, it may be necessary to relinquish valuable rights to our products or proprietary technologies, or to grant licenses on terms that are not favorable to us. If we cannot raise funds on acceptable terms, we may not be able to develop or enhance our products, obtain the required regulatory clearances or approvals, achieve long term strategic objectives, take advantage of future opportunities, or respond to competitive pressures or unanticipated customer requirements. Any of these events could adversely affect our ability to achieve our development and commercialization goals, which could have a material and adverse effect on our business, results of operations and financial condition.

Some of our operations are subject to regulation by various state and federal agencies. Dietary supplements are subject to FDA, FTC and U.S. Department of Agriculture regulations relating to composition, labeling and advertising claims. These regulations may in some cases, particularly with respect to those applicable to new ingredients, require a notification that must be submitted to the FDA along with evidence of safety. There are similar regulations related to food additives.

Impact of COVID-19

The COVID-19 pandemic continues to drive global uncertainty and disruption, which has created headwinds for our business. Our ecommerce business continues to perform relatively well in this challenging environment.

Our retail business, including sales to A.S. Watson group and other partners in international markets, has been more impacted by the effects of COVID-19, due to store closures and reduced operating hours. To date, we have successfully navigated the business during the COVID-19 pandemic, managing our working capital effectively.

We have experienced shipment delays from our suppliers; however, we have not encountered any major disruptions in our supply chain. We have been maintaining adequate safety stocks to support our growth and we currently have adequate inventory on hand to meet our current demands. Overall, we believe the supply chain disruptions due to the COVID-19 pandemic will not have a material impact to our business operations.

In response to the outbreak, we prioritized the health and safety of our employees by closing our offices or enhancing safety protocols in place to ensure the well-being of our employees. We have been able to successfully conduct business virtually.

Results of Operations

Our losses per basic and diluted share were $0.33 and $0.56 for the twelve-month periods ended December 31, 2020 and December 31, 2019, respectively.

(In thousands)	Twelve months ending	
	Dec. 31, 2020	Dec. 31, 2019
Sales	$ 59,257	$ 46,291
Cost of sales	23,983	20,522
Gross profit	35,274	25,769
Operating expenses		
-Sales and marketing	20,948	18,216
-Research and development	3,732	4,420
-General and administrative	30,448	34,308
-Other	-	125
Nonoperating		
-Interest expense, net	(71)	(847)
Net loss	$ (19,925)	$ (32,147)

The following table sets forth the computations of loss per share amounts applicable to common stockholders for the years ended December 31, 2020 and December 31, 2019.

(In thousands, except per share data)	Years Ended 2020	2019
Net loss	**$ (19,925)**	$ (32,147)
Basic and diluted loss per common share	**$ (0.33)**	$ (0.56)
Basic and diluted weighted average common shares outstanding (1):	**61,067**	57,056
Potentially dilutive securities (2):		
Stock options	**11,914**	10,551

(1) Includes approximately 0.2 million shares of restricted stock for each of the years 2020 and 2019, which are participating securities that feature voting and dividend rights.

(2) Excluded from the computation of loss per share as their impact is antidilutive.

Net Sales. Net sales consist of gross sales less discounts and returns.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
Net sales:			
Consumer Products	**$ 47,090**	$ 36,075	31%
Ingredients	**9,198**	6,196	48%
Analytical reference standards and services	**2,969**	4,020	-26%
Total net sales	**$ 59,257**	$ 46,291	28%

Total net sales increased by 28% for the twelve-month period ended December 31, 2020, compared to the comparable period in 2019.

- The Company's TRU NIAGEN® sales for consumer products segment continue to increase after the Company's strategic shift towards consumer products in 2017.
- The increase in sales for the ingredients segment is largely due to strong demand from our NIAGEN® ingredient customers, who resell NIAGEN® under their own brands.
- The decrease in sales for the analytical reference standards and services is largely due to the spinoff of the regulatory consulting business unit in November 2019. The regulatory consulting business generated net sales of approximately $0.7 million in 2019. In addition, sales of analytical reference standards decreased largely due to the effects of COVID-19.

Cost of Sales. Costs of sales include raw materials, labor, overhead, and delivery costs.

(In thousands)	Twelve months ending			
	December 31, 2020		December 31, 2019	
	Amount	% of net sales	Amount	% of net sales
Cost of sales:				
Consumer Products	**$ 17,541**	37%	$ 14,550	40%
Ingredients	**3,593**	39%	2,980	48%
Analytical reference standards and services	**2,849**	96%	2,992	74%
Total cost of sales	**$ 23,983**	40%	$ 20,522	44%

The cost of sales, as a percentage of net sales, decreased 4% for the twelve-month period ended December 31, 2020 compared to the comparable period in 2019.

- The cost of sales, as a percentage of net sales, for the consumer products segment decreased 3% for the twelve-month period ended December 31, 2020 compared to the comparable period in 2019. Product cost savings initiatives and overall scale on our supply chain drove the decrease in cost of sales.

- The cost of sales, as a percentage of net sales, for the ingredients segment decreased 9% for the twelve-month period ended December 31, 2020 compared to the comparable period in 2019. In 2020, we were able to lower our cost of NIAGEN® ingredient through supply chain cost savings initiatives, which resulted in a decrease in cost of sales. Also, a portion of this decrease was realized in the form of a rebate from a supplier for prior year efficiency initiatives, which was recorded in the second quarter of 2020. In addition, we had an inventory write off of approximately $0.2 million related to our decision to wind down sales for a certain ingredient in the first quarter of 2019.

- The cost of sales, as a percentage of net sales for the analytical reference standards and services segment, increased 22% for the twelve-month period ended December 31, 2020 compared to the comparable period in 2019. The decrease in sales of analytical reference standards and services due to the spinoff of the regulatory consulting business in November 2019 and the effects of COVID-19 led to a lower labor and overhead utilization rate, which resulted in our cost of sales increasing as a percentage of net sales.

Gross Profit. Gross profit is net sales less the cost of sales and is affected by a number of factors including product mix, competitive pricing and costs of products, labor, overhead, services and delivery.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
Gross profit:			
Consumer Products	**$ 29,549**	$ 21,525	37%
Ingredients	**5,605**	3,216	74%
Analytical reference standards and services	**120**	1,028	-88%
Total gross profit	**$ 35,274**	$ 25,769	37%

- The consumer products segment posted gross profit of $29.5 million for the twelve-month period ending December 31, 2020, an increase of 37% compared to the comparable period in 2019. The increased gross profit was due to higher sales, product cost savings initiatives and scale on our supply chain operations.

- The ingredients segment posted gross profit of $5.6 million for the twelve-month period ending December 31, 2020, an increase of 74% compared to the comparable period in 2019. The increased gross profit for the ingredients segment was largely due to higher sales to key customers, scale on our supply chain operations, a rebate related to savings from prior year efficiency initiatives, and the absence of $0.2 million inventory write-off related to our decision to wind down sales for a certain ingredient in the first quarter of 2019.

- The decreased gross profit for the analytical reference standards and services segment was largely due to the decreased sales resulting from the spinoff of the regulatory consulting business and the effects of COVID-19. Fixed supply chain labor and overhead costs make up a substantial portion of the costs and these fixed labor and overhead costs did not decrease in proportion to sales, yielding lower profit margin.

Operating Expenses - Sales and Marketing. Sales and Marketing Expenses consist of salaries, advertising, public relations and marketing expenses.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
Sales and marketing expenses:			
Consumer Products	**$ 20,323**	$ 17,343	17%
Ingredients	**41**	245	-83%
Analytical reference standards and services	**584**	628	-7%
Total sales and marketing expenses	**$ 20,948**	$ 18,216	15%

- For the consumer products segment, the increase during the twelve-month period ended December 31, 2020 is largely due to increased staffing as well as direct marketing expenses associated with social media, public relations and other customer awareness and acquisition programs.

- For the ingredients segment, selling and marketing expenses decreased by 83% during the twelve-month period ended December 31, 2020 compared to comparable period in 2019. We reversed approximately $114,000 of certain accrued commission expense during the first quarter of 2020, as we were no longer obligated to pay the commission.

- For the analytical reference standards and services segment, the selling and marketing expenses decreased by 7% during the twelve-month period ended December 31, 2020. The selling expense in 2020 were less due to decreased sales.

Operating Expenses - Research and Development. Research and Development Expenses consist primarily of clinical trials, regulatory approvals, product development and process development expenses.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
Research and development expenses:			
Consumer Products	**$ 3,245**	$ 3,699	-12%
Ingredients	**487**	721	-32%
Total research and development expenses	**$ 3,732**	$ 4,420	-16%

- We allocate the research and development expenses related to our NIAGEN® branded ingredient to the consumer products and ingredients segment, based on revenues recorded. Overall, we decreased our research and development efforts during the twelve-month period ended December 31, 2020 as we evaluate and realign the priorities of our ongoing research and development efforts of our flagship ingredient, NIAGEN® nicotinamide riboside.

Operating Expenses - General and Administrative. General and Administrative Expenses consist of general company administration, legal, royalties, IT, accounting and executive management expenses.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
General and administrative	**$ 30,448**	$ 34,308	-11%

The following expenses contributed to the decrease in general and administrative expenses for the twelve-month period ended December 31, 2020, compared to the comparable period in 2019:

- A decrease in legal expenses. Our legal expense decreased to approximately $8.6 million in the twelve-month period ended December 31, 2020 compared to approximately $11.3 million in the comparable period in 2019.

- A decrease in bad debt expense. Our bad debt expense decreased to an insignificant amount in the twelve-month period ended December 31, 2020 compared to approximately $2.2 million in 2019. This is due to recording a write off of $2.2 million related to the trade receivable from Elysium Health in 2019 by increasing the allowance from $0.5 million to the entire trade receivable balance of $2.7 million. We placed a reserve for the entire outstanding balance as it was no longer deemed collectible.

Nonoperating - Interest Expense, net. Interest expense, net consists of interest earned from bank deposit accounts less interest expenses from convertible notes, the line of credit arrangement and finance leases.

(In thousands)	Twelve months ending December 31, 2020	December 31, 2019	Change
Interest expense, net	**$ 71**	$ 847	-92%

- In the second and third quarter of 2019, we incurred debt issuance costs of approximately $0.8 million in connection with the issuance of convertible promissory notes in the aggregate principal amount of $10.0 million to Winsave Resources Limited and Pioneer Step Holdings Limited. The issuance costs were recorded as a debt discount and have been amortized as interest expense using the effective interest method.

Depreciation and Amortization. For the twelve-month period ended December 31, 2020, we recorded approximately $0.9 million in depreciation compared to approximately $0.8 million for the twelve-month period ended December 31, 2019. We depreciate our assets on a straight-line basis, based on the estimated useful lives of the respective assets. We amortize intangible assets using a straight-line method, generally over 10 years. For licensed patent rights, the useful lives are 10 years or the remaining term of the patents underlying licensing rights, whichever is shorter. The useful lives of subsequent milestone payments that are capitalized are the remaining useful life of the initial licensing payment that was capitalized. In the twelve-month period ended December 31, 2020, we recorded amortization on intangible assets of approximately $0.2 million compared to approximately $0.2 million for the twelve-month period ended December 31, 2019.

Income Taxes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. At December 31, 2020 and December 31, 2019, the Company maintained a full valuation allowance against the entire deferred income tax balance which resulted in an effective tax rate of 0% for each of 2020 and 2019. As defined in ASC 740, *Income Taxes*, future realization of the tax benefit will depend on the existence of sufficient taxable income, including the expectation of continued future taxable income.

Net cash provided by (used in) operating activities. Net cash used in operating activities for the twelve-month period ended December 31, 2020 was approximately $10.6 million as compared to approximately $20.4 million for the twelve-month period ended December 31, 2019. Along with the net loss, an increase in trade receivables and payments on operating leases were the largest use of cash during the twelve-month period ended December 31, 2020. Net cash used in operating activities for the twelve-month period ended December 31, 2019 largely reflects an increase in inventories along with the net loss.

We expect our operating cash flows to fluctuate significantly in future periods as a result of fluctuations in our operating results, shipment timetables, accounts receivable collections, inventory management, and the timing of our payments, among other factors.

Net cash provided by (used in) investing activities. Net cash used in investing activities was approximately $0.2 million for the twelve-month period ended December 31, 2020, compared to approximately $0.2 million for the twelve-month period ended December 31, 2019. Net cash used in investing activities for the twelve-month period ended December 31, 2020, mainly consisted of purchases of leasehold improvements and equipment. Net cash used in investing activities for the twelve-month period ended December 31, 2019, mainly consisted of purchases of leasehold improvements and equipment, offset by proceeds from disposal of assets held at escrow.

Net cash provided by (used in) financing activities. Net cash provided by financing activities was approximately $8.7 million for the twelve-month period ended December 31, 2020, compared to approximately $16.9 million for the twelve-month period ended December 31, 2019. Net cash provided by financing activities for 2020 primarily consisted of proceeds from issuance of our common stock and exercise of stock options, offset by principal payments on finance leases. Net cash used in financing activities for 2019 mainly consisted of proceeds from issuances of our common stock, sale of convertible notes and exercise of stock options, offset by principal payments on finance leases.

Trade Receivables. As of December 31, 2020, we had approximately $2.7 million in trade receivables as compared to approximately $2.2 million as of December 31, 2019.

Inventories. As of December 31, 2020, we had approximately $11.7 million in inventory, compared to approximately $11.5 million as of December 31, 2019. As of December 31, 2020, our inventory consisted of approximately $8.1 million of consumer products, approximately $3.1 million of bulk ingredients and approximately $0.5 million of reference standards. Consumer products inventory consists of TRU NIAGEN® branded finished bottles of dietary supplement products and related work-in-process inventory. Bulk ingredients are proprietary compounds sold to customers in larger quantities, typically in kilograms. These ingredients are used by our customers in the dietary supplement, food and beverage industries to manufacture their final products. Reference standards are small quantities of plant-based compounds typically used to research an array of potential attributes or for quality control purposes. The Company currently lists over 1,500 phytochemicals and 300 botanical reference materials in our catalog and holds a lot of these as inventory in small quantities, mostly in grams and milligrams.

The Company regularly reviews inventories on hand and reduces the carrying value for slow-moving and obsolete inventory, inventory not meeting quality standards and inventory subject to expiration. The reduction of the carrying value for slow-moving and obsolete inventory is based on current estimates of future product demand, market conditions and related management judgment. Any significant unanticipated changes in future product demand or market conditions that vary from current expectations could have an impact on the value of inventories.

We strive to optimize our supply chain as we constantly search for better and more reliable sources and suppliers. By doing so, we believe we can lower the costs of our inventory and yield higher gross profit. In addition, we are working with our suppliers and partners to develop more efficient manufacturing methods, in an effort to lower the costs of our inventory.

Accounts Payable. As of December 31, 2020, we had $9.4 million in accounts payable compared to approximately $9.6 million as of December 31, 2019.

Liquidity and Capital Resources

For the twelve-month period ended December 31, 2020, the Company incurred losses from operations of approximately $19.9 million. Net cash used in operating activities for the twelve-month period ended December 31, 2020 was approximately $10.6 million. The losses and the uses of cash are primarily due to expenses associated with the development and expansion of our operations, as well as legal expenses. These operations have been financed through capital contributions, primarily through the issuance of common stock in private placements.

Our Board of Directors periodically reviews our capital requirements in light of our proposed business plan. Our future capital requirements will remain dependent upon a variety of factors, including cash flow from operations, the ability to increase sales, increasing our gross profits from current levels, reducing sales and administrative expenses as a percentage of net sales, continued development of customer relationships, and our ability to market our new products successfully. However, based on our results from operations, we may determine that we need additional financing to implement our business plan. Additional financing may come from public and private equity or debt offerings, borrowings under lines of credit or other sources. These additional funds may not be available on favorable terms, or at all. There can be no assurance we will be successful in raising these additional funds. Without adequate financing we may have to further delay or terminate product or service expansion plans. Any inability to raise additional financing would have a material adverse effect on us.

As of December 31, 2020, the cash and cash equivalents totaled approximately $16.7 million. Subsequent to the year ended December 31, 2020, the Company entered into a Securities Purchase Agreement with an investor, pursuant to which the Company sold and issued an aggregate of $25.0 million of the Company's common stock. The Company anticipates that its current cash, cash equivalents and cash to be generated from operations, the $25.0 million received from the financing described above and available line of credit up to $7.0 million from Western Alliance Bank will be sufficient to meet its projected operating plans through at least the next twelve months from the issuance date of this report. The Company may, however, seek additional capital within the next twelve months, both to meet its projected operating plans within the next twelve months and/or to fund its longer term strategic objectives. In June 2020, we filed a $125.0 million registration statement on Form S-3 with the Commission, utilizing a "shelf" registration process. Under this shelf registration process, we may sell securities from time to time, including up to $50.0 million pursuant to the ATM Facility. As of December 31, 2020, we have not sold any securities pursuant to the ATM Facility.

Dividend Policy

We have not declared or paid any cash dividends on our common stock. We presently intend to retain earnings for use in our operations and to finance our business. Any change in our dividend policy is within the discretion of our board of directors and will depend, among other things, on our earnings, debt service and capital requirements, restrictions in financing agreements, if any, business conditions, legal restrictions and other factors that our board of directors deems relevant.

Off-Balance Sheet Arrangements

During the fiscal years ended December 31, 2020 and December 31, 2019, we had no material off-balance sheet arrangements.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations and other commitments as of December 31, 2020:

	Payments due by period					
(In thousands)	**Total**	**2021**	**2022**	**2023**	**2024**	**2025**
Operating leases	$ 1,836	$ 655	$ 299	$ 308	$ 310	$ 263
Finance leases	53	32	21	-	-	-
Purchase obligations	17,251	17,251	-	-	-	-
Total	**$ 19,140**	**$ 17,938**	**$ 320**	**$ 308**	**$ 310**	**$ 263**

Operating leases. We lease our offices and research facilities in California and Colorado under operating lease agreements that expire in October 2021 and October 2025, respectively. We make monthly payments on these leases.

Finance leases. We lease equipment under finance lease obligations with a term of typically two to four years. We make monthly installment payments for these leases.

Purchase obligations. We enter into purchase obligations with various vendors for goods and services that we need for our operations. The purchase obligations for goods and services include inventory, advertising, research and development, and laboratory supplies.

Critical Accounting Policies

The discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures. On an ongoing basis, we evaluate these estimates, including those related to the valuation of share-based payments. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in Note 3 of the Financial Statements, set forth in Item 8 of this Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Not applicable

Item 8. Financial Statements and Supplementary Data

The financial statements are set forth in the pages listed below.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of
ChromaDex Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of ChromaDex Corporation and Subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations, changes in stockholders' equity and cash flows for each of the two years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 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 audits to obtain reasonable assurance about whether the 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 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 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 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 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 financial statements and (2) involved especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the 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.

Revenue recognition – identification of contractual terms in certain customer arrangements

Critical Audit Matter Description

We identified a critical audit matter in the ingredients reportable segment associated with a contract that includes determining the performance obligations and an allocation of consideration as further described in Note 10 to the consolidated financial statements.

The principal considerations for our determination in performing procedures relating to revenue recognition, specifically the identification and evaluation of terms and conditions in the contract, is a critical audit matter as there was significant judgment by management in identifying and evaluating terms and conditions in the contract that impacted revenue recognition. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing such procedures and in evaluating the audit evidence to determine whether the terms and conditions in the contract were appropriately identified and evaluated by management.

How the Critical Audit Matter Was Addressed in the Audit

Addressing the matter involved performing procedures and evaluation of audit evidence that included, among others (i) evaluating contract terms and conditions, (ii) reviewing and assessing the methodology applied and testing the reliability and mathematical accuracy of the underlying data and calculations, (iii) testing management's identification of performance obligations by evaluating whether the promises were both capable of being distinct and distinct within the context of the contract, including reading the selected contracts and inquiring of certain of the Company's accounting and operations personnel to understand the nature of the promises and how they are delivered to the customer, (iv) evaluating and concluding on the reasonableness of managements judgments and estimates.

/s/ Marcum LLP

Marcum LLP

We have served as the Company's auditor since 2013.

New York, NY
March 12, 2021

ChromaDex Corporation and Subsidiaries
Consolidated Balance Sheets
December 31, 2020 and December 31, 2019
(In thousands, except per share data)

	Dec. 31, 2020	Dec. 31, 2019
Assets		
Current Assets		
Cash, including restricted cash of $0.2 million and $0.2 million, respectively	**$ 16,697**	$ 18,812
Trade receivables, net of allowances of $0.2 million and $2.8 million, respectively; Receivables from Related Party: $0.9 million and $0.8 million, respectively	**2,694**	2,175
Inventories	**11,683**	11,535
Prepaid expenses and other assets	**1,145**	996
Total current assets	**32,219**	33,518
Leasehold Improvements and Equipment, net	**3,206**	3,765
Intangible Assets, net	**1,082**	1,311
Right of Use Assets	**1,226**	891
Other Long-term Assets	**625**	762
Total assets	**$ 38,358**	$ 40,247
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable	**$ 9,445**	$ 9,626
Accrued expenses	**6,133**	4,415
Current maturities of operating lease obligations	**589**	595
Current maturities of finance lease obligations	**31**	258
Customer deposits	**278**	169
Total current liabilities	**16,476**	15,063
Deferred Revenue	**4,441**	3,873
Operating Lease Obligations, Less Current Maturities	**997**	848
Finance Lease Obligations, Less Current Maturities	**20**	18
Total liabilities	**21,934**	19,802
Commitments and Contingencies	-	-
Stockholders' Equity		
Common stock, $.001 par value; authorized 150,000 shares; issued and outstanding December 31, 2020 61,881 shares and December 31, 2019 59,562 shares	**62**	60
Additional paid-in capital	**158,190**	142,285
Accumulated deficit	**(141,825)**	(121,900)
Cumulative translation adjustments	**(3)**	-
Total stockholders' equity	**16,424**	20,445
Total liabilities and stockholders' equity	**$ 38,358**	$ 40,247

See Notes to Consolidated Financial Statements.

ChromaDex Corporation and Subsidiaries
Consolidated Statements of Operations
Years Ended December 31, 2020 and December 31, 2019
(In thousands, except per share data)

	2020	2019
Sales, net	**$ 59,257**	$ 46,291
Cost of sales	**23,983**	20,522
Gross profit	**35,274**	25,769
Operating expenses:		
Sales and marketing	**20,948**	18,216
Research and development	**3,732**	4,420
General and administrative	**30,448**	34,308
Other	**-**	125
Operating expenses	**55,128**	57,069
Operating loss	**(19,854)**	(31,300)
Nonoperating expense:		
Interest expense, net	**(71)**	(847)
Nonoperating expenses	**(71)**	(847)
Net loss	**(19,925)**	(32,147)
Basic and diluted loss per common share:	**$ (0.33)**	$ (0.56)
Basic and diluted weighted average common shares outstanding	**61,067**	57,056

See Notes to Consolidated Financial Statements.

ChromaDex Corporation and Subsidiaries
Consolidated Statement of Stockholders' Equity
Years Ended December 31, 2020 and December 31, 2019
(In thousands)

	Common Stock		Additional	Accumulated	Total Stockholders'
	Shares	Amount	Paid-in Capital	Deficit	Equity
Balance, December 31, 2018	55,089	$ 55	$ 116,876	$ (89,753)	$ 27,178
Issuance of common stock, net of offering costs of $0.2 million	1,568	2	6,770	-	6,772
Issuance of common stock for conversion of debt and accrued interest	2,267	2	10,121		10,123
Debt discount to covertible notes	-	-	281	-	281
Exercise of stock options	427	1	1,065	-	1,066
Exercise of of warrants	44	-	-	-	-
Share-based compensation	167	-	7,172	-	7,172
Net loss	-	-	-	(32,147)	(32,147)
Balance, December 31, 2019	59,562	$ 60	$ 142,285	$ (121,900)	$ 20,445
Issuance of common stock, net of offering costs of $0.1 million	1,225	1	4,855	-	4,856
Exercise of stock options	1,094	1	4,114	-	4,115
Share-based compensation	-	-	6,936	-	6,936
Translation adjustment	-	-	-	(3)	(3)
Net loss	-	-	-	(19,925)	(19,925)
Balance, December 31, 2020	61,881	$ 62	$ 158,190	$ (141,828)	$ 16,424

See Notes to Consolidated Financial Statements.

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ChromaDex Corporation and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2020 and December 31, 2019
(In thousands)

	2020	2019
Cash Flows From Operating Activities		
Net loss	**$ (19,925)**	$ (32,147)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation of leasehold improvements and equipment	**871**	762
Amortization of intangibles	**243**	246
Amortization of right of use assets	**399**	515
Share-based compensation	**6,936**	7,172
Allowance for doubtful trade receivables	**(2,576)**	2,228
Loss from investment in long-term assets	**395**	-
Loss from impairment of intangibles	**4**	-
Loss from disposal of equipment	**-**	7
Amortization of convertible notes issuance costs and discount	**-**	846
Non-cash financing costs	**94**	134
Changes in operating assets and liabilities:		
Trade receivables	**2,057**	(44)
Inventories	**(148)**	(3,286)
Implementation costs for cloud computing arrangement	**(142)**	-
Prepaid expenses and other assets	**(427)**	(191)
Accounts payable	**(181)**	78
Accrued expenses	**1,717**	103
Deferred revenue	**568**	3,873
Customer deposits and other	**106**	(106)
Payments on operating leases	**(591)**	(629)
Net cash used in operating activities	**(10,600)**	(20,439)
Cash Flows From Investing Activities		
Proceeds from disposal of assets held at escrow	**-**	553
Purchases of leasehold improvements and equipment	**(124)**	(743)
Purchases of intangible assets	**(18)**	(10)
Investment in other long-term assets	**(23)**	(49)
Net cash used in investing activities	**(165)**	(249)
Cash Flows From Financing Activities		
Proceeds from issuance of common stock, net	**4,856**	6,772
Proceeds from sale of convertible notes	**-**	10,000
Payment of convertible notes issuance costs	**-**	(565)
Payment of debt issuance costs	**(49)**	(113)
Proceeds from exercise of stock options	**4,115**	1,066
Principal payments on finance leases	**(272)**	(276)
Net cash provided by financing activities	**8,650**	16,884
Net decrease in cash	**(2,115)**	(3,804)
Cash Beginning of Year, including restricted cash of $0.2 million for both 2020 and 2019	**18,812**	22,616
Cash Ending of Year, including restricted cash of $0.2 million for both 2020 and 2019	**$ 16,697**	$ 18,812
Supplemental Disclosures of Cash Flow Information		
Cash payments for interest on finance leases	**$ 13**	$ 33
Supplemental Schedule of Noncash Operating Activity		
Finance lease obligation incurred on licensing fees	**$ -**	$ 99
Right of use assets transferred	**$ -**	$ 62
Operating lease obligation transferred	**$ -**	$ 65
Operating lease obligation incurred for entering into lease amendment	**$ 734**	$ -
Supplemental Schedule of Noncash Investing Activity		
Finance lease obligation incurred for purchase of computer equipment and software	**$ 47**	$ 143
Operating lease obligation incurred for tenant improvement credit received	**$ -**	$ 64
Retirement of fully depreciated equipment - cost	**$ 5**	$ -
Retirement of fully depreciated equipment - accumulated depreciation	**$ 5**	$ -
Supplemental Schedule of Noncash Financing Activity		
Issuance of common stock for conversion of debt and accrued interest	**$ -**	$ 10,123

See Notes to Consolidated Financial Statements.

Note 1. Nature of Business

ChromaDex Corporation and its wholly owned subsidiaries, ChromaDex, Inc., ChromaDex Analytics, Inc., ChromaDex Asia Limited and ChromaDex Europa B.V. (collectively, "ChromaDex", the "Company" or, in the first person as "we" "us" and "our") are a global bioscience company dedicated to healthy aging. The ChromaDex team, which includes world-renowned scientists, is pioneering research on nicotinamide adenine dinucleotide ("NAD+"), levels of which decline with age. ChromaDex is the innovator behind NAD+ precursor nicotinamide riboside ("NR"), commercialized as the flagship ingredient NIAGEN®. Nicotinamide riboside and other NAD+ precursors are protected by ChromaDex's patent portfolio. ChromaDex delivers NIAGEN® as the sole active ingredient in its consumer product TRU NIAGEN®. The Company also has analytical reference standards and services segment, which focuses on natural product fine chemicals (known as "phytochemicals") and related chemistry services.

On January 15, 2021, Healthspan Research, LLC was dissolved. Prior to its dissolution, Healthspan Research, LLC contributed its assets and liabilities to ChromaDex Inc.

Note 2. Liquidity

The Company has incurred a net loss of approximately $19.9 million for the year ended December 31, 2020. As of December 31, 2020, cash and cash equivalents totaled approximately $16.7 million, which includes restricted cash of approximately $0.2 million.

Subsequent to the year ended December 31, 2020, the Company entered into a Securities Purchase Agreement with an investor, pursuant to which the Company sold and issued an aggregate of $25.0 million of the Company's common stock (the "Financing"). Please refer to Note 17. Subsequent Events for more details.

The Company anticipates that its current cash, cash equivalents and cash to be generated from operations, $25.0 million received from the Financing described above and available line of credit up to $7.0 million from Western Alliance Bank will be sufficient to meet its projected operating plans through at least the next twelve months from the issuance date of this report. The Company may, however, seek additional capital within the next twelve months, both to meet its projected operating plans within the next twelve months and/or to fund its longer term strategic objectives. In June 2020, we filed a $125.0 million registration statement on Form S-3 with the Commission, utilizing a "shelf" registration process. Under this shelf registration process, we may sell securities from time to time, including up to $50.0 million pursuant to the At Market Issuance Sales Agreement, dated as of June 12, 2020, with B. Riley FBR, Inc. and Raymond James & Associates, Inc. (the "ATM Facility"). As of December 31, 2020, we have not sold any securities pursuant to the ATM Facility.

Note 3. Significant Accounting Policies

Significant accounting policies are as follows:

Basis of presentation: The financial statements and accompanying notes have been prepared on a consolidated basis and reflect the consolidated financial position of the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated from these financial statements. The Company's fiscal year ends on December 31.

Adopted Accounting Standards in Fiscal 2020:

Effective the first day of fiscal year 2020, the Company adopted Accounting Standards Update ("ASU") No. 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software: Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." Under the new standard, implementation costs related to a cloud computing arrangement will be deferred or expensed as incurred, in accordance with the existing internal-use software guidance for similar costs. The new standard also prescribes the balance sheet, income statement, and cash flow classification of the capitalized implementation costs and related amortization expense. The Company adopted this guidance on a prospective basis in 2020. The implementation costs the Company capitalized during 2020 are included in "Leasehold Improvements and Equipment, net" in the Company's Consolidated Balance Sheets. The corresponding cash flows related to these arrangements are included in "Net cash used in operating activities" in the Company's Consolidated Statements of Cash Flows.

Use of accounting estimates: The preparation of financial statements requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Revenue recognition: The Company recognizes sales and the related cost of sales when the performance obligations are satisfied. The performance obligations are typically satisfied upon shipment of physical goods or as the services are performed over time. In addition to the satisfaction of the performance obligations, the following conditions are required for revenue recognition: an arrangement exists, there is a fixed price, and collectability is reasonably assured. Discounts, returns and allowances related to sales, including an estimated reserve for the returns and allowances, are recorded as reduction of revenue.

The Company accounts for shipping and handling activities performed as cost of sales under a fulfillment cost and any fee received for shipping and handling as part of the transaction price and recognize revenue when control of the good transfers. Shipping and handling fees billed to customers included in net sales for the years ending December 31, 2020 and December 31, 2019 are as follows:

(In thousands)	2020	2019
Shipping and handling fees billed	$ 278	$ 360

Taxes collected from customers and remitted to governmental authorities are excluded from revenue, which is presented on a net basis in the statement of operations.

Restricted cash: The Company classifies cash as restricted if the withdrawal or its usage is restricted for more than three months. In connection with a lease amendment entered on November 9, 2018 to lease additional office space located in Los Angeles, California through October 2021, the Company delivered a letter of credit issued by a bank to the landlord in the amount of $0.2 million. The issuing bank required a collateral for the letter of credit and the Company made a deposit covering the letter of credit amount with the issuing bank. The letter of credit expires on October 18, 2021.

Trade accounts receivable, net: Trade accounts receivable are carried at original invoice amount less an estimate made for doubtful receivables based on monthly and quarterly reviews of all outstanding amounts. Management determines the allowance for doubtful accounts by identifying troubled accounts and by using historical experience applied to an aging of accounts. The allowance amounts for the periods ended December 31, 2020 and December 31, 2019 are as follows:

(In thousands)	2020	2019
Allowances Related to		
Elysium Health	$ -	$ 2,733
Other Allowances	189	31
	$ 189	$ 2,764

Trade accounts receivable are written off when deemed uncollectible. Recoveries of trade accounts receivable previously written off are recorded when received.

Credit risk: Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents and trade receivables. For cash and cash equivalents, the Company has them either in a form of bank deposits or highly liquid debt instruments in investment-grade pursuant to the Company's investment policy. U.S. bank accounts at each institution are insured by the Federal Deposit Insurance Corporation ("FDIC") up to $250,000. As of December 31, 2020, we held a total deposit of approximately $14.7 million with one institution and $1.8 million with another institution which exceeded the FDIC limit. We, however, believe we have very little credit risk exposure for our cash and cash equivalents. Our trade receivables are derived from sales to our customers. We assess credit risk of our customers through quantitative and qualitative analysis. From this analysis, we establish credit limits and manage the risk exposure. We, however, incur credit losses due to bankruptcy or other failure of the customer to pay.

Inventories: Inventories are comprised of work in process and finished goods. They are stated at the lower of cost, determined by the first-in, first-out method, or net realizable value. The inventory on the balance sheet is recorded net of valuation allowances. Labor and overhead has been added to inventory that was manufactured or characterized by the Company. Our normal operating cycle for reference standards is currently longer than one year. The Company regularly reviews inventories on hand and reduces the carrying value for slow-moving and obsolete inventory, inventory not meeting quality standards and inventory subject to expiration. The reduction of the carrying value for slow-moving and obsolete inventory is based on current estimates of future product demand, market conditions and related management judgment. Any significant unanticipated changes in future product demand or market conditions that vary from current expectations could have an impact on the value of inventories.

Intangible assets: Intangible assets include licensing rights and are accounted for based on the fair value of consideration given or the fair value of the net assets acquired, whichever is more reliable. Intangible assets with finite useful lives are amortized using the straight-line method over a period of 10 years, or, for licensed patent rights, the remaining term of the patents underlying licensing rights (considered to be the remaining useful life of the license), whichever is shorter. The useful lives of subsequent milestone payments that are capitalized are the remaining useful life of the initial licensing payment that was capitalized.

Leasehold improvements and equipment, net: Leasehold improvements and equipment are carried at cost and depreciated on the straight-line method over the lesser of the estimated useful life of each asset or lease term. Leasehold improvements and equipment are comprised of leasehold improvements, laboratory equipment, furniture and fixtures, computer equipment and implementations costs for cloud computing arrangement. Depreciation on equipment under finance lease is included with depreciation on owned assets. Maintenance and repairs are charged to operating expenses as they are incurred. Improvements and betterments, which extend the lives of the assets, are capitalized.

Long-lived assets are reviewed for impairment on a periodic basis and when changes in circumstances indicate the possibility that the carrying amount may not be recoverable. Long-lived assets are grouped at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets. If the forecast of undiscounted future cash flows is less than the carrying amount of the assets, an impairment charge would be recognized to reduce the carrying value of the assets to fair value. If a possible impairment is identified, the asset group's fair value is measured relying primarily on a discounted cash flow methodology.

Customer deposits: Customer deposits represent cash received from customers in advance of product shipment or delivery of services.

Income taxes: Deferred taxes are provided on a liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carryforwards and deferred liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

The Company has not recorded a reserve for any tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. The Company files tax returns in all appropriate jurisdictions, which include a U.S. federal tax return and various state tax returns. Open tax years for these jurisdictions are 2017 to 2020, which statutes expire in 2021 to 2024, respectively. When and if applicable, potential interest and penalty costs are accrued as incurred, with expenses recognized in general and administrative expenses in the statements of operations. As of December 31, 2020, the Company has no liability for unrecognized tax benefits.

Research and development costs: Research and development costs consist of direct and indirect costs associated with the development of the Company's technologies. These costs are expensed as incurred.

Advertising: The Company expenses the production costs of advertising the first time the advertising takes place. Advertising expense for the years ended December 31, 2020 and December 31, 2019 were approximately $7,417,000 and $6,689,000, respectively.

Share-based compensation: The Company has an Equity Incentive Plan under which the Board of Directors may grant restricted stock or stock options to employees and non-employees. The accounting treatment for share-based payments to employees and non-employees is substantially equivalent.

Share-based compensation cost is recorded for all option grants and awards of non-vested stock based on the grant date fair value of the award, and is recognized over the service period required for the award. Prior to October 1, 2018, share-based compensation cost for non-employees was remeasured over the vesting term as earned.

The fair value of the Company's stock options is estimated at the date of grant using the Black-Scholes based option valuation model. For the expected term, the Company uses SEC Staff Accounting Bulletin No. 107 simplified method for "plain vanilla" options with following characteristics: (i) the share options are granted at the market price on the grant date; (ii) exercisability is conditional on performing service through the vesting date on most options; (iii) if an employee terminates service prior to vesting, the employee would forfeit the share options; (iv) if an employee terminates service after vesting, the employee would have 30 to 90 days to exercise the share options; and (v) the share options are nontransferable and nonhedgeable. The volatility assumption is based on the historical volatility of the Company's common stock with an equivalent remaining expected term. The dividend yield assumption is based on the Company's history and expectation of future dividend payouts on the common stock. The risk-free interest rate is based on the implied yield available on U.S. treasury zero-coupon issues with an equivalent remaining expected term.

Market conditions that affect vesting of stock options are considered in the grant-date fair value. The issues surrounding the valuation for such awards can be complex and consideration needs to be given for how the market condition should be incorporated into the valuation of the award. The Company considers using other valuation techniques, such as Monte Carlo simulations based on a lattice approach, to value awards with market conditions.

For option grants without performance conditions, the Company recognizes compensation expense over the requisite service period ratably, recognizing expense for each tranche of each grant starting on the grant date. For stock options that have both service and performance conditions, the Company recognizes compensation expense using the graded attribution method. Compensation expense for stock options with performance conditions is recognized only for those awards expected to vest. The Company recognizes forfeitures when they occur.

Fair Value Measurement: The Company follows the provisions of the accounting standard which defines fair value, establishes a framework for measuring fair value and enhances fair value measurement disclosure. Under these provisions, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the "exit price") in an orderly transaction between market participants at the measurement date.

The standard establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use on unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. The hierarchy is described below:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Observable prices that are based on inputs not quoted on active markets, but corroborated by market data.

Level 3: Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

Financial instruments: The estimated fair value of financial instruments has been determined based on the Company's assessment of available market information and appropriate valuation methodologies. The fair value of the Company's financial instruments that are included in current assets and current liabilities approximates their carrying value due to their short-term nature.

The carrying amounts reported in the balance sheet for capital lease obligations are present values of the obligations, excluding the interest portion.

Recent accounting standards: In June 2016, the Financial Accounting Standards Board issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. The standard's main goal is to improve financial reporting by requiring earlier recognition of credit losses on financing receivables and other financial assets in scope. The new guidance represents significant changes to accounting for credit losses: (i) full lifetime expected credit losses will be recognized upon initial recognition of an asset in scope; (ii) the current incurred loss impairment model that recognizes losses when a probable threshold is met will be replaced with the expected credit loss impairment method without recognition threshold; and (iii) the expected credit losses estimate will be based upon historical information, current conditions, and reasonable and supportable forecasts. ASU 2016-13 introduces two distinctive credit loss impairment models: (i) current expected credit loss impairment model (Subtopic 326-20) applicable to financial assets measured at amortized cost; and (ii) available-for-sale debt securities impairment model (Subtopic 326-30). ASU 2016-13 is effective for public entities for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Public entities that qualify as a smaller reporting company can elect to defer compliance effective for fiscal years beginning after December 15, 2022. We are currently evaluating the impact of our pending adoption of ASU 2016-13 on our consolidated financial statements.

Note 4. Loss Per Share Applicable to Common Stockholders

The following table sets forth the computations of loss per share amounts applicable to common stockholders for the years ended December 31, 2020 and December 31, 2019.

	Years Ended	
(In thousands, except per share data)	**2020**	2019
Net loss	**$ (19,925)**	$ (32,147)
Basic and diluted loss per common share	**$ (0.33)**	$ (0.56)
Basic and diluted weighted average common shares outstanding (1):	**61,067**	57,056
Potentially dilutive securities (2):		
Stock options	**11,914**	10,551

(1) Includes approximately 0.2 million shares of restricted stock for each of the years 2020 and 2019, which are participating securities that feature voting and dividend rights.

(2) Excluded from the computation of loss per share as their impact is antidilutive.

Note 5. Inventory

The amounts of major classes of inventory for the periods ended December 31, 2020 and December 31, 2019 are as follows:

(In thousands)	2020	2019
Consumer Products - Finished Goods	$ 2,358	$ 4,877
Consumer Products - Work in Process	5,718	4,659
Bulk ingredients	3,065	1,364
Reference standards	542	635
	$ 11,683	$ 11,535

Note 6. Intangible Assets

Intangible assets consisted of the following:

(In thousands)	2020	2019	Weighted Average Total Amortization Period
Healthspan Research LLC Acquisition	$ 1,346	$ 1,346	10 years
License agreements and other	1,643	1,635	9 years
Less accumulated depreciation	(1,907)	(1,670)	
	$ 1,082	$ 1,311	

Amortization expenses on amortizable intangible assets included in the consolidated statement of operations for the years ended December 31, 2020 and December 31, 2019 were approximately $0.2 million per year.

Estimated aggregate amortization expense for each of the next five years is as follows:

(In thousands) Years ending December:	
2021	$ 224
2022	186
2023	158
2024	154
2025	151
Thereafter	209
	$ 1,082

Note 7. Leasehold Improvements and Equipment, Net

Leasehold improvements and equipment consisted of the following:

(In thousands)	2020	2019	Useful Life
Laboratory equipment	$ 2,967	$ 2,859	10 years
Leasehold improvements	2,357	2,320	Lesser of lease term or estimated useful life
Computer equipment	751	682	3 to 5 years
Implementation costs - Cloud computing arrangements	582	422	5 years
Furniture and fixtures	201	201	7 to 10 years
Construction in progress	2	71	
	6,860	6,555	
Less accumulated depreciation	3,654	2,790	
	$ 3,206	$ 3,765	

Depreciation expenses on leasehold improvements and equipment included in the consolidated statement of operations for the years ended December 31, 2020 and December 31, 2019 were approximately $0.9 million and $0.8 million, respectively.

Note 8. Leases

Operating Leases

On August 3, 2020, the Company entered into a lease amendment to lease additional space located in Longmont, Colorado. The lease amendment extends the expiration of the lease period from February 2024 to December 2025. Pursuant to the lease amendment, the Company will make additional total lease payments of approximately $0.9 million during the term of the lease.

As of December 31, 2020 and December 31, 2019 the Company had operating lease assets in right of use assets of approximately $1.2 million and $0.9 million, respectively, and corresponding operating lease liabilities of approximately $1.6 million and $1.4 million, respectively. For the years ended December 31, 2020 and December 31, 2019, the following were expenses incurred in connection with operating leases:

(In thousands)	For the Year Ended Dec. 31, 2020	For the Year Ended Dec. 31, 2019
Operating leases		
Operating lease expense	$ 501	$ 663
Variable lease expense	182	246
Operating lease expense	683	909
Short-term lease rent expense	253	70
Total expense	$ 936	$ 979

	At Dec. 31, 2020
Weighted-average remaining lease term (years) - operating leases	2.6
Weighted-average discount rate - operating leases	7.2%

Minimum future lease payments under operating leases as of December 31, 2020 are as follows:

(In thousands)	
Year Ending December 31, 2021	$ 655
Year Ending December 31, 2022	299
Year Ending December 31, 2023	308
Year Ending December 31, 2024	310
Year Ending December 31, 2025	263
Total	1,836
Less present value discount	249
Operating lease liabilities	1,586
Less current portion	589
Long-term obligations under operating leases	$ 997

Finance Leases

As of December 31, 2020 and December 31, 2019, the Company had finance lease assets in equipment assets of approximately $0.2 million and $0.7 million, respectively and corresponding finance lease liabilities of approximately $0.1 million and $0.3 million, respectively. For the years ended December 31, 2020 and December 31, 2019, following were expenses incurred in connection with finance leases:

(In thousands)	For the Year Ended Dec. 31, 2020	For the Year Ended Dec. 31, 2019
Finance leases		
Amortization of equipment assets	$ 93	$ 83
Interest on lease liabilities	13	33
Total expenses	$ 106	$ 116

	At Dec. 31, 2020
Weighted-average remaining lease term (years) - finance leases	1.3
Weighted-average discount rate - finance leases	7.3%

Minimum future lease payments under finance leases as of December 31, 2020 are as follows:

(In thousands)	
Year Ending December 31, 2021	$ 32
Year Ending December 31, 2022	21
Total	53
Less present value discount	2
Finance lease liabilities	51
Less current portion	31
Long-term obligations under finance leases	$ 20

Note 9. Line of Credit

On November 12, 2019, the Company entered into a business financing agreement with Western Alliance Bank (the "Credit Agreement"), in order to establish a formula based revolving credit line pursuant to which the Company may borrow an aggregate principal amount of up to $7.0 million, subject to the terms and conditions of the Credit Agreement. As of December 31, 2020, the Company did not have any outstanding balance from this line of credit arrangement.

The interest rate as of December 31, 2020 was 6.25%. The interest rate is calculated at a floating rate per month equal to (a) the greater of (i) 4.75% per year or (ii) the Prime Rate published by The Wall Street Journal, plus (b) 1.50 percentage points, plus an additional 5.00 percentage points during any period that an event of default has occurred and is continuing. The Company's obligations under the Credit Agreement are secured by a security interest in substantially all of the Company's current and future personal property assets, including intellectual property. Any borrowings, interest or other fees or obligations that the Company owes will become due and payable on November 12, 2021.

The Credit Agreement includes quick ratio and minimum liquidity financial covenants. The Company is also subject to a number of affirmative and restrictive covenants, including covenants regarding delivery of financial statements, maintenance of inventory, payment of taxes, maintenance of insurance, dispositions of property, business combinations or acquisitions and incurrence of additional indebtedness, among other customary covenants.

Debt Issuance Costs

For the years ended December 31, 2020 and December 31, 2019, The Company incurred debt issuance costs of approximately $113,000 and $49,000, respectively, in connection with this line of credit arrangement and had an unamortized balance of approximately $57,000 as of December 31, 2020. For the line of credit arrangement, the Company elected a policy to keep the debt issuance costs as an asset, regardless of whether an amount is drawn. The remaining unamortized deferred asset will be amortized over the remaining life of the line of credit arrangement.

Note 10. Deferred Revenue

In December 2018, the Company entered into a supply agreement with Nestec Ltd. ("Nestlé"), pursuant to which Nestlé is the exclusive customer for NIAGEN® for human use in the (i) medical nutritional and (ii) functional food and beverage categories in certain territories. As consideration for the rights granted to Nestlé, the Company received an upfront fee of $4.0 million in January 2019. In December 2020, the Company also received $1.0 million for the launch of product in certain territory pursuant to the supply agreement. The Company determined that both the $4.0 million upfront fee and the $1.0 million product launch fee are treated as advance payments for future performance obligations, and utilized output method to recognize the allocated transaction price for this performance obligation as products are supplied over the duration of the exclusivity period. In utilizing output method, the Company estimated total delivery volume based on forecast inputs received from Nestlé on expected purchases of NIAGEN® over the course of the supply agreement.

Revenue recognized from deferred revenue were as follows:

(In thousands)	Year ending Dec. 31, 2020	Year ending Dec. 31, 2019	At Dec. 31, 2020	At Dec. 31, 2019
Revenue recognized from deferred revenue	$ 432	$ 127		
Deferred Revenue Balance			$ 4,441	$ 3,873

Note 11. Income Taxes

At December 31, 2020 and December 31, 2019, the Company maintained a full valuation allowance against the entire deferred income tax balance which resulted in an effective tax rates of 0% for both years 2020 and 2019. At December 31, 2020 and December 31, 2019, we recorded a valuation allowance of $35.2 million and $30.3 million, respectively. The valuation allowance increased by $4.9 million during 2020.

A reconciliation of income taxes computed at the statutory federal income tax rate to income taxes as reflected in the financial statements is summarized as follows:

	2020	2019
Federal income tax expense at statutory rate	(21.0)%	(21.0)%
State income tax, net of federal benefit	(5.7)%	(6.4)%
Permanent differences	1.4%	1.1%
Change in state tax rate	(0.1)%	0.0%
Changes of state net operating losses	(0.3)%	0.3%
Change in stock options and restricted stock	0.3%	(0.2)%
Change in valuation allowance	25.2%	26.2%
Other	0.2%	0.0%
Effective tax rate	0.0%	0.0%

The deferred income tax assets and liabilities consisted of the following components as of December 31, 2020 and December 31, 2019:

(In thousands)	2020	2019
Deferred tax assets:		
Net operating loss carryforward	$ 28,496	$ 24,233
Stock options and restricted stock	5,051	3,988
Interest expense	220	278
Inventory reserve	272	353
Allowance for doubtful accounts	50	758
Accrued expenses	1,190	689
Deferred revenue	5	-
Leasehold improvements and equipment	32	14
Intangibles	85	66
Operating leases	96	152
	35,497	30,531
Less valuation allowance	(35,244)	(30,313)
	253	218
Deferred tax liabilities:		
Prepaid expenses	(253)	(218)
	(253)	(218)
	$ -	$ -

As of December 31, 2020, the Company has tax net operating loss carryforwards for federal and state income tax purposes of approximately $106.6 million and $92.7 million, respectively, portions of which begin to expire in the year ending December 31, 2023 and 2022, respectively. The federal net operating loss carryforward of $66.6 million generated in tax years beginning after December 31, 2017 can be carried forward indefinitely but the deductibility of such net operating loss carryforwards in taxable years beginning after December 31, 2020, is limited to 80% of taxable income.

Under the Internal Revenue Code of 1986, as amended (the "Code"), certain ownership changes may subject the Company to annual limitations on the utilization of its net operating loss carryforwards. The Company has determined that the stock issued in the year of 2020 did not create a change in control under the Section 382 of the Code. The Company will continue to analyze the potential impact of any additional transactions undertaken upon the utilization of the net operating losses on a go forward basis.

The Tax Cuts and Jobs Act created new Section 951A, which set forth a new set of tax rules affecting U.S. shareholders of controlled foreign corporations ("CFCs"). Section 951A defined a new category of income, global intangible low-taxed income ("GILTI"), which must be included on the U.S. shareholder's tax return as it is earned, regardless of when it is distributed (similar to subpart F income). This provision is effective for CFC tax years beginning after December 31, 2017. The Company has prepared the GILTI calculation for 2020 and there is no U.S. tax on GILTI for 2020 due to a loss.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted in response to the COVID-19 pandemic. The CARES Act, among other provisions, increases the limitation on the allowed business interest expense deduction from 30 percent to 50 percent of adjusted taxable income for tax years beginning January 1, 2019 and 2020 and allows businesses to immediately expense the full cost of Qualified Improvement Property, retroactive to tax years beginning on or after January 1, 2018. Additionally, the CARES Act permits net operating loss carryovers ("NOLs") and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The Company is currently evaluating the impact of the CARES Act, but at present does not expect it to have a material impact on the income tax provision.

The Company is currently not under examination by the Internal Revenue Service or any other jurisdictions for any tax years for income taxes. The Company has not identified any material uncertain tax positions requiring a reserve as of December 31, 2020 and December 31, 2019.

Note 12. Related Party Transactions

Sale of consumer products

	Net sales Year ended Dec. 31, 2020	Net sales Year ended Dec. 31, 2019	Trade receivable at Dec. 31, 2020	Trade receivable at Dec. 31, 2019
A.S. Watson Group	$7.7 million	$7.3 million	$0.9 million	$0.8 million
Horizon Ventures (1)	$1.6 million	-	-	-
Total	$9.3 million	$7.3 million	$0.9 million	$0.8 million

*A.S. Watson Group and Horizon Ventures are related parties through common ownership of an enterprise that beneficially owns more than 10% of the common stock of the Company.

(1) For the year ended December 31, 2020, Horizon Ventures made purchases to donate to the healthcare workers in Hong Kong hospitals.

Note 13. Share-Based Compensation

Stock Option Plans

At the discretion of the compensation committee of the Board of Directors (the "Compensation Committee"), the Company may grant options to purchase the Company's common stock to certain individuals from time to time. Management and the Compensation Committee determine the terms of awards which include the exercise price, vesting conditions and expiration dates at the time of grant. Expiration dates for stock options are not to exceed 10 years from their date of issuance.

The Company grant awards to recipients through the 2017 Equity Incentive Plan, as amended (the "2017 Plan"), which is approved by the stockholders and Board of Directors. As of December 31, 2020, under the 2017 Plan, the Company is authorized to issue shares subject to awards that total no more than the sum of (i) 14,500,000 new shares, (ii) approximately 384,000 unallocated shares remaining available for the grant of new awards under the 2007 Plan, (iii) any returning shares such as forfeited, cancelled, or expired shares and (iv) 500,000 shares pursuant to an inducement award. The remaining number of shares available for issuance under the 2017 Plan totaled approximately 5.9 million shares at December 31, 2020.

General Vesting Conditions

The stock option awards generally vest ratably over a three-year period following grant date after a passage of time. However, some stock option awards are market or performance based and vest based on certain triggering events established by the Compensation Committee.

The fair value of the Company's stock options that are not market or performance based was estimated at the date of grant using the Black-Scholes based option valuation model. The table below outlines the weighted average assumptions for options granted during the years ended December 31, 2020 and December 31, 2019.

Year Ended December	2020	2019
Expected term	6 years	6 years
Volatility	67%	67%
Risk-free rate	1%	2%
Dividend Yield	0%	0%

1) Service Period Based Stock Options

The majority of options granted by the Company are comprised of service based options. These options vest ratably over a defined period following grant date after a passage of a service period.

The following table summarizes service period based stock options activity (in thousands except per share data and remaining contractual term):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Weighted Average Fair Value	Aggregate Intrinsic Value
Outstanding at December 31, 2018	8,023	$ 3.75	7.11		$ 2,207
Options Granted	2,603	4.03	10.00	$ 2.46	
Options Exercised	(402)	2.54			$ 389
Options Expired	(3)	4.50			
Options Forfeited	(712)	3.89			
Outstanding at December 31, 2019	9,509	$ 3.86	6.90		$ 6,315
Options Granted	3,609	4.18	10.00	$ 2.45	
Options Exercised	(1,052)	3.84			$ 1,271
Options Expired	(259)	4.66			
Options Forfeited	(974)	3.75			
Outstanding at December 31, 2020	10,833	$ 3.96	6.84		$ 10,472*
Exercisable at December 31, 2020	6,670	$ 3.83	5.39		$ 7,562*

*The aggregate intrinsic values in the table above are based on the Company's closing stock price of $4.80 on the last day of business for the year ended December 31, 2020.

2) Performance Based Stock Options

The Company also grants stock option awards that are performance based and vest based on the achievement of certain criteria established from time to time by the Compensation Committee. If these performance criteria are not met, the compensation expenses are not recognized and the expenses that have been recognized will be reversed.

The following table summarizes performance based stock options activity (in thousands except per share data and remaining contractual term):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Fair Value	Aggregate Intrinsic Value
Outstanding at December 31, 2018	67	$ 1.89	4.08		
Options Granted	-	-			
Options Exercised	(25)	1.89			$ 69
Options Forfeited	-	-			
Outstanding at December 31, 2019	42	$ 1.89	3.08		$ 101
Options Granted	164	4.34	4.00	$ 2.26	
Options Exercised	(42)	1.89			$ 100
Options Forfeited	(83)	4.34			
Outstanding at December 31, 2020	81	$ 4.34	3.06		$ 37*
Exercisable at December 31, 2020	81	$ 4.34	3.06		$ 37*

*The aggregate intrinsic value in the table above are, based on the Company's closing stock price of $4.80 on the last day of business for the period ended December 31, 2020.

3) Market Based Stock Options

The Company also grants stock option awards that are market based which have vesting conditions associated with a service condition as well as performance of the Company's stock price. The following table summarizes market based stock options activity (in thousands except per share data and remaining contractual term):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Fair Value	Aggregate Intrinsic Value
Outstanding at December 31, 2018	1,000	$ 4.24	8.76		
Options Granted	-	-			
Options Exercised	-	-			
Options Forfeited	-	-			
Outstanding at December 31, 2019	1,000	$ 4.24	7.76		$ 70
Options Granted	-	-			
Options Exercised	-	-			
Options Forfeited	-	-			
Outstanding and Exercisable at December 31, 2020	1,000	$ 4.24	6.76		$ 560*

*The aggregate intrinsic value in the table above are, based on the Company's closing stock price of $4.80 on the last day of business for the period ended December 31, 2020.

Total Remaining Unamortized Compensation for Stock Options

As of December 31, 2020, there was approximately $8.3 million of total unrecognized compensation expense related to non-vested share-based compensation arrangements granted under the plans for stock options. That cost is expected to be recognized over a weighted average period of 2.0 years.

Restricted Stock Awards

Restricted stock awards granted by the Company to employees have vesting conditions that are unique to each award.

The following table summarizes activity of restricted stock awards granted (in thousands except per share fair value):

	Shares	Weighted Average Fair Value
Unvested shares at December 31, 2018	183	$ 3.25
Granted	-	-
Vested	-	-
Forfeited	-	-
Unvested shares at December 31, 2019	183	$ 3.25
Granted	-	-
Vested	-	-
Forfeited	-	-
Unvested shares at December 31, 2020	183	$ 3.25
Expected to Vest as of December 31, 2020	183	$ 3.25

Performance Stock Awards

During the fiscal year 2019, the Compensation Committee approved a grant of 166,666 shares of fully-vested restricted stock to Robert Fried, the Company's Chief Executive Officer. The shares were granted pursuant to his employment agreement, which provided for the stock grants upon the achievement of certain performance goals. The expense recognized in the fiscal year 2019 for the awarded shares were approximately $0.7 million.

Share-based Compensation

Share-based compensation expenses for the years ended December 31, 2020 and December 31, 2019 were as follows:

	Year ending	
(In thousands)	**Dec. 31, 2020**	Dec. 31, 2019
Share-based compensation expense		
Cost of sales	**$ 142**	$ 107
Sales and marketing	**1,282**	731
Research and development	**551**	529
General and administrative	**4,961**	5,805
Total	**$ 6,936**	$ 7,172

Note 14. Stock Issuance and Conversion of Convertible Notes

Stock Issuance

On April 27, 2020, the Company entered into a Securities Purchase Agreement with related parties pursuant to which the Company agreed to sell and issue approximately 1.2 million shares for $5.0 million, or $4.08 per share. The selling price was determined by the average closing price over the ten trading days immediately preceding the date of Securities Purchase Agreement. On May 7, 2020, the Company closed the transaction and received proceeds of $4.9 million, net of offering costs.

On August 13, 2019, the Company entered into a Securities Purchase Agreement with certain purchasers, pursuant to which the Company agreed to sell and issue an aggregate of $7.0 million of the Company's common stock at a purchase price of $4.465 per share (the "Financing"). On August 15, 2019, the Company closed the Financing and issued approximately 1.6 million shares of its Common Stock. The Company received proceeds of $6.8 million, net of offering costs.

Conversion of Convertible Notes

On May 17, 2019, the Company closed a financing transaction and issued convertible promissory notes (the "Notes") in the aggregate principal amount of $10.0 million to Winsave Resources Limited and Pioneer Step Holdings Limited. The maturity date of the Notes was originally July 1, 2019 and was subsequently extended to August 15, 2019. The Notes accrued interest at a rate of 5.0% per annum for a total of approximately $123,000 through the maturity date. On the maturity date, the Notes automatically converted into approximately 2.3 million shares of the Company's common stock at a price of $4.465 per share.

Summary of Convertible Notes

Description	Modified Conversion Price *	Original Conversion Price	Extended Maturity Date	Original Maturity Date	Amount (In thousands)
Principal	$ 4.465	$ 4.590	August 15, 2019	July 1, 2019	$ 10,000
Interest at a rate of 5.0% per annum					123
Total Amount Converted for 2.3 million shares					$ 10,123
Debt Discount - Issuance costs					565
Debt Discount - Down round feature					282
Total Debt Discount recognized as Interest Expense					$ 847

* The conversion price has a down round feature. The original conversion price of $4.59 was lowered to $4.465 due to the Financing.

Debt Issuance Costs

In connection with the issuance of the Notes, the Company incurred issuance costs of approximately $565,000. The issuance costs were recorded as a debt discount and were amortized as interest expense using the effective interest method over the original term of 45 days.

Down Round Feature

The Notes had adjustments which meet the definition of a down round feature per ASU 2017-11. Pursuant to the terms of the Notes, the conversion price per share was adjusted downward from $4.59 to $4.465 as the Company closed the Financing on the Maturity Date. As allowed under ASU 2017-11, the Company excluded such down round feature when determining whether the instrument is indexed to the entity's own stock and did not bifurcate the down round feature from the loan host.

In accordance with ASU 2017-11, the Company recognized the value of the triggered down round as a beneficial conversion discount to earnings. The Note purchasers obtained approximately additional 62,000 shares of the Company's common stock due to the down round feature with an incremental intrinsic value of approximately $281,000. This amount was initially recognized as debt discount and was amortized as interest expense.

Along with the issuance cost of the Notes, the Company recorded a total of approximately $0.8 million as interest expense in amortization of debt discounts during the year ended December 31, 2019.

Debt Modification

On June 30, 2019, the Company and the Purchasers entered into an Omnibus Amendment to the Purchase Agreement and the Notes to (i) remove the restriction on the Company issuing common stock during a certain restricted period and (ii) amend the Notes to extend the maturity date by 45 days from July 1, 2019 to August 15, 2019. The amendment to extend the maturity date for another 45 days to August 15, 2019 was recognized as a modification of the Notes.

Note 15. Commitments and Contingencies

Purchase obligations

The Company enters into purchase obligations with various vendors for goods and services that we need for our operations. The purchase obligations for goods and services include inventory, research and development, and laboratory supplies. Minimum future payments under purchase obligations as of December 31, 2020 are as follows:

Fiscal year ending:	
2021	$ 17.3 Million
	$ 17.3 Million

Royalty

The Company has various licensing agreements with leading research universities and other patent holders, pursuant to which the Company acquired patents related to certain

products the Company offers to its customers. These agreements afford for royalty payments based on contractual minimums and expire at various dates. In addition, the Company is required to pay a range of 2% to 5% of sales related to the licensed products under these agreements. Total royalty expenses including license maintenance fees for the years ended December 31, 2020 and December 31, 2019 were approximately $1.9 million and $2.7 million, respectively under these agreements.

Minimum royalties including license maintenance fees for the next five years are as follows:

(In thousands)	
Fiscal years ending:	
2021	$ 370
2022	371
2023	340
2024	350
2025	350
	$ 1,781

Legal proceedings

1. Elysium Health, LLC

(A) California Action

On December 29, 2016, ChromaDex, Inc. filed a complaint in the United States District Court for the Central District of California, naming Elysium Health, Inc. (together with Elysium Health, LLC, "Elysium") as defendant (the "Complaint"). On January 25, 2017, Elysium filed an answer and counterclaims in response to the Complaint (together with the Complaint, the "California Action"). Over the course of the California Action, the parties have each filed amended pleadings several times and have each engaged in several rounds of motions to dismiss and one round of motion for judgment on the pleadings with respect to various claims. Most recently, on November 27, 2018, ChromaDex, Inc. filed a fifth amended complaint that added an individual, Mark Morris, as a defendant. Elysium and Morris ("the Defendants") moved to dismiss on December 21, 2018. The court denied Defendants' motion on February 4, 2019. Defendants filed their answer to ChromaDex, Inc.'s fifth amended complaint on February 19, 2019. ChromaDex, Inc. filed an answer to Elysium's restated counterclaims on March 5, 2019. Discovery closed on August 9, 2019.

On August 16, 2019, the parties filed motions for partial summary judgment as to certain claims and counterclaims. The parties filed opposition briefs on August 28, 2019, and reply briefs on September 4, 2019. On October 9, 2019, among other things, the court vacated the previously scheduled trial date, ordered supplemental briefing with respect to certain issues related to summary judgment. Elysium filed its opening supplemental brief on October 30, 2019, ChromaDex filed its opening supplemental brief on November 18, 2019, and Elysium filed a reply brief on November 27, 2019, and the court heard argument on January 13, 2020. On January 16, 2020, the court granted both parties' motions for summary judgment in part and denied both in part. On ChromaDex's motion, the court granted summary judgment in favor of ChromaDex on Elysium's counterclaims for (i) breach of contract related to manufacturing NIAGEN® according to the defined standard, selling NIAGEN and ingredients that are substantially similar to pterostilbene to other customers, distributing the NIAGEN® product specifications, and failing to provide information concerning the quality and identity of NIAGEN®, and (ii) breach of the implied covenant of good faith and fair dealing. The court denied summary judgment on Elysium's counterclaims for (i) fraudulent inducement of the Trademark License and Royalty Agreement, dated February 3, 2014, by and between ChromaDex, Inc. and Elysium (the "License Agreement"), (ii) patent misuse, and (iii) unjust enrichment. On Elysium's motion, the court granted summary judgment in favor of Elysium on ChromaDex's claim for damages related to $110,000 in avoided costs arising from documents that Elysium used in violation of the Supply Agreement, dated February 3, 2014, by and between ChromaDex, Inc. and Elysium, as amended (the "NIAGEN® Supply Agreement"). The court denied summary judgment on Elysium's counterclaim for breach of contract related to certain refunds or credits to Elysium. The court also denied summary judgment on ChromaDex's breach of contract claim against Morris and claims for disgorgement of $8.3 million in Elysium's resale profits, $600,000 for a price discount received by Elysium, and $684,781 in Morris's compensation.

Following the court's January 16, 2020 order, the claims that ChromaDex, Inc. presently asserts in the California Action, among other allegations, are that (i) Elysium breached the Supply Agreement, dated June 26, 2014, by and between ChromaDex, Inc. and Elysium (the "pTeroPure® Supply Agreement"), by failing to make payments to ChromaDex, Inc. for purchases of pTeroPure® and by improper disclosure of confidential ChromaDex, Inc. information pursuant to the pTeroPure® Supply Agreement, (ii) Elysium breached the NIAGEN® Supply Agreement, by failing to make payments to ChromaDex, Inc. for purchases of NIAGEN®, (iii) Defendants willfully and maliciously misappropriated ChromaDex, Inc. trade secrets concerning its ingredient sales business under both the California Uniform Trade Secrets Act and the Federal Defend Trade Secrets Act, (iv) Morris breached two confidentiality agreements he signed by improperly stealing confidential ChromaDex, Inc. documents and information, (v) Morris breached his fiduciary duty to ChromaDex, Inc. by lying to and competing with ChromaDex, Inc. while still employed there, and (vi) Elysium aided and abetted Morris's breach of fiduciary duty. ChromaDex, Inc. is seeking damages and interest for Elysium's alleged breaches of the NIAGEN® Supply Agreement and pTeroPure® Supply Agreement and Morris's alleged breaches of his confidentiality agreements, compensatory damages and interest, punitive damages, injunctive relief, and attorney's fees for Defendants' alleged willful and malicious misappropriation of ChromaDex, Inc.'s trade secrets, and compensatory damages and interest, disgorgement of all benefits received, and punitive damages for Morris's alleged breach of his fiduciary duty and Elysium's aiding and abetting of that alleged breach.

The claims that Elysium presently alleges in the California Action are that (i) ChromaDex, Inc. breached the NIAGEN® Supply Agreement by not issuing certain refunds or credits to Elysium, (ii) ChromaDex, Inc. fraudulently induced Elysium into entering into the License Agreement, (iv) ChromaDex, Inc.'s conduct constitutes misuse of its patent rights, and (v) ChromaDex, Inc. was unjustly enriched by the royalties Elysium paid pursuant to the License Agreement. Elysium is seeking damages for ChromaDex, Inc.'s alleged breaches of the NIAGEN® Supply Agreement, and compensatory damages, punitive damages, and/or rescission of the License Agreement and restitution of any royalty payments conveyed by Elysium pursuant to the License Agreement, and a declaratory judgment that ChromaDex, Inc. has engaged in patent misuse.

On January 17, 2020, Elysium moved to substitute its counsel. The same day, the court ordered hearing on that motion for January 21, 2020, and granted Elysium's motion at the hearing. On January 23, 2020, the court issued a scheduling order that, among other things, set trial on the remaining claims to begin on May 12, 2020. On March 19, 2020, in light of the global COVID-19 pandemic and ongoing private mediation efforts, the parties jointly stipulated to adjourn the trial date. The court vacated the trial date on March 20, 2020. The court held a telephonic status conference on June 9, 2020, during which the court indicated that it will reschedule the jury trial as soon as conditions permit. On November 4, 2020, the parties submitted a joint status report indicating that they will propose a new trial date as soon as the court announces that it will resume jury trials. On November 18, 2020, the court set trial to begin on September 21, 2021.

On December 11, 2020, Elysium filed a "Notice of Correction of Depositions" related to the depositions of its chief executive officer, Eric Marcotulli, and chief operating officer, Daniel Alminana, both taken in March 2019. On March 8, 2021, based in part on information that Elysium submitted under seal with that notice, ChromaDex filed a motion for sanctions or, in the alternative, reconsideration of the court's January 16, 2020 order regarding summary judgment, in which ChromaDex moved to dismiss Elysium's third, fourth, and fifth counterclaims. Elysium's opposition brief is due March 22, 2021, and ChromaDex's reply brief is due March 29, 2021. The court set the hearing on the motion for May 3, 2021.

(B) Southern District of New York Action

On September 27, 2017, Elysium Health Inc. ("Elysium Health") filed a complaint in the United States District Court for the Southern District of New York, against ChromaDex, Inc. (the "Elysium SDNY Complaint"). Elysium Health alleges in the Elysium SDNY Complaint that ChromaDex, Inc. made false and misleading statements in a citizen petition to the Food and Drug Administration it filed on or about August 18, 2017. Among other allegations, Elysium Health avers that the citizen petition made Elysium Health's product appear dangerous, while casting ChromaDex, Inc.'s own product as safe. The Elysium SDNY Complaint asserts four claims for relief: (i) false advertising under the Lanham Act, 15 U.S.C. § 1125(a); (ii) trade libel; (iii) deceptive business practices under New York General Business Law § 349; and (iv) tortious interference with prospective economic relations. ChromaDex, Inc. denies the claims in the Elysium SDNY Complaint and intends to defend against them vigorously. On October 26, 2017, ChromaDex, Inc. moved to dismiss the Elysium SDNY Complaint on the grounds that, inter alia, its statements in the citizen petition are immune from liability under the Noerr-Pennington Doctrine, the litigation privilege, and New York's Anti-SLAPP statute, and that the Elysium SDNY Complaint failed to state a claim. Elysium Health opposed the motion on November 2, 2017. ChromaDex, Inc. filed its reply on November 9, 2017.

On October 26, 2017, ChromaDex, Inc. filed a complaint in the United States District Court for the Southern District of New York against Elysium Health (the "ChromaDex SDNY Complaint"). ChromaDex, Inc. alleges that Elysium Health made material false and misleading statements to consumers in the promotion, marketing, and sale of its health supplement product, Basis, and asserts five claims for relief: (i) false advertising under the Lanham Act, 15 U.S.C. §1125(a); (ii) unfair competition under 15 U.S.C. § 1125(a); (iii) deceptive practices under New York General Business Law § 349; (iv) deceptive practices under New York General Business Law § 350; and (v) tortious interference with prospective economic advantage. On November 16, 2017, Elysium Health moved to dismiss for failure to state a claim. ChromaDex, Inc. opposed the motion on November 30, 2017 and Elysium Health filed a reply on December 7, 2017.

On November 3, 2017, the Court consolidated the Elysium SDNY Complaint and the ChromaDex SDNY Complaint actions under the caption In re Elysium Health-ChromaDex Litigation, 17-cv-7394, and stayed discovery in the consolidated action pending a Court-ordered mediation. The mediation was unsuccessful. On September 27, 2018, the Court issued a combined ruling on both parties' motions to dismiss. For ChromaDex's motion to dismiss, the Court converted the part of the motion on the issue of whether the citizen petition is immune under the Noerr-Pennington Doctrine into a motion for summary judgment, and requested supplemental evidence from both parties, which were submitted on October 29, 2018. The Court otherwise denied the motion to dismiss. On January 3, 2019, the Court granted ChromaDex, Inc.'s motion for summary judgment under the Noerr-Pennington Doctrine and dismissed all claims in the Elysium SDNY Complaint. Elysium moved for reconsideration on January 17, 2019. The Court denied Elysium's motion for reconsideration on February 6, 2019, and issued an amended final order granting ChromaDex, Inc.'s motion for summary judgment on February 7, 2019.

The Court granted in part and denied in part Elysium's motion to dismiss, sustaining three grounds for ChromaDex's Lanham Act claims while dismissing two others, sustaining the claim under New York General Business Law § 349, and dismissing the claims under New York General Business Law § 350 and for tortious interference. Elysium filed an answer and counterclaims on October 10, 2018, alleging claims for (i) false advertising under the Lanham Act, 15 U.S.C. §1125(a); (ii) unfair competition under 15 U.S.C. § 1125(a); and (iii) deceptive practices under New York General Business Law § 349. ChromaDex answered Elysium's counterclaims on November 2, 2018.

ChromaDex, Inc. filed an amended complaint on March 27, 2019, adding new claims against Elysium Health for false advertising and unfair competition under the Lanham Act, 15 U.S.C. § 1125(a). On April 10, 2019, Elysium Health answered the amended complaint and filed amended counterclaims, also adding new claims against ChromaDex, Inc. for false advertising and unfair competition under the Lanham Act, 15 U.S.C. § 1125(a). On July 1, 2019, Elysium Health filed further amended counterclaims, adding new claims under the Copyright Act §§ 106 & 501. On February 9, 2020, ChromaDex, Inc. filed a motion for leave to amend its complaint to add additional claims against Elysium Health for false advertising and unfair competition. On February 10, 2020, Elysium Health filed a motion for leave to amend its counterclaims to identify allegedly false and misleading statements in ChromaDex's advertising. Those motions were both granted after respective stipulations. On March 12, 2020, Elysium Health answered the second amended complaint. On March 13, 2020, ChromaDex, Inc. filed an answer and objection to Elysium Health's third amended counterclaims.

On December 14, 2020, Elysium Health filed a motion to supplement and amend its counterclaims to add claims regarding alleged advertising related to COVID. On January 19, 2021, the court denied Elysium Health's motion.

The completion of all discovery is set for April 23, 2021 and the deadline to submit the Joint Pretrial Report is June 22, 2021. The court has ordered the parties to be ready for trial on 48 hours' notice by August 9, 2021.

The Company is unable to predict the outcome of these matters and, at this time, cannot reasonably estimate the possible loss or range of loss with respect to the legal proceedings discussed herein. As of December 31, 2020, ChromaDex, Inc. did not accrue a potential loss for the California Action or the Elysium SDNY Complaint because ChromaDex, Inc. believes that the allegations are without merit and thus it is not probable that a liability has been incurred.

(C) Delaware - Patent Infringement Action

On September 17, 2018, ChromaDex, Inc. and Trustees of Dartmouth College filed a patent infringement complaint in the United States District Court for the District of Delaware against Elysium Health, Inc. The complaint alleges that Elysium's BASIS® dietary supplement violates U.S. Patents 8,197,807 (the "'807 Patent") and 8,383,086 (the "'086 Patent") that comprise compositions containing isolated nicotinamide riboside held by Dartmouth and licensed exclusively to ChromaDex, Inc. On October 23, 2018, Elysium filed an answer to the complaint. The answer asserts various affirmative defenses and denies that Plaintiffs are entitled to any relief.

On November 7, 2018, Elysium filed a motion to stay the patent infringement proceedings pending resolution of (1) the inter partes review of the '807 Patent and the '086 Patent before the Patent Trial and Appeal Board ("PTAB") and (2) the outcome of the litigation in the California Action. ChromaDex, Inc. filed an opposition brief on November 21, 2018 detailing the issues with Elysium's motion to stay. In particular, ChromaDex, Inc. argued that given claim 2 of the '086 Patent was only included in the PTAB's inter partes review for procedural reasons the PTAB was unlikely to invalidate claim 2 and therefore litigation in Delaware would continue regardless. In addition, ChromaDex, Inc. argued that the litigation in the California Action is unlikely to have a significant effect on the ongoing patent litigation. After the PTAB released its written decision upholding claim 2 of the '086 Patent, proving right ChromaDex, Inc.'s prediction, ChromaDex, Inc. informed the Delaware court of the PTAB's decision on January 17, 2019. On June 19, 2019, the Delaware court granted in part and denied in part Elysium's motion, ordering that the case was stayed pending the resolution of Elysium's patent misuse counterclaim in the California Action.

On November 1, 2019, ChromaDex, Inc. filed a motion to lift the stay due to changed circumstances in the California Action, among other reasons. Briefing on the motion was completed on November 22, 2019. On January 6, 2020, the Delaware court issued an oral order instructing the parties to submit a joint status report after the January 13, 2020 motions hearing in the California Action. The joint status report was submitted on January 30, 2020. On February 4, 2020, the Delaware court issued an order granting ChromaDex, Inc.'s motion to lift the stay and setting a scheduling conference for March 10, 2020. On March 19, 2020, the Delaware court entered a scheduling order, which, among other things, set the claim-construction hearing for December 17, 2020 and trial for the week of September 27, 2021. On April 17, 2020, ChromaDex, Inc. served infringement contentions. Elysium filed a Second Amended Answer on July 10, 2020.

On April 24, 2020, ChromaDex, Inc. moved for leave to amend the complaint to add Healthspan Research, LLC as a plaintiff. On May 5, 2020, Elysium filed its opposition to ChromaDex, Inc.'s motion for leave to amend and moved to dismiss ChromaDex, Inc. for alleged lack of standing. ChromaDex, Inc. filed its opposition to Elysium's motion to dismiss and reply in support of its motion to amend on May 19, 2020. Elysium filed its reply in support of its motion to dismiss on May 26, 2020. The Court held a hearing on the motion for leave to amend the complaint and Elysium's motion to dismiss on September 16, 2020. On December 15, 2020, the Court entered orders (i) granting in part and denying in part Elysium's motion to dismiss ChromaDex, Inc. for alleged lack of standing; and (ii) denying ChromaDex, Inc.'s motion for leave to amend. ChromaDex, Inc. filed a motion for reargument on December 29, 2020. Elysium filed a response to the motion for reargument on January 28, 2021. ChromaDex, Inc. filed a motion for leave to file a sur-reply on February 8, 2021. Elysium filed a response to the motion for leave to file a sur-reply on February 12, 2021. ChromaDex, Inc. filed a reply to the motion for leave to file a sur-reply on February 19, 2021. The Court has not yet ruled on the motion for reargument.

On July 22, 2020 the parties filed a Joint Claim Construction Chart and respective motions for claim construction. The parties filed a Joint Claim Construction Brief on November 5, 2020. The Court held a Markman hearing on claim-construction issues on December 17, 2020. The Court entered a claim-construction ruling on January 5, 2021.

Fact discovery closed on January 26, 2021. Opening expert reports were served on February 9, 2021. Responsive expert reports were served on March 9, 2021. Reply expert reports are due to be served on March 30, 2021.

Trial is scheduled for September 27-30, 2021.

2. Other

(A) Employee Dispute

On September 25, 2020, the Company received a demand letter from a former employee, alleging a series of employment-related claims against the Company after the employee was laid off as part of a company restructuring. The employee alleges she was harassed and, ultimately, terminated in retaliation for taking intermittent leave, under the Family and Medical Leave Act. No lawsuit has been filed to date. The Company believes these claims are without merit and is seeking to amicably resolve the matter pre-lawsuit. The Company does not anticipate that the ultimate resolution of this matter will be material to the Company's operations, financial condition or cash flows.

(B) Rejuvenation Therapeutics

On September 15, 2020, the Company received a letter from a customer, Rejuvenation Therapeutics Corp. ("Rejuvenation"), and has received subsequent correspondence, requesting a full refund of approximately $1.6 million of NIAGEN® it purchased, alleging breaches of the supply agreement between the parties. The Company believes these claims are without merit and is seeking to amicably resolve the matter pre-lawsuit. As of December 31, 2020, the Company has recorded a return liability of approximately $0.5 million, which the Company has offered to settle in good faith. The Company does not anticipate that the ultimate resolution of this matter will be material to the Company's operations, financial condition or cash flows.

(C) Thorne Research, Inc.

On or around September 28, 2020, Thorne Research, Inc. ("Thorne") provided notice to ChromaDex, Inc. that it intended to terminate its March 25, 2019 Supply Agreement and subsequent amendments with ChromaDex, Inc., effective as of December 31, 2020. A discussion between ChromaDex, Inc. and Thorne followed, and Thorne asserted that it could challenge the '086 Patent in an IPR proceeding on the basis of prior art, but would be willing to enter into a mutual existence agreement that would permit Thorne to source NR from a third party. Thorne did not offer substantive information supporting a prior art claim or about the nature of the threatened IPR.

On December 1, 2020, Thorne filed a petition for IPR of the '086 Patent. Dartmouth's preliminary response to the petition is due on March 15, 2021. On February 1, 2021, Thorne filed a petition for IPR of the '807 Patent. Dartmouth's preliminary response to the petition is due on May 18, 2021.

From time to time we are involved in legal proceedings arising in the ordinary course of our business. We believe that there is no other litigation pending that is likely to have, individually or in the aggregate, a material adverse effect on our financial condition or results of operations.

Contingencies

(A) In September 2019, the Company received a letter from a licensor stating that the Company owed the licensor $1.6 million plus interest of sublicense fees as a result of the Company entering into the supply agreement with a customer. After reviewing the relevant facts and circumstances, the Company believes that the Company does not owe any sublicense fees to the licensor and has corresponded with the licensor to resolve the matter. The Company does not believe that the ultimate resolution of this matter will be material to the Company's results of operations, financial condition or cash flows.

(B) On November 17, 2020, the Company received a warning letter ("the Letter") from the United States Food and Drug Administration ("FDA") and Federal Trade Commission ("FTC"). The Letter references statements issued by the Company relating to preclinical and clinical research results involving nicotinamide riboside and COVID-19. The statements were included in press releases and referenced in social media posts.

On November 18, 2020, the Company provided a response to the Letter stating that the Company disagrees with the assertion in the Letter that the Company's products are intended to mitigate, prevent, treat, diagnose or cure COVID-19 in violation of certain sections of the FD&C Act and the FTC Act, but rather accurately reflected the results of scientific research.

Nonetheless, the Company also responded that is had deleted social media references to the studies and removed related press releases from its website. No further action has been taken by the FDA or the FTC to date. The Company does not believe that the ultimate resolution of this matter will be material to the Company's results of operations, financial condition or cash flows.

Note 16. Business Segmentation and Geographical Distribution

The Company has the following three reportable segments for the years ended December 31, 2020 and December 31, 2019:

● Consumer products segment: provides finished dietary supplement products that contain the Company's proprietary ingredients directly to consumers as well as to distributors.

● Ingredients segment: develops and commercializes proprietary-based ingredient technologies and supplies these ingredients as raw materials to the manufacturers of consumer products.

● Analytical reference standards and services segment: includes supply of phytochemical reference standards and other research and development services.

The "Corporate and other" classification includes corporate items not allocated by the Company to each reportable segment. Further, there are no intersegment sales that require elimination. The Company evaluates performance and allocates resources based on reviewing gross margin by reportable segment. The discontinued operations are not included in following statement of operations for business segments.

Year ended December 31, 2020 (In thousands)	Consumer Products segment	Ingredients segment	Analytical Reference Standards and Services segment	Corporate and other	Total
Net sales	$ 47,090	$ 9,198	$ 2,969	$ -	$ 59,257
Cost of sales	17,541	3,593	2,849	-	23,983
Gross profit	29,549	5,605	120	-	35,274
Operating expenses:					
Sales and marketing	20,323	41	584	-	20,948
Research and development	3,245	487	-	-	3,732
General and administrative	-	-	-	30,448	30,448
Operating expenses	23,568	528	584	30,448	55,128
Operating income (loss)	$ 5,981	$ 5,077	$ (464)	$ (30,448)	$ (19,854)

Year ended December 31, 2019 (In thousands)	Consumer Products segment	Ingredients segment	Analytical Reference Standards and Services segment	Corporate and other	Total
Net sales	$ 36,075	$ 6,196	$ 4,020	$ -	$ 46,291
Cost of sales	14,550	2,980	2,992	-	20,522
Gross profit	21,525	3,216	1,028	-	25,769
Operating expenses:					
Sales and marketing	17,343	245	628	-	18,216
Research and development	3,699	721	-	-	4,420
General and administrative	-	-	-	34,308	34,308
Other	-	-	-	125	125
Operating expenses	21,042	966	628	34,433	57,069
Operating income (loss)	$ 483	$ 2,250	$ 400	$ (34,433)	$ (31,300)

At December 31, 2020 (In thousands)	Consumer Products segment	Ingredients segment	Analytical Reference Standards and Services segment	Corporate and other	Total
Total assets	$ 11,567	$ 3,701	$ 802	$ 22,288	$ 38,358

Disaggregation of revenue

We disaggregate our revenue from contracts with customers by type of goods or services for each of our segments, as we believe it best depicts how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. See details in the tables below.

Year Ended December 31, 2020 (In thousands)	Consumer Products Segment	Ingredients Segment	Analytical Reference Standards and Services Segment	Total
TRU NIAGEN®, Consumer Product	$ 47,090	$ -	$ -	$ 47,090
NIAGEN® Ingredient	-	7,070	-	7,070
Subtotal NIAGEN Related	$ 47,090	$ 7,070	$ -	$ 54,160
Other Ingredients	-	2,128	-	2,128
Reference Standards	-	-	2,925	2,925
Consulting and Other	-	-	44	44
Subtotal Other Goods and Services	$ -	$ 2,128	$ 2,969	$ 5,097
Total Net Sales	$ 47,090	$ 9,198	$ 2,969	$ 59,257

At December 31, 2019 (In thousands)	Consumer Products segment	Ingredients segment	Analytical Reference Standards and Services segment	Corporate and other	Total
Total assets	$ 12,137	$ 2,135	$ 918	$ 25,057	$ 40,247

Year Ended December 31, 2019 (In thousands)	Consumer Products Segment	Ingredients Segment	Analytical Reference Standards and Services Segment	Total
TRU NIAGEN®, Consumer Product	$ 36,075	$ -	$ -	$ 36,075
NIAGEN® Ingredient	-	4,879	-	4,879
Subtotal NIAGEN Related	$ 36,075	$ 4,879	$ -	$ 40,954
Other Ingredients	-	1,317	-	1,317
Reference Standards	-	-	3,064	3,064
Consulting and Other	-	-	956	956
Subtotal Other Goods and Services	$ -	$ 1,317	$ 4,020	$ 5,337
Total Net Sales	$ 36,075	$ 6,196	$ 4,020	$ 46,291

Revenues from international sources

Revenues from International Sources	Year ended Dec. 31, 2020	Year ended Dec. 31, 2019
Consumer Products Segment	$16.9 million	$10.8 million
Ingredients Segment	$1.8 million	$0.6 million
Analytical Reference Standards and Services Segment	$1.3 million	$1.8 million
Total	$20.0 million	$13.2 million

*International sources include Europe, North America, South America, Asia and Oceania.

Long-lived assets

The Company's long-lived assets are located within the United States.

Disclosure of major customers

Major customers who accounted for more than 10% of the Company's total sales were as follows:

	Years Ended December 31	
Major Customers	2020	2019
A.S. Watson Group - Related Party	13.0%	15.8%

Major customers who accounted for more than 10% of the Company's total trade receivables were as follows:

	Percentage of the Company's Total Trade Receivables	
Major Customers	At December 31, 2020	At December 31, 2019
A.S. Watson Group - Related Party	31.9%	39.0%
Life Extension	17.7%	27.4%
Amazon Marketplaces	12.0%	10.3%
Matakana Health	11.1%	*

* Represents less than 10%.

Disclosure of major vendors

Major vendors who accounted for more than 10% of the Company's total accounts payable were as follows:

	Percentage of the Company's Total Accounts Payable	
Major Vendors	At December 31, 2020	At December 31, 2019
Vendor A	39.7%	43.1%

Note 17. Subsequent Events

Subsequent to the year ended December 31, 2020, the Company entered into a Securities Purchase Agreement with an investor, pursuant to which the Company sold and issued approximately 3.8 million shares for $25.0 million, $6.50 per share.

From January 1, 2021 through March 5, 2021, approximately 0.8 million stock options have been exercised at weighted average exercise price of $4.09 per share and the Company received proceeds of approximately $3.4 million.

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

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer carried out an evaluation of the effectiveness of our disclosure controls and procedures as of December 31, 2020. Pursuant to Rule13a−15(e) promulgated by the Commission pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), "disclosure controls and procedures" means controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the Commission is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms. "Disclosure controls and procedures" include, without limitation, controls and procedures designed to ensure that information that we are required to disclose in the reports we file with the Commission is accumulated and communicated to our principal executive officer and principal financial officer as appropriate to allow timely decisions regarding required disclosure.

Based on their evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective as of December 31, 2020 as a result of the material weakness in our internal control over financial reporting discussed below.

Management Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) and 15d-(f) under the Exchange Act. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with U.S. generally accepted accounting principles. Our internal control over financial reporting include those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of our consolidated financial statements in accordance with U.S. generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

(iii) 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 consolidated financial statements.

Our management, including the undersigned principal executive officer and principal financial officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In conducting its assessment, our management used the criteria issued by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework in 2013*. Based on this assessment, our management concluded that, as of December 31, 2020, our internal control over financial reporting was not effective based on those criteria because of a material weakness described below.

The material weakness in internal control over financial reporting resulted from a deficiency in our disclosure controls and procedures which could have resulted in the Company not disclosing a material potential loss requiring a qualitative disclosure and recording a liability in consolidated financial statements under ASC 450 - Contingencies. The material weakness was previously identified as of December 31, 2019. Specifically, the Company failed to disclose in its Quarterly Report on Form 10-Q for the period ended September 30, 2020 that the Company received a letter in September 2020 from a customer requesting a full refund of approximately $1.6 million of NIAGEN® it purchased, alleging breaches of the supply agreement between the parties, and failed to record a liability in its financial statements for such quarter.

The Company is still in the process of analyzing and addressing the material weakness. The material weakness will not be considered remediated until the applicable remedial control operates for a sufficient period of time and management has concluded, through testing, that this control is operating effectively. We expect that the remediation of this material weakness will be completed prior to the end of year 2021.

Our principal executive officer and principal financial officer believe that, notwithstanding the material weakness discussed above, the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2020 present fairly, in all material respects, our financial position, results of operations and cash flows for the periods presented.

In connection with the filing of our Quarterly Report on Form 10-Q for the period ended September 30, 2020, our chief executive officer and our chief financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of September 30, 2020, previously concluded that our disclosure controls and procedures were effective, and that the material weakness previously identified and described above had been remediated. Subsequent to that evaluation, management reevaluated the effectiveness of our disclosure controls and procedures as of September 30, 2020 and concluded that our disclosure controls and procedures over financial reporting were not effective as the previously identified material weakness discussed above was not remediated as of September 30, 2020. Our principal executive officer and principal financial officer believe that, notwithstanding the material weakness discussed above, the consolidated financial statements in our Quarterly Report on Form 10-Q for the period ended September 30, 2020 present fairly, in all material respects, our financial position, results of operations and cash flows for the periods presented.

Changes in Internal Control over Financial Reporting

Except as noted above, there were no change in internal controls over financial reporting (as defined in Rule 13a−15(f) promulgated under the Exchange Act) that occurred during our fourth fiscal quarter that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Inherent Limitations on Disclosure Controls and Procedures

The effectiveness of our disclosure controls and procedures is subject to various inherent limitations, including cost limitations, judgments used in decision making, assumptions about the likelihood of future events, the soundness of our systems, the possibility of human error, and the risk of fraud. Moreover, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions and the risk that the degree of compliance with policies or procedures may deteriorate over time. Because of these limitations, there can be no assurance that any system of disclosure controls and procedures, no matter how well conceived, will be successful in preventing all errors or fraud or in making all material information known in a timely manner to the appropriate levels of management.

Inherent Limitations on Internal Control

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations, including the possibility of human error and circumvention by collusion or overriding of control. Accordingly, even an effective internal control system may not prevent or detect material misstatements on a timely basis. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that the controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate. Accordingly, our internal control over financial reporting is designed to provide reasonable assurance of achieving their objectives.

Item 9B. Other Information

On March 9, 2021, Mark Friedman, the Company's Chief Legal Officer, notified the Company that he intends to retire, effective March 12, 2021 (the "Retirement Date"). Mr. Friedman entered into a consultant agreement (the "Consulting Agreement") whereby Mr. Friedman will provide certain advisory services to the Company for a period of 90 days following the Retirement Date in exchange for a cash payment of $12,000 per month. The services provided pursuant to the Consulting Agreement will constitute continuous service with the Company. The Consulting Agreement may be renewed for additional one-month terms upon written agreement by both parties, and may be terminated by either party upon 30 days' written notice.

In connection with Mr. Friedman's retirement, the Company expects that Lisa Hatton Harrington, the Company's General Counsel, will be appointed as an executive officer of the Company and will materially assume the duties and responsibilities of Mr. Friedman.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information required by this item will be contained in the Proxy Statement and is incorporated herein by reference.

We have adopted a written Code of Business Conduct and Ethics (the "Ethics Code") that applies to all officers, directors and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. The Ethics Code is available on our website at www.chromadex.com. If we make any substantive amendments to the Ethics Code or grant any waiver from a provision of the Ethics Code to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website or in a Current Report on Form 8-K.

Item 11. Executive Compensation

Information required by this item will be contained in the Proxy Statement and is incorporated herein by reference.

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

Information required by this item will be contained in the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information required by this item will be contained in the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

Information required by this item will be contained in the Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

Reference is made to Item 8 of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedules

All schedules have been omitted because they are not required or because the required information is given in the Financial Statements or Notes thereto set forth under Part II, Item 8 of this Annual Report on Form 10-K.

(a)(3) List of Exhibits

INDEX TO EXHIBITS

Exhibit No.	Description
2.1	Agreement and Plan of Merger, dated as of May 21, 2008, among Cody, CDI Acquisition, Inc. and ChromaDex, Inc. as amended on June 10, 2008 (incorporated by reference to, and filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008) (1)
2.2	Asset Purchase Agreement, dated as of August 21, 2017, by and among Covance Laboratories Inc., ChromaDex, Inc., ChromaDex Analytics, Inc., and ChromaDex Corporation (incorporated by reference to, and filed as Exhibit 2.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 9, 2017)*(2)
2.3	Amendment to Asset Purchase Agreement, dated as of September 5, 2017, by and among Covance Laboratories Inc., ChromaDex, Inc., ChromaDex Analytics, Inc., and ChromaDex Corporation (incorporated by reference to, and filed as Exhibit 2.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 9, 2017)
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to, and filed as Exhibit 3.1 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 15, 2018)
3.2	Certificate of Amendment to the Certificate of Incorporation of the Registrant (incorporated by reference to, and filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 000-53290) filed with the Commission on April 12, 2016)
3.3	Bylaws of the Registrant (incorporated by reference to, and filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008)
3.4	Amendment to Bylaws of the Registrant (incorporated by reference to, and filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on July 19, 2016)
4.1	Form of Stock Certificate representing shares of the Registrant's Common Stock (incorporated by reference to, and filed as Exhibit 4.1 of the Registrant's Annual Report on Form 10-K (File No. 000-53290) filed with the Commission on April 3, 2009)
4.2	Investor's Rights Agreement, effective as of December 31, 2005, by and between The University of Mississippi Research Foundation and ChromaDex (incorporated by reference to, and filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008)
4.3	Tag-Along Agreement effective as of December 31, 2005, by and among the Registrant, Frank Louis Jaksch, Snr. & Maria Jaksch, Trustees of the Jaksch Family Trust, Margery Germain, Lauren Germain, Emily Germain, Lucie Germain, Frank Louis Jaksch, Jr., and the University of Mississippi Research Foundation (incorporated by reference to, and filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008)

4.4	Form of Stock Certificate representing shares of the Registrant's Common Stock effective as of January 1, 2016 (incorporated by reference to, and filed as Exhibit 4.4 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 17, 2016)
4.5	Form of Stock Certificate representing shares of the Registrant's Common Stock effective as of December 10, 2018 (incorporated by reference to, and filed as Exhibit 4.5 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)
4.6	Description of Common Stock of the Registrant (incorporated by reference to, and filed as Exhibit 4.6 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 10, 2020)
4.7	Registration Rights Agreement, dated as of May 9, 2019, by and among the Registrant and the parties thereto (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K filed with the SEC on May 10, 2019)
4.8	Registration Rights Agreement, dated as of August 15, 2019, by and among the Registrant and the parties thereto (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K filed with the SEC on August 15, 2019)
4.9	Registration Rights Agreement, dated as of April 27, 2020, by and among the Registrant and the parties thereto (incorporated by reference to Exhibit 99.2 to the Registrant's Current Report on Form 8-K filed with the SEC on April 29, 2020)
10.1	Second Amended and Restated 2007 Equity Incentive Plan effective March 13, 2007, as amended May 20, 2010 (incorporated by reference to, and filed as Appendix B to the Registrant's Current Definitive Proxy Statement on Schedule 14A (File No. 000-53290) filed with the Commission on May 4, 2010)(1)+
10.2	Form of Stock Option Agreement under the ChromaDex, Inc. Second Amended and Restated 2007 Equity Incentive Plan (incorporated by reference to, and filed as Exhibit 10.3 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008)(1)+
10.3	Form of Restricted Stock Purchase Agreement under the ChromaDex, Inc. 2007 Equity Incentive Plan (incorporated by reference to, and filed as Exhibit 10.4 to the Registrant's Current Report on Form 8-K (File No. 333-140056) filed with the Commission on June 24, 2008)(1)+
10.4	Amended and Restated Employment Agreement dated April 19, 2010, by and between Frank L. Jaksch, Jr. and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on April 22, 2010)(1)+
10.5	Amendment, dated June 22, 2018, to the Amended and Restated Employment Agreement, by and between Frank L. Jaksch Jr. and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on June 28, 2018)+
10.6	License Agreement, dated March 25, 2010 between the University of Mississippi and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on May 18, 2010)*
10.7	First Amendment to License Agreement, made as of June 3, 2011 between the University of Mississippi and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on August 11, 2011)*
10.8	Restated and Amended License Agreement, effective as of June 3, 2015 between the University of Mississippi and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on August 13, 2015)*
10.9	License Agreement, dated July 5, 2011 between ChromaDex, Inc. and Cornell University (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on November 10, 2011)*
10.10	Exclusive License Agreement, dated September 8, 2011 between the Regents of the University of California and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on November 10, 2011)*
10.11	First Amendment to the License Agreement, effective as of September 5, 2014 between the Regents of the University of California and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on November 6, 2014)*

10.12	Second Amendment to the License Agreement, effective as of December 31, 2015, between the Regents of the University of California and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)*
10.13	Exclusive License Agreement, dated July 13, 2012 between Dartmouth College and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)
10.14	Exclusive License Agreement, dated March 7, 2013 between Washington University and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)
10.15	Amendment #1 to Exclusive License Agreement, effective as of December 15, 2015, between Washington University and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)
10.16	License Agreement, made as of August 1, 2013, between Green Molecular S.L., Inc. and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)
10.17	Exclusive License Agreement, effective as of May 16, 2014 between Dartmouth College and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 000-53290) filed with the Commission on August 12, 2014)*
10.18	First Amendment to Exclusive License Agreement, effective as of June 13, 2016, between Dartmouth College and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.10 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)*
10.19	License Agreement, effective as of October 15, 2014 between University of Mississippi and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.40 to the Registrant's Annual report on Form 10-K (File No. 000-53290) filed with the Commission on March 19, 2015)*
10.20	First Amendment to Exclusive License Agreement, effective as of July 6, 2015, between University of Mississippi and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.7 to the Registrant's Quarterly report on Form 10-Q (File No. 001-37752) filed with the Commission on November 10, 2016)
10.21	Lease Agreement, made as of April 14, 2016, by and between Longmont Diagonal Investments LLC and ChromaDex Analytics, Inc. (incorporated by reference to and filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 000-53290) filed with the Commission on April 20, 2016)
10.22	First Amendment to Lease Agreement, dated August 3, 2020, by and between ChromaDex Analytics, Inc. and 62 1625-1751 S. Fordham LLC and 64 1625-1751 S. Fordham LLC (62 1625-1751 S. Fordham LLC and 64-1625-1751 S. Fordham LLC are successors-in-interest to Lease Agreement, made as of April 14, 2016, by and between ChromaDex Analytics, Inc and Longmont Diagonal Investments LLC) (incorporated by reference to Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020)
10.23	Form of Indemnity Agreement, between the Registrant and each of its existing directors and executive officers. (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on December 16, 2016)+
10.24	Amended and Restated Non-Employee Director Compensation Policy (incorporated by reference to, and filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on August 9, 2018)+
10.25	Membership Interest Purchase Agreement effective as of March 12, 2017, by and among Robert Fried, Charles Brenner, Jeffrey Allen and the Registrant (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on May 11, 2017)
10.26	Form of Restricted Stock Award Agreement for Robert Fried (incorporated by reference to, and filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on May 11, 2017)+
10.27	Amended and Restated Executive Employment Agreement, dated June 22, 2018, by and between Robert Fried and the Registrant (incorporated by reference to, and filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on June 28, 2018)+
10.28	ChromaDex Corporation 2017 Equity Incentive Plan, as amended, and Form of Option Grant Notice, Form of Option Agreement, Form of Restricted Stock Award Grant Notice, Form of Restricted Stock Award Agreement, Form of Restricted Stock Unit Award Grant Notice and Form of Restricted Stock Unit Award Agreement thereunder (incorporated by reference to, and filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on June 22, 2020)+

10.29	Lease, dated July 6, 2017, by and between 10900 WILSHIRE L.L.C and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.50 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)
10.30	First Amendment to Lease, dated February 7, 2018, by and between 10900 WILSHIRE L.L.C and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.51 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)
10.31	Second Amendment to Lease, dated June 30, 2018, by and between 10900 WILSHIRE L.L.C and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.52 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)
10.32	Third Amendment to Lease, dated November 9, 2018, by and between 10900 WILSHIRE L.L.C and ChromaDex, Inc. (incorporated by reference to, and filed as Exhibit 10.53 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)
10.33	Executive Employment Agreement, dated October 5, 2017, by and between Kevin M. Farr and the Registrant (incorporated by reference to and filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on October 10, 2017)+
10.34	Executive Employment Agreement, dated as of January 22, 2018, by and between Mark Friedman and the Registrant (incorporated by reference to and filed as Exhibit 10.72 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 15, 2018)+
10.35	Executive Employment Agreement, dated as of June 1, 2018, by and between Lisa Bratkovich and the Registrant (incorporated by reference to, and filed as Exhibit 10.58 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)+
10.36	Separation Agreement, dated January 10, 2020, by and among ChromaDex Corporation and Lisa Bratkovich (incorporated by reference to and filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q (File No. 001-37752) filed with the Commission on May 18, 2020)+
10.37	Supply Agreement, dated December 19, 2018, by and between ChromaDex, Inc. and Nestec Ltd. (incorporated by reference to, and filed as Exhibit 10.62 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 7, 2019)*
10.38	Note Purchase Agreement, dated May 9, 2019, by and among ChromaDex Corporation and Winsave Resource Limited and Pioneer Step Holdings Limited (incorporated by reference to, and filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on May 10, 2019)
10.39	Omnibus Amendment to Note Purchase Agreement and Convertible Promissory Notes, dated June 30, 2019, by and among ChromaDex Corporation and Winsave Resource Limited and Pioneer Step Holdings Limited (incorporated by reference to, and filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on July 1, 2019)
10.40	Securities Purchase Agreement, dated August 13, 2019, by and among ChromaDex Corporation and the purchasers therein (incorporated by reference to, and filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on August 14, 2019)
10.41	Securities Purchase Agreement, dated April 27, 2020, by and among ChromaDex Corporation and Winsave Resources Limited and Pioneer Step Holdings Limited (incorporated by reference to, and filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K (File No. 001-37752) filed with the Commission on April 29, 2020)
10.42	At Market Issuance Sales Agreement, dated as of June 12, 2020, by and among ChromaDex Corporation, B. Riley FBR, Inc. and Raymond James & Associates, Inc. (incorporated by reference to, and filed as Exhibit 1.2 to the Registrant's Registration Statement on Form S-3 (File No. 333-239144) filed with the Commission on June 12, 2020)
10.43	Business Financing Agreement, dated November 12, 2019, by and between ChromaDex Corporation and Western Alliance Bank (incorporated by reference to, and filed as Exhibit 10.45 to the Registrant's Annual Report on Form 10-K (File No. 001-37752) filed with the Commission on March 10, 2020)
10.44	First Modification to Business Financing Agreement dated October 7, 2020, by and between ChromaDex Corporation and Western Alliance Bank❖

10.45	Manufacturing and Supply Agreement, dated as of January 1, 2016, by and between ChromaDex, Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.46	Amendment to Manufacturing and Supply Agreement, dated as of February 27, 2017, by and between ChromaDex, Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.47	Second Amendment to Manufacturing and Supply Agreement, dated as of January 1, 2018, by and between ChromaDex, Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.48	Third Amendment to Manufacturing and Supply Agreement, dated as of January 1, 2019, by and between ChromaDex, Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.49	Fourth Amendment to Manufacturing and Supply Agreement, dated as of April 15, 2019, by and between ChromaDex Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.50	Fifth Amendment to Manufacturing and Supply Agreement, dated as of January 1, 2020, by and between ChromaDex Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.51	Sixth Amendment to Manufacturing and Supply Agreement, dated as of September 17, 2020, by and between ChromaDex Inc. and W.R. Grace & Co.-Conn. (incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2020) **
10.52	Executive Employment Agreement, dated as of July 23, 2019, by and between Megan Jordan and the Registrant❖+
21.1	Subsidiaries of ChromaDex Corporation❖
23.1	Consent of Marcum, LLP, Independent Registered Public Accounting Firm❖
31.1	Certification of the Chief Executive Officer pursuant to §240.13a-14 or §240.15d-14 of the Securities Exchange Act of 1934, as amended
31.2	Certification of the Chief Financial Officer pursuant to §240.13a-14 or §240.15d-14 of the Securities Exchange Act of 1934, as amended
32.1	Certification pursuant to 18 U.S.C. Section 1350 (as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002)❖
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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❖ Filed herewith.

(1) Plan and related Forms were assumed by ChromaDex Corporation pursuant to Agreement and Plan of Merger, dated as of May 21, 2008, among ChromaDex Corporation (formerly Cody Resources, Inc.), CDI Acquisition, Inc. and ChromaDex, Inc.

(2) Schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. ChromaDex Corporation undertakes to furnish supplemental copies of any of the omitted schedules upon request by the Securities and Exchange Commission; provided, however, that ChromaDex Corporation may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any schedule so furnished.

\+ Indicates management contract or compensatory plan or arrangement.

* This Exhibit has been granted confidential treatment and has been filed separately with the Commission. The confidential portions of this Exhibit have been omitted and are marked by an asterisk.

** Certain portions of this exhibit are omitted because they are not material and would likely cause competitive harm to the registrant if disclosed.

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, on the 12th day of March 2021.

CHROMADEX CORPORATION

By: /s/ ROBERT FRIED
Robert Fried
Chief Executive Officer

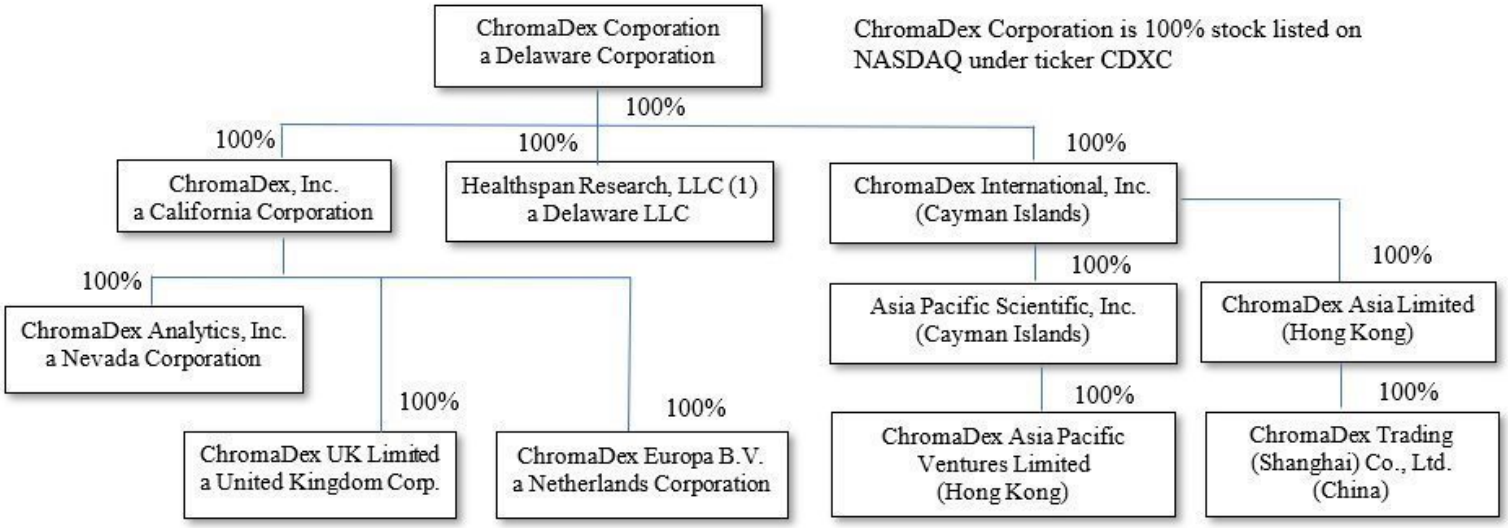
KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robert Fried and Kevin Farr, and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

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

Signature	Title	Date
/s/ ROBERT FRIED Robert Fried	Chief Executive Officer and Director (Principal Executive Officer)	March 12, 2021
/s/ KEVIN FARR Kevin Farr	Chief Financial Officer (Principal Financial and Accounting Officer)	March 12, 2021
/s/ FRANK L. JAKSCH JR. Frank L. Jaksch Jr.	Executive Chairman of the Board and Director	March 12, 2021
/s/ STEPHEN BLOCK Stephen Block	Director	March 12, 2021
/s/ JEFF BAXTER Jeff Baxter	Director	March 12, 2021
/s/ KURT GUSTAFSON Kurt Gustafson	Director	March 12, 2021
/s/ STEVEN RUBIN Steven Rubin	Director	March 12, 2021
/s/ TONY LAU Tony Lau	Director	March 12, 2021
/s/ WENDY YU Wendy Yu	Director	March 12, 2021

EXHIBIT 21.1

ChromaDex Corporation Corporate Organization Chart at December 31, 2020



(1) Healthspan Research, LLC was subsequently dissolved in January 2021.

EXHIBIT 23.1

Independent Registered Public Accounting Firm's Consent

We consent to the incorporation by reference in the Registration Statement of ChromaDex Corporation and Subsidiaries on Form S-3 and as amended [File No. 333-233729, File No. 333-222064, File No. 333-221245, File No. 333-218634, File No. 333-176636, File No. 333-238570, and File No. 333-239144] and on Form S-8 [File No. 333-226972, File No. 333-223889, File No. 333-221247, File No. 333-221246, File No. 333-196434, File No. 333-168029, File No. 333-154403, File No. 333-154402, and File No. 333-248104] of our report dated March 12, 2021, with respect to our audits of the consolidated financial statements of ChromaDex Corporation and Subsidiaries as of December 31, 2020 and December 31, 2019 and for the years ended December 31, 2020 and December 31, 2019, which report is included in this Annual Report on Form 10-K of ChromaDex Corporation and Subsidiaries for the year ended December 31, 2020.

/s/ Marcum LLP

Marcum LLP
New York, NY
March 12, 2021

EXHIBIT 31.1

Certification of the Principal Executive Officer
Pursuant to
§240.13a−14 or §240.15d−14 of the Securities Exchange Act of 1934, as amended

I, Robert Fried, certify that:

1. I have reviewed this annual report on Form 10−K of ChromaDex Corporation;

2. Based on my knowledge, this 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 report;

3. Based on my knowledge, the financial statements, and other financial information included in this 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 report;

4. The registrant's other certifying officer(s) 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 Rules 13a-15(f) and 15d-15(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 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 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(s) 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 12, 2021

/s/ ROBERT FRIED
Robert Fried
Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

Certification of the Principal Financial Officer
Pursuant to
§240.13a−14 or §240.15d−14 of the Securities Exchange Act of 1934, as amended

I, Kevin Farr, certify that:

1. I have reviewed this annual report on Form 10−K of ChromaDex Corporation;

2. Based on my knowledge, this 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 report;

3. Based on my knowledge, the financial statements, and other financial information included in this 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 report;

4. The registrant's other certifying officer(s) 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 Rules 13a-15(f) and 15d-15(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 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 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(s) 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 12, 2021

/s/ KEVIN FARR
Kevin Farr
Chief Financial Officer
(Principal Accounting Officer)

EXHIBIT 32.1

Certification Pursuant to 18 U.S.C. Section 1350
(as adopted pursuant to Section 906 of the Sarbanes−Oxley Act of 2002)

In connection with this annual report of ChromaDex Corporation (the "Company") on Form 10−K for the year ending December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, Robert Fried, Chief Executive Officer of the Company, and Kevin Farr, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes−Oxley Act of 2002, that, to our knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 12, 2021

/s/ ROBERT FRIED
Robert Fried
Chief Executive Officer

/s/ KEVIN FARR
Kevin Farr
Chief Financial Officer

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of ChromaDex Corporation under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

EXHIBIT 10.44

FIRST MODIFICATION TO BUSINESS FINANCING AGREEMENT

This First Modification to Business Financing Agreement (this "**Amendment**") is entered into as of October 7, 2020, but is effective as of September 1, 2020, by and among WESTERN ALLIANCE BANK, an Arizona corporation ("**Lender**"), CHROMADEX CORPORATION, a Delaware corporation, CHROMADEX, INC., a California corporation, CHROMADEX ANALYTICS, INC., a Nevada corporation, and HEALTHSPAN RESEARCH LLC, a Delaware limited liability company (individually and collectively, "**Borrower**").

1. DESCRIPTION OF EXISTING INDEBTEDNESS: Among other indebtedness which may be owing by Borrower to Lender, Borrower is indebted to Lender pursuant to, among other documents, a Business Financing Agreement, dated November 12, 2019, by and among Borrower and Lender, as may be amended from time to time (the "**Business Financing Agreement**"). Capitalized terms used without definition herein shall have the meanings assigned to them in the Business Financing Agreement.

Hereinafter, all indebtedness owing by Borrower to Lender shall be referred to as the "Indebtedness" and the Business Financing Agreement and any and all other documents executed by Borrower in favor of Lender shall be referred to as the "**Existing Documents**".

2. DESCRIPTION OF EXISTING DEFAULTS. Borrower is currently in default of the Business Financing Agreement for failing to deliver to Lender (A) monthly financial statements for the months ended July 31, 2020 and August 31, 2020 and sell through reports for the months ended November 30, 2019 through August 31, 2020, as required by Section 4.14(b) of the Business Financing Agreement, (B) compliance certificates for the months ended July 31, 2020 and August 31, 2020, as required by Section 4.14(f) of the Business Financing Agreement, and (C) deferred revenue reports for the months ended November 30, 2019 through August 31, 2020, as required by Section 4.14(h) of the Business Financing Agreement (collectively, the "**Existing Defaults**"). Borrower has requested that Lender waive its rights and remedies against Borrower, limited specifically to the Existing Defaults. Although Lender is under no obligation to do so, Lender is willing to waive the Existing Defaults on the terms and conditions set forth in this Amendment.

3. WAIVER OF EXISTING DEFAULTS. Lender hereby waives Borrower's Existing Defaults under the Business Financing Agreement. Lender's waiver of Borrower's compliance with this covenant shall apply only to the Existing Defaults. Lender's agreement to waive the above-described Existing Defaults (1) in no way shall be deemed an agreement by Lender to waive Borrower's compliance with the any other covenant, and (2) shall not limit or impair Lender's right to demand strict performance of all other covenants as of any date.

4. DESCRIPTION OF CHANGE IN TERMS.

A. Section 4.14. Sections 4.14(b), (f), (g) and (h) of the Business Financing Agreement are hereby amended by deleting them in their entirety and replacing them with the following:

(b) No later than thirty (30) days after each Month End (including the last period in each fiscal year) (provided that, if no Advances are outstanding during such month, such period shall be 45 days after the end of such fiscal quarter), monthly (or quarterly if applicable) financial statements of Borrower including a balance sheet, income statement, and statement of cash flows, certified and dated by an authorized financial officer. The statements shall be prepared on a consolidated basis.

(f) Within thirty (30) days after each Month End (provided that, if no Advances are outstanding during such month, such period shall be 45 days after the end of such fiscal quarter), a compliance certificate of Borrower, signed by an authorized financial officer and setting forth (A) the information and computations (in sufficient detail) to establish compliance with all financial covenants at the end of the period covered by the financial statements then being furnished and (B) whether there existed as of the date of such financial statements and whether there exists as of the date of the certificate, any Default or Event of Default under this Agreement and, if any such Default or Event of Default exists, specifying the nature thereof and the action Borrower is taking and proposes to take with respect thereto.

(g) Within fifteen (15) days after each Month End (provided that, if no Advances are outstanding during such month, such period shall be 45 days after the end of such fiscal quarter), a roll forward borrowing base certificate substantially in the form attached hereto as Exhibit B, in form and substance satisfactory to Lender, setting forth Eligible Receivables and Receivable Amounts thereof and Eligible Inventory as of the last day of the preceding calendar month (or quarter if applicable) (a "Borrowing Base Certificate"); provided, however, when a Streamline Period is not in effect, Borrower shall also deliver to Lender at the funding of each Advance a Borrowing Base Certificate (except that such Borrowing Base Certificate need not include updates to Eligible Inventory) as of a date no more than three (3) business days from the date of such Advance.

(h) (i) Within fifteen (15) days after each Month End (provided that, if no Advances are outstanding during such month, such period shall be 45 days after the end of such fiscal quarter), and (ii) when a Streamline Period is not in effect, at the funding of each Advance (as of a date no more than three (3) business days from the date of such Advance), a detailed aging of Borrower's Receivables by invoice or a detailed aging by Account Debtor, together with payable aging, deferred revenue report, sales and billings journals, cash receipts journals, and such other matters as Lender may reasonably request.

B. Section 4.17(a). Section 4.17(a) of the Business Financing Agreement is hereby amended by deleting it in its entirety and replacing it with the following:

(a) **RML**. Borrower shall maintain at all times, tested as of each Month End (provided that, if no Advances are outstanding during such month, such test shall occur at the end of such fiscal quarter), RML of at least four (4) months, provided, that, for any month in which Borrower's Average EBDAS is at least Zero Dollars ($0), RML shall not be tested.

C. Exhibit A (Compliance Certificate). The Compliance Certificate is amended in its entirety and replaced with the Compliance Certificate in the form of Exhibit A attached hereto.

5. CONSISTENT CHANGES. The Existing Documents are each hereby amended wherever necessary to reflect the changes described above.

6. NO DEFENSES OF BORROWER/GENERAL RELEASE. Borrower agrees that, as of this date, it has no defenses against the obligations to pay any amounts under the Indebtedness. Each Borrower (each, a "**Releasing Party**") acknowledges that Lender would not enter into this Amendment without Releasing Party's assurance that it has no claims against Lender or any of Lender's officers, directors, employees or agents. Except for the obligations arising hereafter under this Amendment, each Releasing Party releases Lender, and each of Lender's and entity's officers, directors and employees from any known or unknown claims that Releasing Party now has against Lender of any nature, including any claims that Releasing Party, its successors, counsel, and advisors may in the future discover they would have now had if they had known facts not now known to them, whether founded in contract, in tort or pursuant to any other theory of liability, including but not limited to any claims arising out of or related to the Agreement or the transactions contemplated thereby. Releasing Party waives the provisions of California Civil Code section 1542, which states:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.

The provisions, waivers and releases set forth in this section are binding upon each Releasing Party and its shareholders, agents, employees, assigns and successors in interest. The provisions, waivers and releases of this section shall inure to the benefit of Lender and its agents, employees, officers, directors, assigns and successors in interest. The provisions of this section shall survive payment in full of the Obligations, full performance of all the terms of this Amendment and the Business Financing Agreement, and/or Lender's actions to exercise any remedy available under the Business Financing Agreement or otherwise.

7. CONTINUING VALIDITY. Borrower understands and agrees that in modifying the existing Indebtedness, Lender is relying upon Borrower's representations, warranties, and agreements, as set forth in the Existing Documents. Except as expressly modified pursuant to this Amendment, the terms of the Existing Documents remain unchanged and in full force and effect. Lender's agreement to modifications to the existing Indebtedness pursuant to this Amendment in no way shall obligate Lender to make any future modifications to the Indebtedness. Nothing in this Amendment shall constitute a satisfaction of the Indebtedness. It is the intention of Lender and Borrower to retain as liable parties all makers and endorsers of Existing Documents, unless the party is expressly released by Lender in writing. No maker, endorser, or guarantor will be released by virtue of this Amendment. The terms of this paragraph apply not only to this Amendment, but also to any subsequent Business Financing Agreement modifications.

8. NOTICE OF FINAL AGREEMENT. BY SIGNING THIS DOCUMENT EACH PARTY REPRESENTS AND AGREES THAT: (A) THIS WRITTEN AGREEMENT REPRESENTS THE FINAL AGREEMENT BETWEEN THE PARTIES, (B) THERE ARE NO UNWRITTEN ORAL AGREEMENTS BETWEEN THE PARTIES, AND (C) THIS WRITTEN AGREEMENT MAY NOT BE CONTRADICTED BY EVIDENCE OF ANY PRIOR, CONTEMPORANEOUS, OR SUBSEQUENT ORAL AGREEMENTS OR UNDERSTANDINGS OF THE PARTIES.

9. COUNTERSIGNATURE. This Amendment shall become effective only when executed by Lender and Borrower.

[Signature Page Follows].

IN WITNESS WHEREOF, Borrower and Lender have executed this Agreement on the day and year above written.

BORROWER:

CHROMADEX CORPORATION, A DELAWARE CORPORATION

By /s/ Kevin Farr
Name: Kevin Farr
Title: Chief Financial Officer

CHROMADEX, INC., A CALIFORNIA CORPORATION

By /s/ Kevin Farr
Name: Kevin Farr
Title: Chief Financial Officer

CHROMADEX ANALYTICS, INC., A NEVADA CORPORATION

By /s/ Kevin Farr
Name: Kevin Farr
Title: Chief Financial Officer

HEALTHSPAN RESEARCH LLC, A DELAWARE LIMITED LIABILITY COMPANY

By /s/ Kevin Farr
Name: Kevin Farr
Title: Chief Financial Officer

Address for Notices:
c/o Chromadex Corporation
10900 Wilshire Blvd., Suite 600
Los Angeles, California 90024
Email:
Attn:

LENDER:

WESTERN ALLIANCE BANK, AN ARIZONA CORPORATION

By /s/ Darin Cunningham
Name: Darin Cunningham
Title: Vice President

Address for Notices:
WESTERN ALLIANCE BANK
600 Anton Blvd., Suite 150
Costa Mesa, CA 92626
Email: Darin Cunningham
Attn: darin.cunningham@bridgebank.com

EXHIBIT A
COMPLIANCE CERTIFICATE

TO: WESTERN ALLIANCE BANK, an Arizona corporation (the "**Lender**")

FROM: CHROMADEX CORPORATION, CHROMADEX, INC., CHROMADEX ANALYTICS, INC., and HEALTHSPAN RESEARCH LLC (collectively, "**Borrower**")

The undersigned authorized officer of Borrower hereby certifies that in accordance with the terms and conditions of the Business Financing Agreement among Borrower and Lender (the "Agreement"), (i) Borrower is in complete compliance for the period ending _____ with all required covenants except as noted below and (ii) all representations and warranties of Borrower stated in the Agreement are true and correct in all material respects as of the date hereof. Attached herewith are the required documents supporting the above certification. The Officer further certifies that these are prepared in accordance with Generally Accepted Accounting Principles (GAAP) and are consistently applied from one period to the next except as explained in an accompanying letter or footnotes.

Please indicate compliance status by circling Yes/No under "Complies" column.

Reporting Covenant	**Required**		**Complies**
Monthly financial statements (consolidated) with Compliance Certificate	Monthly within 30 days (quarterly within 45 days if no advances outstanding)	Yes	No
Annual financial statements (CPA Audited)	FYE within 180 days	Yes	No
Borrowing Base Certificates, A/R & A/P Agings, sales or billings journal, cash receipts report, deferred revenue report, and inventory report	Monthly within 15 days (quarterly within 45 days if no advances outstanding) and, when a Streamline Period is not in Effect, at the date of each Advance (other than inventory reports)	Yes	No
Board approved budget	FYE within 60 days and as amended/updated	Yes	No

Financial Covenant	**Required**	**Actual**	**Complies**
RML (monthly if Advances are outstanding, quarterly if no Advances outstanding)	4 months	Yes	No
Unrestricted cash at Lender (monthly)	$3,000,000	Yes	No

Streamline Threshold	**Required**	**Actual**	**Complies**
RML (monthly)	6 months	Yes	No

Comments Regarding Exceptions: See Attached.

Sincerely,

CHROMADEX CORPORATION

_____
SIGNATURE

_____
TITLE

_____
DATE

CHROMADEX, INC.

_____
SIGNATURE

_____
TITLE

_____
DATE

CHROMADEX ANALYTICS, INC.

_____
SIGNATURE

_____
TITLE

_____
DATE

HEALTHSPAN RESEARCH LLC

_____
SIGNATURE

_____
TITLE

BANK USE ONLY

Received by: _____
AUTHORIZED SIGNER

Date: _____

Verified: _____
AUTHORIZED SIGNER

Date: _____

Compliance Status Yes No

CHROMADEX CORPORATION

EXECUTIVE EMPLOYMENT AGREEMENT

for

MEGAN JORDAN

This Executive Employment Agreement (this "**Agreement**") is entered into as of July 23, 2019 (the "**Effective Date**"), by and between Megan Jordan ("**Executive**") and ChromaDex Corporation, a Delaware corporation (the "**Company**").

1. Employment by the Company.

1.1 Position. Commencing on August 6, 2019, Executive shall serve as the Company's Senior Vice President of Corporate Affairs & Chief Communications Officer. During the term of Executive's employment with the Company, Executive will devote Executive's commercially reasonable efforts and substantially all of Executive's business time and attention to the business of the Company, except for approved paid and unpaid time off and reasonable periods of illness or other incapacities permitted by the Company's general employment policies and applicable law.

1.2 Duties and Location. Executive shall perform such duties as are customarily associated with the position of Senior Vice President of Corporate Affairs & Chief Communications Officer and such other duties, commensurate with her position, as are assigned to Executive by the Chief Executive Officer, or the Company's Board of Directors (the "**Board**"). Executive's primary office location shall be in the Los Angeles, California area. The Company reserves the right to reasonably require Executive to perform Executive's duties at the Company's offices in Irvine, California as required for the performance of her duties and for business meetings with Company employees or representatives of third parties, and to require reasonable business travel.

1.3 Policies and Procedures. The employment relationship between the parties shall be governed by the general employment policies and practices of the Company, except that when the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2. Compensation.

2.1 Base Salary. Executive will receive an initial base salary at the annual rate of $300,000, less standard payroll deductions and withholdings and payable in accordance with the Company's regular payroll schedule. The base salary may be increased from time to time. The base salary may not be decreased, other than a decrease of less than ten percent (10%) of Executive's highest base salary pursuant to a salary reduction program applicable generally to the Company's senior executives. The initial base salary, as increased or decreased, shall be referred to as "**Base Salary**."

2.2 Annual Bonus. In addition to base salary, Executive will be eligible to earn discretionary annual incentive compensation (the "**Performance Bonus**"), calculated and paid commensurate with other executive officers of the Company, subject to the approval of the Compensation Committee. The Annual Bonus will be calculated Pro Rata for 2019. The Performance Bonus, if earned, will be paid on an annual basis, less standard payroll deductions and withholdings, after the close of the fiscal year and after determination by the Board (or the Compensation Committee thereof), but not later than March 15 of the following calendar year. No Performance Bonus amount is guaranteed and, in addition to the other conditions for earning such Performance Bonus, Executive must remain an employee in good standing of the Company on the scheduled annual Performance Bonus payment date in order to earn any Performance Bonus, except as otherwise provided herein.

2.3 Stock Options. Subject to the approval of the Board, the Company will grant Executive options (pursuant to the terms of the Company's 2017 Equity Incentive Plan, as amended (the "**Plan**"), and applicable law) (the "**Options**") to purchase 320,000 shares of the Company's common stock for an exercise price equal to the fair market value on the date of the grant. One-third of the shares subject to the Option shall vest on the one year anniversary of the vesting commencement date of the Option, and the remaining shares subject to the Option shall vest in a series of 24 equal monthly installments thereafter, subject to Executive's Continuous Service (as defined in the Plan) on each such vesting date. Notwithstanding anything to the contrary set forth in the Plan or any award agreement, if the Company consummates a Change in Control (as that term is defined in the Plan) and subject to (i) Executive's Continuous Service through the date of the consummation of the Change in Control or (ii) termination of the Executive's Continuous Service by the Company without Cause or by the Executive for Good Reason within 90 days prior to the consummation of a Change in Control, Executive shall vest immediately prior to such Change in Control as to 100% of her otherwise unvested time-based equity awards (the "**Single Trigger Acceleration**"), provided, however, that in exchange for the Single Trigger Acceleration, the Company may require Executive to execute and deliver to the Company a signed and dated general release of all known and unknown claims in substantially the form attached hereto as ***Exhibit A*** (the "**Release**") within the applicable deadline set forth therein. The Company will register the shares subject to the Option on a Registration Statement on Form S-8 as soon as reasonably practicable after the Effective Date.

2.4 Additional Stock Options. Any additional stock options, stock grants, stock units or equivalents to be granted to you will be calculated and issued commensurate with other executive officers of the Company, subject to the approval of the Compensation Committee.

3. Standard Company Benefits. Executive shall, in accordance with Company policy and the terms and conditions of the applicable Company benefit plan documents, be eligible to participate in the benefit and fringe benefit programs provided by the Company to its senior executive officers. Any such benefits shall be subject to the terms and conditions of the governing benefit plans and policies and may be changed by the Company in its discretion.

4. Expenses. The Company will reimburse Executive for reasonable travel, entertainment or other expenses incurred by Executive in furtherance or in connection with the performance of Executive's duties hereunder, in accordance with the Company's expense reimbursement policy as in effect. Additionally, the Company agrees to participate in corporate sponsorship/underwriting of appropriate advisory boards and/or charities in amounts to be determined and during Executive's employment, Company shall pay up to $10,000 annually towards professional development as agreed between the parties.

5. Proprietary Information Obligations.

5.1 Proprietary Information Agreement. As a condition of employment, and in consideration for the benefits provided for in this Agreement, Executive shall sign and comply with the Company's Employee Confidential Information and Invention Assignment Agreement (the "**Proprietary Information Agreement**") attached hereto as ***Exhibit B***. In addition, Executive agrees to abide by the Company's internally published policies and procedures, as may be modified and internally published from time to time within the Company's discretion.

5.2 Third-Party Agreements and Information. Executive represents and warrants that Executive's employment by the Company does not conflict with any prior employment or consulting agreement or other agreement with any third party, and that Executive will perform Executive's duties to the Company without violating any such agreement. Executive represents and warrants that Executive does not possess confidential information arising out of prior employment, consulting, or other third party relationships, that would be used in connection with Executive's employment by the Company, except as expressly authorized by that third party. During Executive's employment by the Company, Executive will use in the performance of Executive's duties only information that is generally known and used by persons with training and experience comparable to Executive's own, common knowledge in the industry, otherwise legally in the public domain, or obtained or developed by the Company or by Executive in the course of Executive's work for the Company.

6. Outside Activities and Non-Competition During Employment.

6.1 Outside Activities. Throughout Executive's employment with the Company, Executive may engage in civic and not-for-profit activities, so long as such activities do not materially interfere with the performance of Executive's duties hereunder or present a conflict of interest with the Company or its affiliates. Subject to the restrictions set forth herein, and only with prior written disclosure to and consent of the Board, Executive may engage in other types of business or public activities. The Board may rescind such consent, if the Board determines, in its sole discretion, that such activities compromise or threaten to compromise the Company's or its affiliates' business interests or conflict or compete with Executive's duties to the Company or its affiliates.

6.2 Non-Competition During Employment. Except as otherwise provided in this Agreement, during Executive's employment with the Company, Executive will not, without the prior written consent of the Board, directly or indirectly serve as an officer, director, stockholder, employee, partner, proprietor, investor, joint venture, associate, representative or consultant of any person or entity engaged in, or planning or preparing to engage in, business activity competitive with any line of business engaged in (or planned to be engaged in) by the Company; provided, however, that Executive may purchase or otherwise acquire up to (but not more than) one percent (1%) of any class of securities of any enterprise (without participating in the activities of such enterprise) if such securities are listed on any national or regional securities exchange.

7. Termination of Employment; Severance.

7.1 At-Will Employment. Executive's employment relationship is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause (as defined below) or advance notice (other than the notice requirements expressly set forth in Section 12).

7.2 Termination Without Cause or Resignation for Good Reason. In the event Executive's employment with the Company is terminated by the Company without Cause (and other than as a result of Executive's death or Disability (as defined below)) or Executive resigns her employment for Good Reason, then provided such termination or resignation constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h), without regard to any alternative definition thereunder, a " **Separation from Service** "), and provided that Executive satisfies the Release Requirement in Section 8 below, the Company shall provide Executive with the following " **Severance Benefits** ":

7.2.1 Severance Payments. Severance pay in the form of continuation of Executive's Base Salary for a period of twelve (12) months following termination, subject to required payroll deductions and tax withholdings (the "**Severance Payments**"). Subject to Section 8 below, the Severance Payments shall be made on the Company's regular payroll schedule in effect following Executive's termination date; provided, however that any such payments that are otherwise scheduled to be made prior to the Release Effective Date (as defined below) shall instead accrue and be made on the first administratively practicable payroll date following the Release Effective Date. For such purposes, Executive's final Base Salary will be calculated prior to giving effect to any reduction in Base Salary that would give rise to Executive's right to resign for Good Reason.

7.2.2 Health Care Continuation Coverage Payments.

(i) COBRA Premiums. If Executive timely elects continued coverage under COBRA, the Company will pay Executive's COBRA premiums to continue Executive's coverage (including coverage for Executive's eligible dependents, if applicable) ("**COBRA Premiums**") through the period starting on the termination date and ending twelve (12) months after the termination date (the "**COBRA Premium Period**"); provided, however, that the Company's provision of such COBRA Premium benefits will immediately cease if during the COBRA Premium Period Executive becomes eligible for group health insurance coverage through a new employer or Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination. In the event Executive becomes covered under another employer's group health plan or otherwise ceases to be eligible for COBRA during the COBRA Premium Period, Executive must immediately notify the Company of such event.

(ii) Special Cash Payments in Lieu of COBRA Premiums. Notwithstanding the foregoing, if the Company determines, in its sole discretion, that it cannot pay the COBRA Premiums without potentially incurring financial costs or penalties under applicable law (including, without limitation, Section 2716 of the Public Health Service Act), regardless of whether Executive or Executive's dependents elect or are eligible for COBRA coverage, the Company instead shall pay to Executive, on the first day of each calendar month following the termination date, a fully taxable cash payment equal to the applicable COBRA premiums for that month (including the amount of COBRA premiums for Executive's eligible dependents), subject to applicable tax withholdings (such amount, the " **Special Cash Payment** "), for the remainder of the COBRA Premium Period. Executive may, but is not obligated to, use such Special Cash Payments toward the cost of COBRA premiums.

7.2.3 Equity Acceleration upon Termination. Notwithstanding anything to the contrary set forth in the Plan or any award agreement, effective as of Executive's employment termination date, the vesting and exercisability of the then unvested time-based vesting equity awards that would have otherwise become vested had Executive performed Continuous Service through the one year anniversary of Executive's employment termination date then held by Executive shall accelerate and become immediately vested and exercisable, if applicable, by Executive upon such termination and shall remain exercisable, if applicable, following Executive's termination as set forth in the applicable equity award documents. With respect to any performance-based vesting equity award, such award shall continue to be governed in all respects by the terms of the applicable equity award documents. Upon any such termination, Executive shall have six (6) months to exercise any options or stock appreciation rights, but no later than ten (10) years from the date of grant or the date when the options or stock appreciation rights would otherwise terminate under the Plan other than as a result of termination of employment (e.g., if all of the Company's options are accelerated and terminate if not exercised in connection with a Change in Control (as that term is defined in the Plan), then Executive's options will also terminate if not exercised in connection with the Change in Control).

7.2.4 Pro Rata Bonus. Executive shall be eligible to receive, based on the good faith determination of the Board or the Compensation Committee thereof, a pro rata Performance Bonus based on actual results and Executive's period of employment during the fiscal year in which termination occurred (the "**Pro Rata Bonus**"), on the date when other bonuses are paid for the fiscal year.

7.2.5 No Mitigation or Offset. The Executive shall have no obligation to mitigate the obligations hereunder, and the amounts due hereunder shall not be offset by any amounts otherwise earned by Executive.

7.3 Termination for Cause; Resignation Without Good Reason; Death or Disability. Executive will not be eligible for, or entitled to any severance benefits, including (without limitation) the Severance Benefits listed in Section 7.2 above, if the Company terminates Executive's employment for Cause, Executive resigns Executive's employment without Good Reason, or Executive's employment terminates due to Executive's death or Disability, provided that the Executive, in the case of death or Disability termination, shall be eligible to receive a Pro Rata Bonus.

8. Conditions to Receipt of Severance Benefits. To be eligible for any of the Severance Benefits pursuant to Section 7.2 above, Executive must satisfy the following release requirement (the " **Release Requirement** "): return to the Company a signed and dated Release within the applicable deadline set forth therein, but in no event later than forty-five (45) calendar days following Executive's termination date, and permit the Release to become effective and irrevocable in accordance with its terms (such effective date of the Release, the " **Release Effective Date** "). No Severance Benefits will be provided hereunder prior to the Release Effective Date. Accordingly, if Executive refuses to sign and deliver to the Company an executed Release or signs and delivers to the Company the Release but exercises Executive's right, if any, under applicable law to revoke the Release (or any portion thereof), then Executive will not be entitled to any severance, payment or benefit under this Agreement.

9. Accrued Amounts. On any termination, the Executive shall promptly receive earned but unpaid Base Salary, accrued but unused vacations and unreimbursed expenses (in accordance with the Company's applicable expense reimbursement policies), and shall be entitled to any amounts due under any benefit or fringe plan or program in accordance with the provisions of the plan or program.

10. Section 409A. It is intended that all of the severance benefits and other payments payable under this Agreement satisfy, to the greatest extent possible, the exemptions from the application of Code Section 409A provided under Treasury Regulations 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9), and this Agreement will be construed to the greatest extent possible as consistent with those provisions, and to the extent not so exempt, this Agreement (and any definitions hereunder) will be construed in a manner that complies with Section 409A. For purposes of Code Section 409A (including, without limitation, for purposes of Treasury Regulation Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement (whether severance payments, reimbursements or otherwise) shall be treated as a right to receive a series of separate payments and, accordingly, each installment payment hereunder shall at all times be considered a separate and distinct payment. Any reference to termination or similar words shall mean a separation from service under the meaning of Code Section 409A. Notwithstanding any provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of Executive's Separation from Service to be a "specified employee" for purposes of Code Section 409A(a)(2)(B)(i), and if any of the payments upon Separation from Service set forth herein and/or under any other agreement with the Company are deemed to be "deferred compensation", then to the extent delayed commencement of any portion of such payments is required in order to avoid a prohibited distribution under Code Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, such payments shall not be provided to Executive prior to the earliest of (i) the expiration of the six-month and one day period measured from the date of Executive's Separation from Service with the Company, (ii) the date of Executive's death or (iii) such earlier date as permitted under Section 409A without the imposition of adverse taxation. Upon the first business day following the expiration of such applicable Code Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section 10 shall be paid in a lump sum to Executive, and any remaining payments due shall be paid as otherwise provided herein or in the applicable agreement. No interest shall be due on any amounts so deferred. If any severance benefits provided under this Agreement constitutes "deferred compensation" under Section 409A, for purposes of determining the schedule for payment of the severance benefits, the effective date of the Release will be the sixtieth (60th) date following the Separation From Service, regardless of when the Release actually becomes effective. To the extent required to avoid accelerated taxation and/or tax penalties under Code Section 409A, amounts reimbursable to Executive under this Agreement shall be paid to Executive on or before the last day of the year following the year in which the expense was incurred, amounts shall not be subject to liquidation or exchange for another benefit, and the amount of expenses eligible for reimbursement (and in-kind benefits provided to Executive) during any one year may not effect amounts reimbursable or provided in any subsequent year. The Company makes no representation that any or all of the payments described in this Agreement will be exempt from or comply with Code Section 409A.

11. Section 280G; Limitations on Payment.

11.1 If any payment or benefit Executive will or may receive from the Company or otherwise (a "**280G Payment** ") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the " **Excise Tax** "), then any such 280G Payment provided pursuant to this Agreement (a " **Payment** ") shall be equal to the Reduced Amount. The " **Reduced Amount** " shall be either (x) the largest portion of the Payment that would result in no portion of the Payment (after reduction) being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount (i.e., the amount determined by clause (x) or by clause (y)), after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in a Payment is required pursuant to the preceding sentence, the reduction shall occur in the manner (the " **Reduction Method** ") that results in the greatest after tax economic benefit for Executive. If more than one method of reduction will result in the same after tax economic benefit, the items so reduced will be reduced pro rata (the " **Pro Rata Reduction Method** ").

11.2 Notwithstanding any provision of Section 11.1 to the contrary, if the Reduction Method or the Pro Rata Reduction Method would result in any portion of the Payment being subject to taxes pursuant to Section 409A that would not otherwise be subject to taxes pursuant to Section 409A, then the Reduction Method and/or the Pro Rata Reduction Method, as the case may be, shall be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification shall preserve to the greatest extent possible, the greatest after tax economic benefit for Executive as determined on an after-tax basis; (B) as a second priority, Payments that are contingent on future events (*e.g.* , being terminated without Cause), shall be reduced (or eliminated) before Payments that are not contingent on future events; and (C) as a third priority, Payments that are "deferred compensation" within the meaning of Section 409A shall be reduced (or eliminated) before Payments that are not deferred compensation within the meaning of Section 409A.

11.3 Unless Executive and the Company agree on an alternative accounting firm or law firm, the accounting firm engaged by the Company for general tax compliance purposes as of the day prior to the effective date of the Change in Control transaction shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the Change in Control transaction, the Company shall appoint a nationally recognized accounting or law firm to make the determinations required by this Section 11. The Company shall bear all expenses with respect to the determinations by such accounting or law firm required to be made hereunder. The Company shall use commercially reasonable efforts to cause the accounting or law firm engaged to make the determinations hereunder to provide its calculations, together with detailed supporting documentation, to Executive and the Company within fifteen (15) calendar days after the date on which Executive's right to a 280G Payment becomes reasonably likely to occur (if requested at that time by Executive or the Company) or such other time as requested by Executive or the Company.

11.4 If Executive receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 11.1 and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, Executive agrees, to the extent not in violation of the Sarbanes-Oxley Act, to promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 11.1) so that no portion of the remaining Payment is subject to the Excise Tax. For the avoidance of doubt, if the Reduced Amount was determined pursuant to clause (y) of Section 11.1, Executive shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

12. Definitions.

12.1 Cause. For the purposes of this Agreement, "**Cause**" means the occurrence of any one or more of the following: (i) Executive's conviction of or plea of guilty or *nolo contendere* to any felony; (ii) Executive's willful and continued failure or refusal to follow lawful and reasonable instructions of the Company or the Board or lawful, reasonable, material and internally published policies and regulations of the Company; (iii) Executive's willful and continued failure to faithfully and diligently perform the assigned duties of Executive's employment with the Company (other than on account of illness or excused absence); (iv) unethical or fraudulent conduct by Executive that materially discredits the Company or is materially detrimental to the reputation, character and standing of the Company; or (v) Executive's material breach of this Agreement or the Proprietary Information Agreement. An event described in Section 12.1(ii) through Section 12.1(v) herein shall not be treated as "Cause" until after Executive has been given written notice of such event, failure, conduct or breach and Executive fails to cure such event, failure, conduct or breach within 30 calendar days from such written notice; provided, however, that such 30 calendar day cure period shall not be required if the event, failure, conduct or breach is incapable of being cured.

12.2 Good Reason. For purposes of this Agreement, Executive shall have "**Good Reason**" for resignation from employment with the Company if any of the following actions are taken by the Company without Executive's prior written consent: (i) a reduction in Executive's Base Salary, other than a reduction by less than ten percent (10%) of the Executive's highest Base Salary pursuant to a salary reduction program applicable generally to the Company's senior executives; (ii) a material reduction in Executive's duties (including responsibilities and/or authorities) or reporting lines; (iii) a relocation of Executive's principal place of employment to a place that increases Executive's one-way commute by more than thirty (30) miles as compared to Executive's then-current principal place of employment immediately prior to such relocation (excluding any relocation to the Company's Irvine, California office); (iv) a material breach of this Agreement; or (v) unlawful harassment or discrimination toward Executive. In order for Executive to resign for Good Reason, each of the following requirements must be met: (w) Executive must provide written notice to the Company's Board within 30 days after the first occurrence of the event giving rise to Good Reason setting forth the basis for Executive's resignation, (x) Executive must allow the Company at least calendar 30 days from receipt of such written notice to cure such event, (y) such event is not reasonably cured by the Company within such 30 calendar day period (the " **Cure Period** "), and (z) Executive must resign from all positions Executive then holds with the Company not later than calendar 30 days after the expiration of the Cure Period.

12.3 Disability. For purposes of this Agreement, "**Disability**" means that Executive is unable to perform the essential functions of her position (notwithstanding the provision of any reasonable accommodation) by reason of any medically determinable physical or mental impairment which has lasted for a period of one hundred and twenty (120) days during any consecutive six (6) month period.

13. Dispute Resolution. To ensure the rapid and economical resolution of disputes that may arise in connection with Executive's employment with the Company, Executive and the Company agree that any and all disputes, claims, or causes of action, in law or equity, including but not limited to statutory claims, arising from or relating to the enforcement, breach, performance, or interpretation of this Agreement, Executive's employment with the Company, or the termination of Executive's employment with the Company, will be resolved pursuant to the Federal Arbitration Act, 9 U.S.C. §1-16, and to the fullest extent permitted by law, by final, binding and confidential arbitration conducted in Irvine, California by JAMS, Inc. (" **JAMS** ") or its successors by a single arbitrator. ***Both Executive and the Company acknowledge that by agreeing to this arbitration procedure, they each waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding***. Any such arbitration proceeding will be governed by JAMS' then applicable rules and procedures for employment disputes, which will be provided to Executive upon request. In any such proceeding, the arbitrator shall: (i) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (ii) issue a written arbitration decision including the arbitrator's essential findings and conclusions and a statement of the award. Executive and the Company each shall be entitled to all rights and remedies that either would be entitled to pursue in a court of law. Nothing in this Agreement is intended to prevent either the Company or Executive from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration pursuant to applicable law. The Company shall pay all filing fees in excess of those which would be required if the dispute were decided in a court of law, and shall pay the arbitrator's fees and any other fees or costs unique to arbitration. The parties shall pay their own legal fees. Any awards or orders in such arbitrations may be entered and enforced as judgments in the federal and state courts of any competent jurisdiction.

14. General Provisions.

14.1 Notices. Any notices provided must be in writing and will be deemed effective upon the earlier of personal delivery (including personal delivery by fax) or the next day after sending by overnight carrier, to the Company at its primary office location and to Executive at the address as listed on the Company payroll.

14.2 Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed and enforced in such jurisdiction to the extent possible in keeping with the intent of the parties.

14.3 Waiver. Any waiver of any breach of any provisions of this Agreement must be in writing to be effective, and it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

14.4 Complete Agreement. This Agreement, together with the Proprietary Information Agreement, the Indemnity Agreement (as defined below) and to the extent referenced in this Agreement, the Plan and applicable award agreement, constitutes the entire agreement between Executive and the Company with regard to the subject matter hereof and is the complete, final, and exclusive embodiment of the Company's and Executive's agreement with regard to this subject matter. This Agreement is entered into without reliance on any promise or representation, written or oral, other than those expressly contained herein, and it supersedes and replaces any other agreements or promises made to Executive by anyone concerning Executive's employment terms, compensation or benefits, whether oral or written (including but not limited any agreements or promises with or from the Company or any of its affiliates or predecessors). It cannot be modified or amended except in a writing signed by a duly authorized officer of the Company, with the exception of those changes expressly reserved to the Company's discretion in this Agreement.

14.5 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but both of which taken together will constitute one and the same Agreement.

14.6 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

14.7 Successors and Assigns. This Agreement is intended to bind and inure to the benefit of and be enforceable by Executive and the Company, and their respective successors, assigns, heirs, executors and administrators, except that Executive may not assign any of Executive's duties hereunder, Executive may not assign any of Executive's rights hereunder without the written consent of the Company, which shall not be withheld unreasonably, and the Company may not assign this Agreement, except to an Affiliate (as defined in the Plan) or to a successor in connection with a Change in Control.

14.8 Tax Withholding. All payments and awards contemplated or made pursuant to this Agreement will be subject to withholdings of applicable taxes in compliance with all relevant laws and regulations of all appropriate government authorities. Executive acknowledges and agrees that the Company has neither made any assurances nor any guarantees concerning the tax treatment of any payments or awards contemplated by or made pursuant to this Agreement. Executive has had the opportunity to retain a tax and financial advisor and fully understands the tax and economic consequences of all payments and awards made pursuant to this Agreement.

14.9 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the laws of the State of California.

14.10 Indemnification Agreement. Executive will become a party to the Company's standard form of indemnity agreement for directors and officers as filed as an exhibit to the Company's most recent Annual Report on Form 10-K (the "**Indemnity Agreement**").

IN WITNESS WHEREOF, this Agreement shall be effective as of the Effective Date.

CHROMADEX CORPORATION

By: /s/ Mark Friedman
MARK FRIEDMAN
General Counsel

EXECUTIVE

By: /s/ Megan Jordan
MEGAN JORDAN