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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2016

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: 001-33277

MADRIGAL PHARMACEUTICALS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3508648**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
Four Tower Bridge 200 Barr Harbor Drive, Suite 400 West Conshohocken, Pennsylvania (Address of principal executive offices)	**19428** (Zip Code)

Registrant's telephone number, including area code **(484) 380-9263**

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.0001 Par Value Per Share	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Exchange 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 Exchange 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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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 "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐	Accelerated filer ☐	Non-accelerated filer ☐ (Do not check if a smaller reporting company)	Smaller reporting company ☒

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

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant (without admitting that any person whose shares are not included in such calculation is an affiliate), computed by reference to the price at which the common stock was last sold on June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, was $29,116,737.

As of March 24, 2017 the registrant had 12,167,405 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents (or parts thereof) are incorporated by reference into the following parts of this Annual Report on Form 10-K: Certain information required in Part III of this Annual Report on Form 10-K is incorporated from the registrant's Proxy Statement for the 2017 Annual Meeting of Stockholders.

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Item 1. Business

Except for the historical information contained herein, the matters set forth in this Annual Report on Form 10-K, including statements regarding our plans, potential opportunities, financial or other expectations, projections, objectives, milestones, strategies, market growth, timelines, legal matters, product pipeline, clinical studies, product development and the potential benefits of its products under development are forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from the anticipated or estimated future results, including the risks and uncertainties associated with our future operating performance and financial position, the market demand for and acceptance of our products, research, development and commercialization of new products, obtaining and maintaining regulatory approvals, including, but not limited to potential regulatory delays or rejections, risks associated with meeting the objectives of clinical studies, including, but not limited to, delays or failures in enrollment, and the occurrence of adverse safety events, risks relating to our ability to accomplish our business development objectives, and realize the anticipated benefit of any such transactions, and other risks set forth below under Item 1A. "Risk Factors" and other documents subsequently filed with or furnished to the Securities and Exchange Commission, or the SEC. These forward-looking statements are based on current information that may change and you are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K. All forward-looking statements are qualified in their entirety by this cautionary statement, and the Company undertakes no obligation to revise or update any forward-looking statement to reflect events or circumstances after the date hereof.

References in this report to Madrigal, the Company, we, our and us refer to Madrigal Pharmaceuticals, Inc. "Madrigal" is a registered trademark of Madrigal Pharmaceuticals, Inc. in the U.S. and/or other countries. Other trademarks or service marks appearing in this report may be trademarks or service marks of other owners. The term "Synta" refers to Synta Pharmaceuticals Corp. prior to the consummation of the Merger described herein.

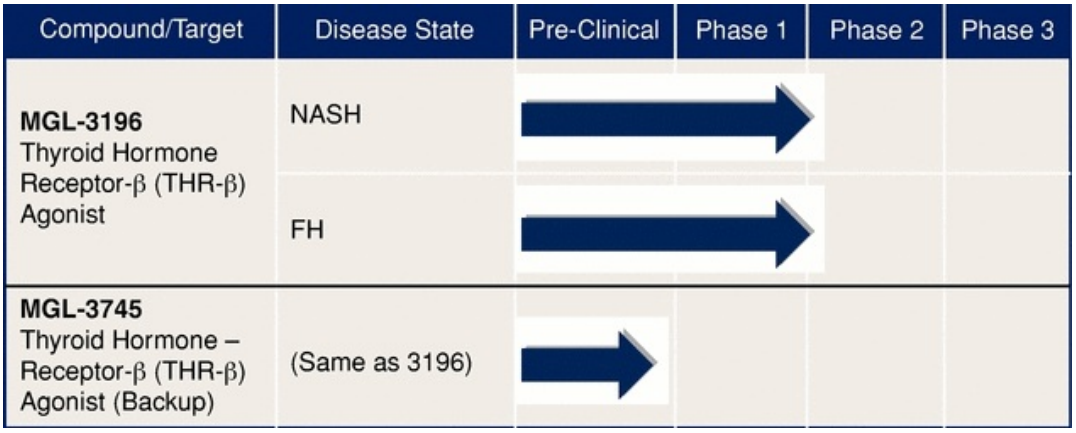
Executive Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of innovative therapeutic candidates for the treatment of cardiovascular, metabolic and liver diseases. Our lead product candidate, MGL-3196, is a proprietary, liver-directed, selective thyroid hormone receptor-ß, or THR-ß, agonist that can potentially be used to treat a number of disease states with high unmet medical need. THR-ß is known to regulate cholesterol and triglyceride metabolism, which we believe suggests potential therapeutic benefits for patients suffering from hypercholesterolemia, genetic dyslipidemias and diseases resulting from accumulation of fat in liver tissue, such as non-alcoholic steatohepatitis, or NASH. Based on scientific publications in human and animal studies, we believe that human NASH livers have a deficiency in THR-ß activity that leads to features of NASH including fatty liver, inflammation and fibrosis, and that treatment with MGL-3196 may potentially replace this hormone deficiency and be an effective NASH treatment.

We believe that MGL-3196 is a first-in-class, highly selective, liver-directed THR-ß agonist. We are developing MGL-3196 for NASH and we have initiated Phase 2 clinical trial in this indication. We are also developing MGL-3196 for dyslipidemia, particularly genetic dyslipidemias such as familial hypercholesterolemia, or FH, including both homozygous and heterozygous forms of the disease. We have initiated a Phase 2 clinical trial in heterozygous FH, or HeFH, patients and we are planning to conduct a proof-of-concept clinical trial in homozygous FH, or HoFH, patients. MGL-3196 is a once-daily oral pill that has been studied in four completed Phase 1 trials in a total of 129 subjects. MGL-3196 appeared to be safe and well-tolerated in these trials, which included a single ascending dose trial, a multiple ascending dose trial, and two drug interaction trials with statins.

In the multiple ascending dose Phase 1 clinical trial in healthy volunteers with mildly elevated low-density lipoprotein cholesterol, or LDL-C, the administration of MGL-3196 in once daily doses of up to 200 mg per day for 14 days demonstrated statistically significant reductions of LDL-C, apolipoprotein B, or apoB, and non-high density lipoprotein cholesterol, or non-HDL-C, of up to 30%, and a reduction of triglycerides, or TG, of up to 60%. Increased levels of LDL-C, commonly known as "bad cholesterol", apoB and non-HDL-C are each strongly associated with increased risk of heart disease. The lipid parameter reductions observed with MGL-3196 treatment occurred rapidly in the trial, becoming apparent within the first few days of dosing.

The following chart summarizes the status of our product candidate development programs for MGL-3196 and MGL-3745, a preclinical compound which has similar thyroid receptor selectivity to MGL-3196 and is thus a potential backup compound for MGL-3196:



On July 22, 2016, we completed the Merger with Synta Pharmaceuticals Corp. which provided $42.6 million in cash, cash equivalents and marketable securities.

Lead Product Candidate—MGL-3196

Active thyroid hormone, known as T3, interacts with two nuclear receptors, THR-α, which is the predominant receptor expressed in most human tissues, including heart and bone, and THR-β, which has more restricted tissue expression, and is the predominant receptor responsible for metabolic actions in the liver, including both cholesterol- and TG-lowering. Selective activation of the THR-ß receptor in liver tissue is believed to favorably affect cholesterol and lipoprotein levels via multiple mechanisms, which may be complementary to those of other lipid-lowering therapies such as statin drugs. We believe that these characteristics of THR-β activation by MGL-3196 will in turn lead to clinically meaningful reductions in LDL-C, plasma and liver TGs.

We believe that MGL-3196 is the first selective small molecule THR-β agonist compound. MGL-3196, along with other THR-β-selective small molecules, such as MGL-3745, a potential backup compound to MGL-3196, was discovered at Hoffmann-La Roche, or Roche, in Nutley, New Jersey, by utilizing a novel functional assay that, unlike a simple receptor binding assay, assessed the functional activity of compounds which interacted with thyroid hormone receptors. In a published study by us and Roche in the Journal of Medicinal Chemistry using this functional assay, MGL-3196 was shown to be highly selective for the THR-ß receptor, with almost no effect on THR-α, unlike other compounds purported in published studies to be β-selective based on binding affinity, but which were shown to equally activate THR-α and THR-β in the novel functional assay.

We believe that the ß-selectivity and liver-targeting properties of MGL-3196 are critically important for MGL-3196's beneficial metabolic actions in the liver, and enable avoidance of safety issues associated with THR-α activation by thyroid hormone and/or less selective THR agonists in tissues such as heart and bone. In a variety of preclinical animal model studies, MGL-3196 showed enhanced safety relative to T3 or other thyroid agonists. In animal models, MGL-3196 demonstrated cholesterol lowering, liver triglyceride lowering, and reduction of markers of NASH-related liver inflammation and fibrosis at drug levels similar to those that lowered LDL-C in human clinical trials, providing data to support the advancement of MGL-3196 into NASH and FH clinical trials. In chronic animal toxicology studies in dogs and rats, no effects on bone or cartilage histology were seen at any MGL-3196 dose in either species.

We believe that MGL-3196 may be the first product candidate in development for NASH or FH that selectively targets the THR-ß pathway and has shown a lack of liver enzyme elevations in Phase 1 clinical studies as well as an absence of bone and cartilage histologic findings in chronic animal toxicology studies.

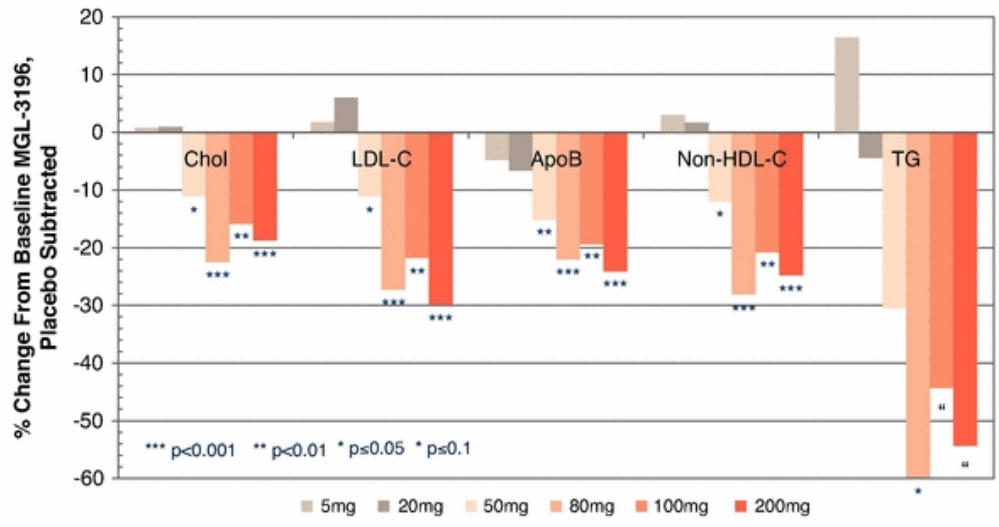
MGL-3196 Clinical and Non-Clinical Development Program

To date, we have completed a series of Phase 1 clinical studies, Phase 2-enabling preclinical GLP toxicology studies, and drug manufacturing studies to support further clinical development, including API manufacturing and drug product development studies, drug metabolism studies, acute, subchronic and chronic animal toxicology studies, and other safety pharmacology and toxicology studies.

We have completed Phase 1 studies with MGL-3196 in a total of 129 subjects to evaluate the safety, tolerability, pharmacokinetics and pharmacodynamic effects of MGL-3196. Our Phase 1 studies included randomized, placebo-controlled, double-blind, single and 14-day multiple-dose escalation studies, as well as a drug-interaction study in healthy volunteers. In Phase 1 studies, MGL-3196 appeared safe and was well-tolerated at all doses tested. The results of these studies suggest that MGL-3196 has pharmacokinetic properties suitable for once-daily oral dosing.

In the multiple ascending dose study, lipid parameters were assessed as initial markers of MGL-3196 pharmacodynamic activity (Atherosclerosis 230:373-380, 2013). As illustrated in the figure below, daily doses of MGL-3196 ranging from 50 to 200 mg showed highly statistically significant reductions relative to placebo of up to 30% for LDL-C (range, p=.05-<0.0001), 28% for non-HDL-C (range, p =0.027-p<0.0001) and 24% for apoB (range, p =0.008-0.0004), and statistical trends of up to 60% reduction in TG (range, p =0.13-0.016). The near maximal lipid effects were observed at a MGL-3196 dose of 80 mg once-daily. MGL-3196 was well-tolerated at all doses, with no dose-related adverse events or liver enzyme, electrocardiography or vital-sign changes. At the highest dose of MGL-3196 (200 mg), there was a reversible reduction of 20% in the level of a precursor hormone to T3, free T4, which was significantly different from placebo ($p < 0.0001$) that may be explained by increased liver metabolism of free T4. There was no change in thyrotropin, a pituitary hormone that regulates the level and production of thyroid hormone by the thyroid gland or T3, or other evidence of central thyroid axis dysfunction at any dose of MGL-3196.

Change in Lipids After 14 Days



Change from Baseline (CFB) by mean % CFB calculated for each individual subject 24th after 14th dose; baseline value obtained just prior to first dose; ApoB, apolipoprotein B; Chal, total cholesterol; LDL-C, LDL cholesterol directly measured; Non-HDL-C, non-HDL cholesterol; TG, triglycerides (median %CFB)

While we are encouraged by these results, they are based on a small number of patients in early-stage clinical trials and are not necessarily predictive of results in later-stage clinical trials with larger and more diverse patient populations. In addition, the FDA typically requires sponsors of lipid-lowering product candidates to conduct drug-drug interaction studies with statins because statins may have increased safety risks when administered together with other drug therapies that affect their pharmacokinetic profile. We have completed two clinical drug interaction studies of MGL-3196 and 3 commonly used statins in 39 normal healthy volunteers, which showed MGL-3196 to have a favorable safety profile and to be well-tolerated. We have initiated a Phase 2 clinical study in NASH including patients taking low dose statins. We have also initiated a Phase 2 clinical study in HeFH including patients taking high dose statins.

Our Strategy

Our goal is to become a leading biopharmaceutical company developing and commercializing innovative liver-directed, B-selective thyroid hormone receptor agonists for the treatment of cardio-metabolic and liver disease, fibrosis and inflammation. A key element is building a multi-therapy NASH focused company. To achieve our goal, we plan to:

- ***Complete clinical development and seek regulatory approval of MGL-3196 in NASH.*** We plan to report data for the primary endpoint from our Phase 2 study in NASH by the end of 2017. NASH is a disease driven by the growing epidemic of obesity, with a significant unmet need for approved therapies that are effective and well tolerated. We believe MGL-3196 is an excellent candidate for the chronic treatment of NASH due to its safety profile and first-in-class dual mechanism of action targeting fibrosis-generating cells.

- ***Establish commercial capabilities to market MGL-3196 as a leading treatment for NASH.*** If approved, we may choose either to establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize MGL-3196, or to collaborate

with one or more third parties to accomplish these tasks. Patients with NASH are primarily managed by a concentrated group of liver specialists in the United States and Europe. We believe this will enable us to launch MGL-3196 in NASH in a cost-effective, targeted manner.

- ***Grow our pipeline through additional indications for MGL-3196 including orphan indications.*** We believe that MGL-3196 has the potential to be an effective treatment for other disease indications that are rare diseases or may be designated rare diseases, including HoFH and severe HeFH, and we plan to pursue orphan drug designation where possible.

Target Indications

Nonalcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis

Overview and Market Opportunity

NASH is a serious inflammatory form of nonalcoholic fatty liver disease, or NAFLD. NAFLD has become the most common liver disease in the United States and other developed countries and is characterized by an accumulation of fat in the liver with no other apparent causes. The rising worldwide prevalence of obesity-related disorders has contributed to a rapid increase in the global prevalence of NASH and NAFLD. In the United States, NAFLD is estimated to affect approximately 27% to 34% of the population, or an estimated 86 million to 108 million people, and approximately 10% to 20% of those will progress from NAFLD to NASH. Current estimates place NASH prevalence at approximately 9 million to 15 million people in the United States, or 3% to 5% of the population, with similar prevalence in Europe and Asia. The prevalence of NASH is also increasing in developing regions due to the adoption of a more sedentary lifestyle and a diet consisting of processed foods with high fat and fructose content.

In addition to the accumulation of fat in the liver, NASH is characterized by inflammation and cellular damage with or without fibrosis, the first stage of liver scarring, which may ultimately progress to cirrhosis. NASH is a severe condition that can lead to fibrosis and eventually progress to cirrhosis, portal hypertension, esophageal varices, ascites, liver cancer and liver failure. NASH is strongly associated with cardiovascular disease, or CVD, and the most common cause of death in NASH patients is CVD. Progression to cirrhosis and other late-stage complications can occur within 5 to 10 years after an initial NASH diagnosis. NASH patients with type-2 diabetes have a heightened risk of NASH disease progression. Once the disease advances beyond NASH to such life-threatening conditions as liver cancer and failure, then liver transplantation is the only treatment alternative.

The Centers for Disease Control and Prevention projects the prevalence of obesity to increase from 34% of the United States population to 42% of the United States population by 2030. Driven by this epidemic of obesity, NASH is projected to become the leading cause of liver transplants by 2020. Given the extremely limited availability of organ donors and high transplant costs, NASH patients who require transplantation will place a significant economic burden on the healthcare system. As such, there is a significant unmet medical need for well-tolerated oral treatments for NASH. Because there are currently no therapeutic products approved for the treatment of NASH, the market size is difficult to estimate. However, based on our analysis of multiple market assessments, we estimate that the addressable NASH population is several million patients worldwide, and that NASH could become a multi-billion dollar market able to support multiple approved drug products.

MGL-3196 in NASH

We are developing MGL-3196 for NASH. Based on the scientific literature in human and animal studies, we believe that NASH livers in humans frequently have a deficiency in THR-ß activity that leads to features of NASH, including fatty liver, inflammation and fibrosis, and that treatment with MGL-3196 will replace this hormone deficiency and be an effective NASH treatment. We believe that

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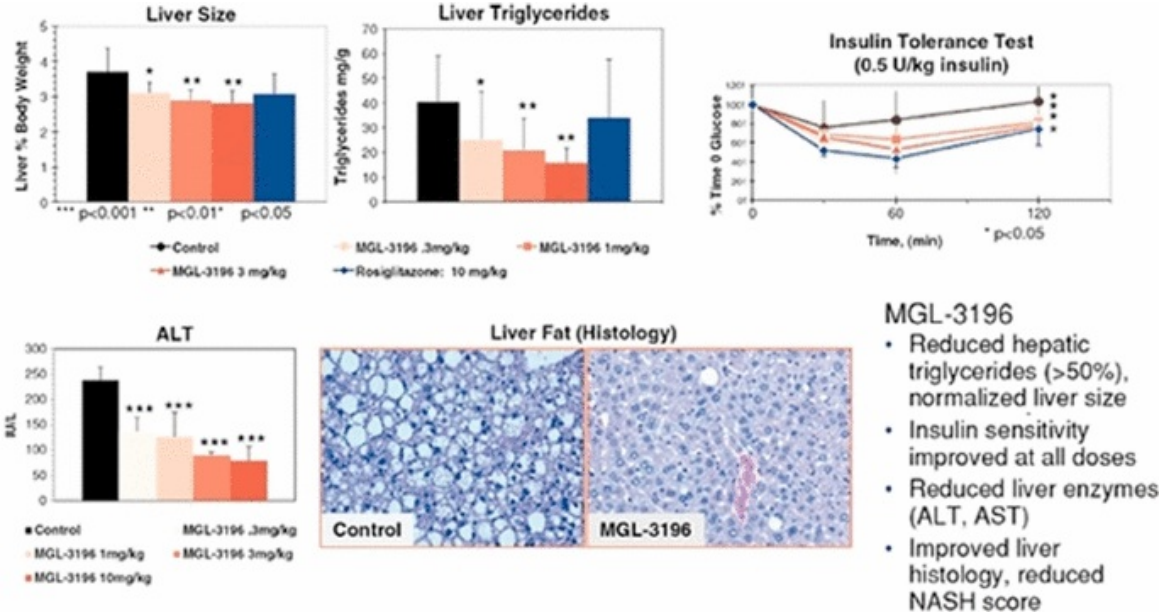
MGL-3196 is an excellent candidate for the chronic treatment of NASH because of its safety and tolerability profile observed to date in healthy subjects, its effects in reducing cardiovascular risk factors such as LDL-C and TGs in early-stage clinical trials, and its multiple beneficial effects in animal models of NASH. CVD is the most common cause of death in patients with NASH. We have completed multiple studies in animal models of metabolic diseases, dyslipidemia and NASH in which MGL-3196 demonstrated a statistically significant reduction in liver TGs, insulin resistance, liver enzymes (which may be elevated in NASH), and markers of inflammation and fibrosis (Figures). The figures below show the beneficial effects of MGL-3196 to reduce these parameters in NASH animal models. We believe that MGL-3196 will treat the underlying lipotoxicity that drives the inflammation and liver cell damage observed in NASH patients, and after the underlying lipotoxicity is treated, NASH-related liver fibrosis will resolve as the liver regenerates.

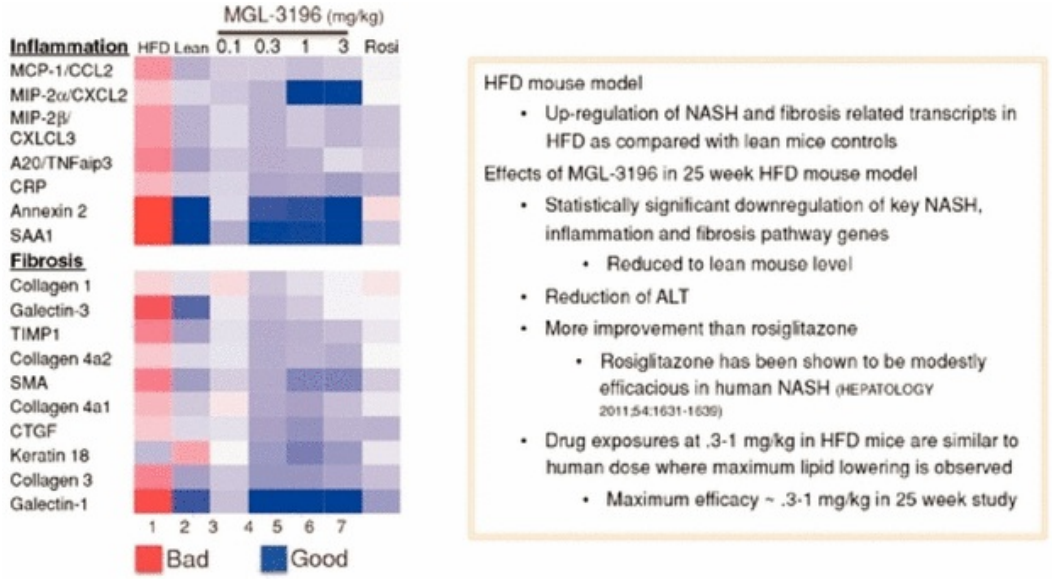
MGL-3196: Preclinical NASH Animal Model Study

Upper panels: 24d study in 17 wk old DIO mice (po, qd) on high fat diet (HFD) 13 wks;
lower panels: 24d study in 40 wk old DIO mice on HFD 35 wks



MGL-3196 Preclinical NASH Animal Model Gene Expression Study

25 week study in DIO, lean control mice and HFD mice treated with 0.1 to 3 mg/kg MGL-3196 or Rosiglitazone (3mg/kg)



"HFD", lane 1 mean HFD gene expression normalized to mean Lean; Lanes (2-7) mean gene expression normalized to mean of DIO; "Rosi" (rosiglitazone, 3 mg/kg, 24 weeks) TIMP1 tissue inhibitor metalloproteinase; CTGF connective tissue growth factor; SMA smooth muscle actin; SAA serum amyloid A; CRP C-reactive protein Red, higher expression; blue decreased expression

MGL-3196 NASH Phase 2 Clinical Plan

In October 2016, we initiated a Phase 2 proof of concept clinical trial in approximately 117 patients with liver biopsy documented NASH, including those with type-2 diabetes, dyslipidemia and hypertension. In the study we are randomizing NASH patients 2:1, MGL-3196 or placebo QD in a double-blind, placebo-controlled, study of once-daily MGL-3196 versus placebo in patients with NASH, including those with type-2 diabetes. Patients are to continue treatment through 36 weeks. The study is being conducted in the United States. The primary endpoint is to evaluate the efficacy of MGL-3196 as measured by the reduction of liver fat at 12 weeks, and the secondary endpoint will be to evaluate the efficacy of MGL-3196 as measured by a reduction of NASH, which will be assessed by liver biopsy, at 36 weeks. Other secondary and exploratory endpoints include safety and tolerability, and effects on serum biomarkers at 12 and 36 weeks, lipid parameters, and biomarker measures of insulin sensitivity. We expect to reach our top-line analysis of the primary endpoint by late 2017 and our top-line analysis of the secondary endpoint (NASH assessment on liver biopsy) by spring of 2018.

In September 2013, the American Association for the Study of Liver Disease and the FDA conducted a joint workshop focused on trial designs and endpoints in drug and diagnostic development for liver disease secondary to NAFLD, including NASH. In December 2014, the journal Hepatology accepted for publication a manuscript summarizing the workshop output, including potentially acceptable surrogate endpoints for clinical studies supporting the approval of agents for NASH and liver fibrosis. We believe that our Phase 2 NASH study design incorporates surrogate endpoints consistent with the current FDA requirements for demonstration of efficacy in registrational trials.

Familial Hypercholesterolemia

Overview and Market Opportunity

FH is a genetic disorder characterized by aggressive and early onset of CVD. In people with FH, genetic mutations make the liver incapable of metabolizing or removing excess LDL-C, causing very high LDL-C levels in the blood. There are two forms of FH: HoFH, a less common condition where mutation is inherited from both parents, and HeFH, a more common condition where mutation is inherited from just one parent. The vast majority of the cholesterol circulating in a person's body is produced by the liver. Cholesterol is a necessary component in the structure and function of human cells. Individuals with FH are unable to recycle this natural supply of cholesterol that their bodies are constantly producing. Therefore, the cholesterol levels of an individual with FH are exceedingly high. Over time, the elevated blood cholesterol can lead to blockages in the arteries of the heart and/or brain. The longer a person experiences high LDL-C, the more likely he or she will be to experience a cardiovascular event (i.e., heart attack or stroke).

HoFH has an estimated worldwide prevalence of 1 in 160,000 to 1 in 1,000,000 and is a life-threatening condition characterized by markedly elevated levels of LDL-C. This is predominantly due to inactivating mutations in the LDL receptor, with onset of atherosclerotic CVD in childhood to early adulthood. HeFH, more common than HoFH, has an estimated worldwide prevalence of 1 in 200 to 1 in 500 and is characterized by early onset CVD in middle age, typically caused by an inactivating mutation in one of the two LDL receptor genes. While HeFH patients have a range of disease severity, we believe approximately 10% of the HeFH population can be characterized as having severe FH, with higher baseline LDL-C levels (>309 mg/dL; 8 mmol/L) than those of a majority of the HeFH population. Despite multiple therapeutics currently available for the treatment of HoFH, including statins, ezetimibe, and newer agents such as lomitapide, mipomersen, and anti-PCSK9 antibodies, we believe that the treatment target goal to reduce LDL-C to recommended levels is rarely achieved. In HeFH, with the recent addition of anti-PCSK9 antibodies to the treatment regimen, we believe that LDL-C target treatment goals (<100 mg/dL; < 70 mg/dL in patients with CVD or diabetes) may be achieved in > 50% of the patients; however, many HeFH patients, particularly those with severe FH or who cannot tolerate treatment with high-dose statins, are not at goal and are in need of additional lipid-lowering therapies beyond current therapeutic approaches. In addition, elevation of lipoprotein(a), or Lp(a), a severely atherogenic lipoprotein particle, which is frequently elevated in FH patients, is not effectively lowered by current therapeutic approaches. In 2014, an estimated $16.6 billion was spent on drug therapy in the United States, five major European Union markets, and Japan to treat dyslipidemias, according to Datamonitor.

MGL-3196 in FH

We are developing MGL-3196 for FH and potentially other genetic dyslipidemias. We believe that experimental results from various sources, including Madrigal, academic groups and other pharmaceutical companies, support targeting the THR-ß pathway as a potential novel approach to lipid-lowering in FH. We believe that MGL-3196 has a unique and complementary lipid-lowering profile that will bring an added benefit to the standard of care treatment of FH patients, particularly those with severe HeFH (~10% of FH patients with high baseline LDL-C, typically >309 mg/dL) and those with HoFH who do not achieve LDL-C target levels with current therapies. Specifically, in preclinical animal studies MGL-3196 lowered LDL-C in a variety of species as a monotherapy and also when dosed in combination with statins. MGL-3196 also showed the potential to lower Lp(a), a severely atherogenic particle that is frequently elevated in patients with FH. A previous THR agonist, eprotirome, demonstrated clinical proof of concept for the THR target in Phase 2 and Phase 3 FH clinical trials by significantly lowering LDL-C and Lp(a) in patients with HeFH who were on standard treatments such as statins and ezetimibe. The development of eprotirome ceased during the Phase 3 FH trial due to liver toxicity observed in the trial as well as eprotirome-induced cartilage damage seen

in chronic toxicology studies in dogs. Because of its high level of THR-ß selectivity, its liver-targeting properties, and its absence of findings in chronic animal toxicology studies, we believe that MGL-3196 will avoid the toxicity issues of previous THR agonist compounds and may be a beneficial treatment for FH patients.

MGL-3196 FH Phase 2 Clinical Plan

In February 2017, we initiated a Phase 2 clinical trial of MGL-3196 for the treatment of HeFH. In the study we are randomizing NASH patients 2:1, MGL-3196 or placebo QD in double-blind, placebo-controlled fashion. Patients are to continue treatment through 12 weeks. The study is being conducted in Europe. In this 12 week clinical trial, the primary endpoint is to evaluate the efficacy of MGL-3196 as measured by the percent reduction in LDL-C as compared with placebo. Secondary endpoints include safety and tolerability, and evaluate the efficacy of MGL-3196 to reduce a variety of lipid parameters, including non-HDL-C, apoB, TGs, Lp(a), apoA/B, and lipoprotein particles. Based on interim efficacy and safety data obtained from this HeFH study, we plan to conduct a proof of concept open-label Phase 2 study of 6-8 patients with HoFH at sites in the United States and Europe. We expect that top-line results of the HeFH clinical trial will be available in late 2017 and top-line results of the HoFH trial will be available in 2018.

Collaborations

VIA Pharmaceuticals, Inc., or VIA, entered into a research, development and commercialization agreement, or the Roche Agreement, with Hoffmann-La Roche Pharmaceutical Company Limited, or Roche, on December 18, 2008. We subsequently assumed all of VIA's rights in, to and under, and all of VIA's obligations under, the Roche Agreement pursuant to an asset purchase agreement dated September 14, 2011. Pursuant to the terms of the Roche Agreement, we, as successor-in-interest to VIA, assumed control of all development and commercialization of MGL-3196 and will own exclusive worldwide rights for all potential indications. Roche assigned all patent rights relating to MGL-3196 to us and granted us an exclusive license to use certain know-how relating to MGL-3196 in exchange for consideration consisting of an upfront payment, milestone payments, the remainder of which total $10 million and are tied to future commencement of Phase 2 and Phase 3 clinical trials and regulatory approval in the United States and Europe of a product developed from MGL-3196, and single-digit royalty payments based on net sales of products developed from MGL-3196, subject to certain reductions. In 2011, we commenced Phase 1 clinical trials and subsequently paid Roche a related milestone payment. In October 2016 we commenced a Phase 2 study in NASH and subsequently paid Roche a related milestone payment. Except as described above, we have not achieved any additional product development or regulatory milestones under the Roche Agreement and have generated no net sales of products developed from MGL-3196.

Pursuant to the Roche Agreement, we must use commercially reasonable efforts to conduct clinical and commercial development programs for products containing MGL-3196. If we determine that it is not reasonable to continue clinical trials or other development of MGL-3196, we may elect to cease further development and Roche may terminate the license. If we determine not to pursue the development or commercialization of MGL-3196 in certain jurisdictions, including the United States, Roche may terminate the license for such territories. The Roche Agreement will expire, unless earlier terminated pursuant to other provisions of the agreement, on the last to occur of (i) the expiration of the last valid claim of a licensed patent covering the manufacture, use or sale of products containing MGL-3196, or (ii) ten years after the first sale of a product containing MGL-3196.

Competition

The development and commercialization of new drugs is highly competitive. We will face competition with respect to all product candidates we may develop or commercialize in the future from

pharmaceutical and biotechnology companies worldwide. The key factors affecting the success of any approved product will be its efficacy, safety profile, drug interactions, method of administration, pricing, reimbursement and level of promotional activity relative to those of competing drugs.

Our potential competitors may have substantially greater financial, technical, and personnel resources than us. In addition, many of these competitors have significantly greater commercial infrastructures. Our ability to compete successfully will depend largely on its ability to leverage its collective experience in drug discovery, development and commercialization to:

- discover and develop medicines that are differentiated from other products in the market,
- obtain patent and/or proprietary protection for our products and technologies;
- obtain required regulatory approvals;
- obtain a commercial partner;
- commercialize our drugs, if approved; and
- attract and retain high-quality research, development and commercial personnel.

There are currently no therapeutic products approved for the treatment of NASH. There are several commercially available products that are currently used off-label for NASH, such as vitamin E, an antioxidant, insulin sensitizers, such as pioglitazone, anti-hyperlipidemic agents, such as gemfibrozil, pentoxifylline, ursodiol and others. In addition, there are numerous drugs in development for the treatment of NASH. We are aware of several companies that have product candidates in clinical development for the treatment of NASH, including Intercept Pharmaceuticals, Inc., Gilead Sciences, Inc., Galectin Therapeutics, Inc., Allergan plc / Tobira Pharmaceuticals, Inc., Galmed Medical Research Ltd., Genfit Corp., Novartis AG, Novo Nordisk A/S, Takeda, Immuron Ltd., Shire plc, Boehringer Ingelheim GmbH, and Conatus Pharmaceuticals Inc., and there are other companies with candidates in earlier stages of development. Given MGL-3196's actions on the underlying biological pathways across the spectrum of early to late stages of NASH, its CV beneficial effects, and its complementary mechanism to other therapies, we believe that MGL-3196 has the potential to be used alone or in combination with some of these potential NASH products.

There are several marketed products, both generic and proprietary, available for the treatment of HoFH and HeFH. We believe that MGL-3196 has the potential to be used in combination with several of these products. Available marketed products include: various statins, Merck's ezetimibe, Aegerion's lomitapide, Ionis' mipomersen, Amgen's evolocumab and Sanofi/Regeneron's alirocumab. In addition, there are multiple drugs in development for the treatment of FH, including Gemphire's gemcabene, Merck's anacetrapib, Esperion's ETC-1002, and drugs at an earlier stage of development. Given MGL-3196's pleoitropic lipid-lowering actions, its complementary mechanism to statins and other lipid-lowering drugs, and its potential for lowering Lp(a), we believe that MGL-3196 has the potential to be used in combination with the standard of care to treat patients with HoFH and HeFH.

Sales and Marketing

Because we are focused on discovery and development of our product candidates, we currently have no sales, marketing or distribution capabilities in order to commercialize any approved product candidates. If our product candidates are approved, we intend either to establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize our products, or to outsource this function to a third party.

Manufacturing

We do not own or operate, and currently have no plans to establish, any manufacturing facilities. We currently rely, and expect to rely, on third-party contract manufacturers, or CMOs, for the manufacture of any product candidates that we may develop for larger-scale preclinical and clinical testing, as well as for commercial quantities of any drug candidates that are approved.

Research and Development

Research and development expenses primarily consist of costs associated with our research activities, including the preclinical and clinical development of our product candidates. Our research and development expenses were $15.9 million for the year ended December 31, 2016 compared to $2.4 million for the same period in 2015. The large increase in research and development expenses was primarily due to the advancement of clinical programs to Phase 2 studies, further API manufacturing studies and the continuation of preclinical studies. We expect research and development expenses to increase over time as we advance our clinical and preclinical development programs for MGL-3196.

Intellectual Property

We will be able to protect our technology and products from unauthorized use by third parties only to the extent we are covered by valid and enforceable patents or such knowledge is effectively maintained as trade secrets. Patents and other proprietary rights are thus an essential element of our business. We also rely on trade secrets, know-how, continuing technological innovation and licensing opportunities to develop and maintain our competitive position.

Our success will depend in part on our ability to obtain and maintain patent and other proprietary protection for our current and future product candidates, technology and know-how, to operate without infringing on the proprietary rights of others, and to prevent others from infringing our proprietary rights. We seek to protect our proprietary position by, among other methods, filing United States and foreign patent applications related to our proprietary technology, inventions and improvements that are important to the development of our business.

We own or have exclusive rights to four United States and 69 foreign issued patents and allowed patent applications, and two United States and 25 foreign pending patent applications, relating to composition-of-matter of MGL-3196 and its use in the treatment of key disease indications. Our current patent portfolio broadly covers the United States and other jurisdictions worldwide.

Issued United States patents which cover MGL-3196 will expire between 2026 and 2033, excluding any patent term extensions that might be available following the grant of marketing authorizations. Issued patents outside of the United States directed to MGL-3196 will expire between 2026 and 2033. We have pending patent applications for MGL-3196 that, if issued, would expire in the United States and in countries outside of the United States between 2026 and 2033, excluding any patent term adjustment that might be available following the grant of the patent and any patent term extensions that might be available following the grant of marketing authorizations.

In addition, pursuant to the Roche Agreement, Roche granted us an exclusive license to certain patents and know-how relating to MGL-3196. The Roche Agreement imposes various diligence, milestone payment, royalty payment, insurance, indemnification, and other obligations on us.

Our trademarks are protected under the common law and/or by registration in the United States and other countries. We seek to protect our proprietary processes, in part, by confidentiality agreements and invention assignment agreements with our personnel, including consultants and commercial partners. These agreements are designed to protect our proprietary information.

Orphan Drug Designation

Some of MGL-3196's target disease indications are rare diseases or may be designated rare diseases, including HoFH and severe HeFH, and we plan to pursue orphan drug designation where possible. If granted, each such designation might provide for regulatory exclusivity for seven years in the United States and ten years in the European Union from the date of product approval for individual indications.

Government Regulation

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing and export and import of products such as those we are developing. A new drug must be approved by the FDA through the new drug application, or NDA, process and a new biologic must be approved by the FDA through the biologics license application, or BLA, process before it may be legally marketed in the United States. The animal and other non-clinical data and the results of human clinical trials performed under an Investigational New Drug application, or IND, and under similar foreign applications will become part of the NDA or BLA.

United States Drug Development Process

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and in the case of biologics, also under the Public Health Service Act, or PHSA, and implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local, and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, warning letters, requesting product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us. The process required by the FDA before a drug or biologic may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and formulation studies according to Good Laboratory Practices or other applicable regulations;
- submission to the FDA of an IND which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to Good Clinical Practices to establish the safety and efficacy of the proposed drug for its intended use;
- submission to the FDA of an NDA or BLA;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current good manufacturing practice, or cGMP, to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity; and
- FDA review and approval of the NDA or BLA.

Once a pharmaceutical candidate is identified for development, it enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information and analytical data, to the FDA as part of the IND. The sponsor will also include a protocol detailing, among other things, the objectives of the first phase of the clinical trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated, if the first phase lends itself to an efficacy evaluation. Some preclinical testing may continue even after the IND is submitted. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, places the clinical trial on a clinical hold or a partial clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Clinical holds also may be imposed by the FDA at any time before or during studies due to safety concerns or non-compliance.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with good clinical practice regulations. They must be conducted under protocols detailing the objectives of the trial, dosing procedures, subject selection and exclusion criteria and the safety and effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND, and progress reports detailing the results of the clinical trials must be submitted at least annually. In addition, timely safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events. An institutional review board, or IRB, at each institution participating in the clinical trial must review and approve each protocol before a clinical trial commences at that institution and must also approve the information regarding the trial and the consent form that must be provided to each trial subject or his or her legal representative, monitor the study until completed and otherwise comply with IRB regulations.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- *Phase 1:* The product candidate is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, such as cancer, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.

- *Phase 2:* This phase involves studies in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

- *Phase 3:* Clinical trials are undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk-benefit ratio of the product candidate and provide, if appropriate, an adequate basis for product labeling.

The FDA or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Phase 1, Phase 2, and Phase 3 testing may not be completed successfully within any specified period, if at all.

During the development of a new drug, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA or BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to

provide advice, and for the sponsor and FDA to reach agreement on the next phase of development. Sponsors typically use the end of Phase 2 meeting to discuss their Phase 2 clinical results and present their plans for the pivotal Phase 3 clinical trial that they believe will support approval of the new drug.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

United States Review and Approval Processes

The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling, and other relevant information are submitted to the FDA as part of an NDA or BLA requesting approval to market the product. The submission of an NDA or BLA is subject to the payment of user fees; a waiver of such fees may be obtained under certain limited circumstances. The FDA reviews all NDAs and BLAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. The FDA may request additional information rather than accept a NDA or BLA for filing. In this event, the NDA or BLA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA may refer the NDA or BLA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. The approval process is lengthy and often difficult, and the FDA may refuse to approve an NDA or BLA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data and information. Even if such data and information is submitted, the FDA may ultimately decide that the NDA or BLA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data. The FDA may issue a complete response letter, which may require additional clinical or other data or impose other conditions that must be met in order to secure final approval of the NDA or BLA, or an approval letter following satisfactory completion of all aspects of the review process. The FDA reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacturing is cGMP-compliant to assure and preserve the product's identity, strength, quality and purity. The FDA reviews a BLA to determine, among other things whether the product is safe, pure and potent and the facility in which it is manufactured, processed, packed or held meets standards designed to assure the product's continued safety, purity and potency. Before approving an NDA or BLA, the FDA will inspect the facility or facilities where the product is manufactured.

NDAs or BLAs receive either standard or priority review. A drug representing a significant improvement in treatment, prevention or diagnosis of disease may receive priority review. Priority review for an NDA for a new molecular entity and original BLAs will be six months from the date that the NDA or BLA is filed. In addition, products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval and may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on the basis of an effect on a clinical endpoint

that can be measured earlier than irreversible morbidity or mortality, or IMM, that is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. Priority review and accelerated approval do not change the standards for approval, but may expedite the approval process.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. In addition, the FDA may require a sponsor to conduct Phase 4 testing which involves clinical trials designed to further assess a drug's safety and effectiveness after NDA or BLA approval, and may require testing and surveillance programs to monitor the safety of approved products which have been commercialized.

The Food and Drug Administration Safety and Innovation Act, or FDASIA, which was enacted in 2012, made permanent the Pediatric Research Equity Act, or PREA, which requires a sponsor to conduct pediatric studies for most drugs and biologics, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original NDAs, BLAs and supplements thereto, must contain a pediatric assessment unless the sponsor has received a deferral or waiver. The required assessment must assess the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The sponsor or FDA may request a deferral of pediatric studies for some or all of the pediatric subpopulations. A deferral may be granted for several reasons, including a finding that the drug or biologic is ready for approval for use in adults before pediatric studies are complete or that additional safety or effectiveness data needs to be collected before the pediatric studies begin. After April 2013, the FDA must send a non-compliance letter to any sponsor that fails to submit the required assessment, keep a deferral current or fails to submit a request for approval of a pediatric formulation.

Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of FDA approval of our product candidates, some of our United States patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND, and the submission date of an NDA or BLA, plus the time between the submission date of an NDA or BLA and the approval of that application, except that the period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension, and the extension must be applied for prior to expiration of the patent. The United States Patent and Trademark Office, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration.

Pediatric exclusivity is another type of marketing exclusivity available in the United States. The FDASIA made permanent the Best Pharmaceuticals for Children Act, or BPCA, which provides for an additional six months of marketing exclusivity if a sponsor conducts clinical trials in children in response to a written request from the FDA, or a Written Request. If the Written Request does not include studies in neonates, the FDA is required to include its rationale for not requesting those studies. The FDA may request studies on approved or unapproved indications in separate Written Requests. The issuance of a Written Request does not require the sponsor to undertake the described studies.

Biologics Price Competition and Innovation Act of 2009

On March 23, 2010, President Obama signed into law the Patient Protection and Affordable Care Act which included the Biologics Price Competition and Innovation Act of 2009, or BPCIA. The BPCIA amended the PHSA to create an abbreviated approval pathway for two types of "generic" biologics—biosimilars and interchangeable biologic products, and provides for a twelve-year exclusivity period for the first approved biological product, or reference product, against which a biosimilar or interchangeable application is evaluated; however if pediatric studies are performed and accepted by the FDA, the twelve-year exclusivity period will be extended for an additional six months A biosimilar product is defined as one that is highly similar to a reference product notwithstanding minor differences in clinically inactive components and for which there are no clinically meaningful differences between the biological product and the reference product in terms of the safety, purity and potency of the product. An interchangeable product is a biosimilar product that may be substituted for the reference product without the intervention of the healthcare provider who prescribed the reference product.

The biosimilar applicant must demonstrate that the product is biosimilar based on data from (i) analytical studies showing that the biosimilar product is highly similar to the reference product; (ii) animal studies (including toxicity); and (iii) one or more clinical studies to demonstrate safety, purity and potency in one or more appropriate conditions of use for which the reference product is approved. In addition, the applicant must show that the biosimilar and reference products have the same mechanism of action for the conditions of use on the label, route of administration, dosage and strength, and the production facility must meet standards designed to assure product safety, purity and potency.

An application for a biosimilar product may not be submitted until four years after the date on which the reference product was first approved. The first approved interchangeable biologic product will be granted an exclusivity period of up to one year after it is first commercially marketed, but the exclusivity period may be shortened under certain circumstances.

The FDA has issued a number of final and draft guidances in order to implement the law. On April 28, 2015, the FDA issued the following three final guidances: "Scientific Considerations in Demonstrating Biosimilarity to a Reference Product," "Quality Considerations in Demonstrating Biosimilarity of a Therapeutic Protein Product to a Reference Product," and "Biosimilars: Questions and Answers Regarding Implementation of the Biologics Price Competition and Innovation Act of 2009 Guidance for Industry." The draft guidances include "Formal Meetings between the FDA and Biosimilar Biological Product Sponsors or Applicants" issued March 29, 2013, "Clinical Pharmacology Data to Support a Demonstration of Biosimilarity to a Reference Product" issued May 13, 2014, "Reference Product Exclusivity for Biological Products Filed Under Section 351(a) of the PHS Act" issued August 4, 2014, and "Biosimilars: Additional Questions and Answers Regarding Implementation of the Price Competition and Innovation Act of 2009," issued May 12, 2015. The guidance documents provide FDA's current thinking on approaches to demonstrating that a proposed biological product is biosimilar to a reference product. The FDA intends to issue additional guidance documents in the future. Nevertheless, the absence of final guidance documents covering all biosimilars issues does not prevent a sponsor for seeking licensure of a biosimilar under the BPCIA, and the FDA recently approved the first biosimilar application in the United States.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for this type of disease or condition will be recovered from sales in the United

States for that drug. Orphan drug designation must be requested before submitting an NDA or BLA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process. If a product that has orphan drug designation subsequently receives the first FDA approval for the disease for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications to market the same drug for the same indication, except in very limited circumstances, for seven years. Orphan drug exclusivity, however, also could block the approval of one of our product candidates for seven years if a competitor obtains approval of the same drug as defined by the FDA or if our product candidate is determined to be contained within the competitor's product for the same indication or disease.

The FDA also administers a clinical research grants program, whereby researchers may compete for funding to conduct clinical trials to support the approval of drugs, biologics, medical devices, and medical foods for rare diseases and conditions. A product does not have to be designated as an orphan drug to be eligible for the grant program. An application for an orphan grant should propose one discrete clinical study to facilitate FDA approval of the product for a rare disease or condition. The study may address an unapproved new product or an unapproved new use for a product already on the market.

Fast Track Designation and Accelerated Approval

The FDA is required to facilitate the development, and expedite the review, of drugs that are intended for the treatment of a serious or life-threatening disease or condition for which there is no effective treatment and which demonstrate the potential to address unmet medical needs for the condition. Under the fast track program, the sponsor of a new drug candidate may request that the FDA designate the drug candidate for a specific indication as a fast track drug concurrent with, or after, the filing of the IND for the drug candidate. FDA must ermine if the drug candidate qualifies for fast track designation within 60 days of receipt of the sponsor's request.

Under the fast track program, the FDA may designate a drug for fast-track status if it is intended to treat a serious or life-threatening illness and nonclinical or clinical data demonstrate the potential to address an unmet medical need. Similarly, the agency may designate a drug for accelerated approval if it treats a serious condition and generally provides meaningful therapeutic benefit to patients over existing treatments based upon a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments.

In clinical trials, a surrogate endpoint is a measurement of laboratory or clinical signs of a disease or condition that substitutes for a direct measurement of how a patient feels, functions, or survives. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. A drug candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, will allow the FDA to withdraw the drug from the market on an expedited basis. All promotional materials for drug candidates approved under accelerated regulations are subject to prior review by the FDA.

In addition to other benefits such as the ability to use surrogate endpoints and engage in more frequent interactions with FDA, FDA may initiate review of sections of a fast track drug's BLA before the application is complete. This rolling review is available if the applicant provides, and FDA approves, a schedule for the submission of the remaining information and the applicant pays applicable

user fees. However, FDA's time period goal for reviewing an application does not begin until the last section of the BLA is submitted. Additionally, the fast track designation may be withdrawn by FDA if FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

In FDASIA, Congress encouraged the FDA to utilize innovative and flexible approaches to the assessment of products under accelerated approval. The law required the FDA to issue related draft guidance within a year after the law's enactment and also promulgate confirming regulatory changes. In May 2014, the FDA published a Guidance for Industry entitled, "Expedited Programs for Serious Conditions-Drugs and Biologics" which provides guidance on FDA programs that are intended to facilitate and expedite development and review of new drugs as well as threshold criteria generally applicable to concluding that a drug is a candidate for these expedited development and review programs. In addition to the Fast Track, accelerated approval and priority review programs discussed above, the FDA also provided guidance on a new program for Breakthrough Therapy designation. A request for Breakthrough Therapy designation should be submitted concurrently with, or as an amendment to an IND. The FDA has already granted this designation to over 30 new drugs and has approved several.

Post-Approval Requirements

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further FDA review and approval. Drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws and regulations. We rely, and expects to continue to rely, on third parties for the production of clinical and commercial quantities of its product candidates. Future inspections by the FDA and other regulatory agencies may identify compliance issues at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct.

Any drug products manufactured or distributed by us pursuant to FDA approvals are subject to continuing regulation by the FDA, including, among other things, record-keeping requirements, reporting of adverse experiences with the drug, providing the FDA with updated safety and efficacy information, drug sampling and distribution requirements, complying with certain electronic records and signature requirements, and complying with FDA promotion and advertising requirements. FDA strictly regulates labeling, advertising, promotion and other types of information on products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label.

From time to time, legislation is drafted, introduced and passed in Congress that could significantly change the statutory provisions governing the approval, manufacturing and marketing of products regulated by the FDA. It is impossible to predict whether further legislative changes will be enacted, or FDA regulations, guidance or interpretations changed or what the impact of such changes, if any, may be.

Foreign Regulation

In addition to regulations in the United States, we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of its products. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of foreign countries or economic areas, such as the 28-member European Union, before we

may commence clinical trials or market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Under European Union regulatory systems, a company may submit marketing authorization applications either under a centralized or decentralized procedure. The centralized procedure, which is compulsory for medicinal products produced by biotechnology or those medicinal products containing new active substances for specific indications such as the treatment of AIDS, cancer, neurodegenerative disorders, diabetes, viral diseases and designated orphan medicines, and optional for other medicines which are highly innovative. Under the centralized procedure, a marketing application is submitted to the EMA where it will be evaluated by the Committee for Medicinal Products for Human Use and a favorable opinion typically results in the grant by the European Commission of a single marketing authorization that is valid for all European Union member states within 67 days of receipt of the opinion. The initial marketing authorization is valid for five years, but once renewed is usually valid for an unlimited period. The decentralized procedure provides for approval by one or more "concerned" member states based on an assessment of an application performed by one member state, known as the "reference" member state. Under the decentralized approval procedure, an applicant submits an application, or dossier, and related materials to the reference member state and concerned member states. The reference member state prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. Within 90 days of receiving the reference member state's assessment report, each concerned member state must decide whether to approve the assessment report and related materials. If a member state does not recognize the marketing authorization, the disputed points are eventually referred to the European Commission, whose decision is binding on all member states.

When conducting clinical trials in the EU, we must adhere to the provisions of the EU Clinical Trials Directive and the laws and regulations of the EU Member States implementing them. These provisions require, among other things, that the prior authorization of an Ethics Committee and the submission and approval of a clinical trial authorization application be obtained in each Member State be obtained before commencing a clinical trial in that Member State.

As in the United States, it may be possible in foreign countries to obtain a period of market and/or data exclusivity that would have the effect of postponing the entry into the marketplace of a competitor's generic product. For example, in the EU, if any of our products receive marketing approval in the European Economic Area, or EEA which is comprised of the 28 member states of the EU plus Norway, Iceland and Liechtenstein, we expect that we will benefit from eight years of data exclusivity and an additional two years of marketing exclusivity. An additional one-year extension of marketing exclusivity is possible if during the data exclusivity period we obtain an authorization for one or more new therapeutic indications that is deemed to bring a significant clinical benefit compared to existing therapies. The data exclusivity period begins on the date of the product's first marketing authorization in the EU and prevents biosimilars from relying on the holder of the marketing authorization for the reference biological medicine's pharmacological, toxicological and clinical data for a period of eight years. After eight years, a biosimilar product application may be submitted and the sponsoring companies may rely on the marketing authorization holder's data. However, a biosimilar medicine cannot launch until 2 years later (or a total of ten years after the first marketing authorization in the EU of the innovator product), or 3 years later (or a total of eleven years after the first marketing authorization in the EU of the innovator product) if the marketing authorization holder obtains marketing authorization for a new indication with significant clinical benefit within the eight year data exclusivity period.

As in the United States, a sponsor may apply for designation of a product as an orphan drug for the treatment of a specific indication in the EU before the application for marketing authorization is

made. Orphan drugs in Europe enjoy economic and marketing benefits, including up to ten years of market exclusivity for the approved indication unless another applicant can show that its product is safer, more effective or otherwise clinically superior to the orphan-designated product.

Reimbursement

Sales of pharmaceutical products depend in significant part on the availability of third-party reimbursement. Third-party payors include government healthcare programs, managed care providers, private health insurers and other organizations. These third-party payors are increasingly challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of its products. Our product candidates may not be considered cost-effective. It is time consuming and expensive to seek reimbursement from third-party payors. Reimbursement may not be available or sufficient to allow us to sell its products on a competitive and profitable basis.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the European Union do not follow price structures of the United States and generally tend to be significantly lower.

Employees

As of March 24, 2017, we had eight full-time employees, including five engaged in research, development, and regulatory activities, and three in executive, general and administrative functions, and multiple part-time consultants.

General Information

We were incorporated in Delaware in September 2011. Our principal executive offices are located at 200 Barr Harbor Drive, Suite 400, West Conshohocken, PA 19428. Our Internet website address is www.madrigalpharma.com. No portion of Madrigal's website is incorporated by reference into this Annual Report on Form 10-K.

We advise you to read this Annual Report on Form 10-K in conjunction with other reports and documents that we file from time to time with the SEC. In particular, please read our definitive proxy statement, which will be filed with the SEC in connection with our 2017 annual meeting of stockholders, our quarterly reports on Form 10-Q and any current reports on Form 8-K that we may file from time to time. You may obtain copies of these reports after the date of this annual report directly from us or from the SEC at the SEC's Public Reference Room at 100 F Street, N.E. Washington, D.C. 20549. In addition, the SEC maintains information for electronic filers (including us) at its website at www.sec.gov. The public may obtain information regarding the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. We make our periodic and current reports available on our internet website, free of charge, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K for the fiscal year ended December 31, 2016, includes "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, which statements are subject to considerable risks and uncertainties. Forward-looking statements include all statements that are not statements of historical facts contained in this Annual Report and can be identified by words such as "anticipates," "believes," "seeks," "estimates," "expects," "intends," "may," "plans," "potential," "predicts, "projects," "should," "could," "will," "would" or similar expressions and the negatives of those expressions. In particular, forward looking statements contained in this Annual Report relate to, among other things, our future or assumed financial condition, results of operations, business forecasts and plans, strategic plans and objectives, product development plans, recent accounting pronouncements and capital needs and financing plans. We caution you that the foregoing list may not include all of the forward-looking statements made in this Annual Report.

Forward-looking statements represent our management's current beliefs and assumptions based on information currently available. Forward-looking statements involve numerous known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. We discuss these risks and uncertainties in greater detail in the section entitled "Risk Factors" in Part I, Item 1A of this Annual Report, as well as in our other filings with the SEC. You should read this Annual Report, and the other documents that we have filed with the SEC, with the understanding that our actual future results may be materially different from the results expressed or implied by these forward-looking statements.

Moreover, we operate in an evolving environment. New risks and uncertainties emerge from time to time and it is not possible for our management to predict all risks and uncertainties, 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 future results to be materially different from those expressed or implied by any forward-looking statements.

Except as required by applicable law or the rules of the NASDAQ Stock Market, or NASDAQ, we assume no obligation to update any forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

We qualify all of our forward-looking statements by these cautionary statements.

Item 1A. Risk Factors

You should carefully consider the risks described below, together with all of the other information included in or incorporated by reference into this report, before making an investment decision. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we do not currently believe are important to an investor may also harm our business. If any of the events, contingencies, circumstances or conditions described in the following risks actually occur, our business, financial condition or our results of operations could be seriously harmed. If that happens, the trading price of our common stock could decline and you may lose part or all of the value of any of our shares held by you.

Risks Related to Our Business

We have limited operating history, we have incurred significant operating losses since inception and we expect to incur significant operating losses for the foreseeable future. We may never become profitable or, if achieved, be able to sustain profitability.

We have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future as we continue our clinical trial and development programs for MGL-3196 and other future product candidates. As of December 31, 2016, we had an accumulated deficit of $75.3 million. Losses have principally resulted from costs incurred in our preclinical and clinical trials, research and development programs and from our general and administrative expenses. As of December 31, 2016, we had cash, cash equivalents and marketable securities of $40.5 million. In the future, we intend to continue to conduct research and development, clinical testing, regulatory compliance and, if MGL-3196 or other future product candidates are approved, sales and marketing activities that, together with anticipated general and administrative expenses, will likely result in us incurring further significant losses for the foreseeable future.

We currently generate no revenue from product sales, and we may never be able to commercialize MGL-3196 or other future product candidates. We do not currently have the required approvals to market MGL-3196 or any other future product candidates, and we may never receive them. We may not be profitable even if we or any of our future development partners succeed in commercializing any of our product candidates. Because of the numerous risks and uncertainties associated with developing and commercializing our product candidates, we are unable to predict the extent of any future losses or when we will become profitable, if at all.

Our business depends on the success of MGL-3196, which is still in clinical development. If we are unable to obtain regulatory approval for or successfully commercialize MGL-3196, our business will be materially harmed.

To date, the sole focus of our product development has been MGL-3196, a liver-directed selective thyroid hormone receptor beta agonist for potential use in non-alcoholic steatohepatitis, or NASH, and FH. Successful continued development and ultimate regulatory approval of MGL-3196 for NASH or genetic dyslipidemias, such as FH, is critical to the future success of our business. We have invested, and will continue to invest, a significant portion of our time and financial resources in the clinical development of MGL-3196. We will need to raise sufficient funds to successfully complete our clinical development program for MGL-3196 in NASH and FH. The future regulatory and commercial success of MGL-3196 is subject to a number of risks, including the following:

- we may not have sufficient financial and other resources to complete the necessary clinical trials for MGL-3196, including but not limited to Phase 2 clinical trials and, later, registrational clinical trials to obtain drug approval;

- the mechanism of action of MGL-3196 is complex and we do not know the degree to which it will translate into a therapeutic benefit, if any, in NASH, FH or any other indication, and we do not know the degree to which the complex mechanism of action may contribute to long term safety issues or adverse events, if any, when MGL-3196 is taken for prolonged periods such as in the treatment of NASH, FH or any other indication;
- we may not be able to obtain adequate evidence from clinical trials of efficacy and safety for MGL-3196 in NASH, FH or any other indication;
- we do not know the degree to which MGL-3196 will be accepted as a therapy by physicians, patients and payors, even if approved;
- in our clinical programs for MGL-3196, we may experience variability in patients, adjustments to clinical trial procedures and the need for additional clinical trial sites, which could delay our clinical trial progress;
- the results of our clinical trials may not meet the level of statistical or clinical significance required by the FDA or comparable foreign regulatory bodies for marketing approval;
- patients in our clinical trials may die or suffer other adverse effects for reasons that may or may not be related to MGL-3196, which could delay or prevent further clinical development;
- the standards implemented by clinical or regulatory agencies may change at any time;
- the FDA or foreign clinical or regulatory agencies may require efficacy endpoints for a Phase 3 clinical trial for the treatment of NASH or FH that differ from the endpoints of our current or future trials, which may require us to conduct additional clinical trials;
- if approved for NASH, MGL-3196 will likely compete with the off-label use of currently marketed products and other therapies in development that may reach approval for NASH prior to MGL-3196;
- if approved for FH, MGL-3196 will likely compete with currently approved and marketed products and other therapies in development that may reach approval for FH prior to MGL-3196; and
- we may not be able to obtain, maintain or enforce our patents and other intellectual property rights.

Of the large number of drugs in development in the pharmaceutical industry, only a small percentage results in the submission of a new drug application, or NDA, to the FDA and even fewer are approved for commercialization. Furthermore, even if we do receive regulatory approval to market MGL-3196, any such approval may be subject to limitations on the indicated uses or patient populations for which we may market the products. Accordingly, even if we are able to obtain the requisite financing to continue to fund our development programs, we may be unable to successfully develop or commercialize MGL-3196. If we or any of our future development partners are unable to develop, or obtain regulatory approval for, or, if approved, successfully commercialize MGL-3196, we may not be able to generate sufficient revenue to continue our business.

The results of preclinical studies and early clinical trials are not always predictive of future results. Any product candidate that we advance into clinical trials, including MGL-3196, may not have favorable results in later clinical trials or receive regulatory approval.

Drug development has inherent risk. We will be required to demonstrate through adequate and well-controlled clinical trials that our product candidates are safe and effective, with a favorable benefit-risk profile, for use in our target indications before we can seek regulatory approvals for its commercial sale. Clinical studies are expensive, difficult to design and implement, can take many years

to complete and are uncertain as to outcome. Delay or failure can occur at any stage of development, including after commencement of any of our clinical trials. In addition, success in early clinical trials does not mean that later clinical trials will be successful, because later-stage clinical trials may be conducted in broader patient populations and involve different study designs. For instance, our Phase 1 results may not be predictive of any future Phase 2 results. Furthermore, our future trials will need to demonstrate sufficient safety and efficacy in larger patient populations for approval by regulatory authorities. Companies frequently suffer significant setbacks in advanced clinical trials, even after earlier clinical trials have shown promising results. In addition, only a small percentage of drugs under development result in the submission of an NDA to the FDA and even fewer are approved for commercialization.

We cannot be certain that any of our ongoing or future clinical trials will be successful, and any safety concerns observed in any one of our clinical trials in our targeted indications could limit the prospects for regulatory approval of our product candidates in those and other indications.

Because MGL-3196 has not yet received regulatory approval for any indication, it is difficult to predict the time and cost of development and our ability to successfully complete clinical development and obtain the necessary regulatory approvals for commercialization.

MGL-3196 has not yet received regulatory approval for the treatment of NASH, FH or any other indication, and unexpected problems may arise that could cause us to delay, suspend or terminate our development efforts in any or all indications. Further, MGL-3196 has not yet demonstrated efficacy in patients with NASH or FH, and the long-term safety consequences of a liver-directed thyroid hormone receptor beta agonist are not known. Regulatory approval of new product candidates such as MGL-3196 can be more expensive and take longer than approval for candidates for the treatment of more well-understood diseases with previously approved products.

If clinical trials or regulatory approval processes for our product candidates are prolonged, delayed or suspended, we may be unable to commercialize our product candidates on a timely basis, which would require us to incur additional costs and delay our receipt of any revenue from potential product sales.

We cannot predict whether we will encounter problems with any of our completed, ongoing or planned clinical trials that will cause us or any regulatory authority to delay or suspend those clinical trials or delay the analysis of data derived from them. A number of events, including any of the following, could delay the completion of our ongoing and planned clinical trials and negatively affect our ability to obtain regulatory approval for, and to market and sell, a particular product candidate:

- conditions imposed on us by the FDA or other regulatory authorities regarding the scope or design of our clinical trials;
- insufficient supply of our product candidates or other materials necessary to conduct and complete our clinical trials;
- slow enrollment and retention rate of subjects in our clinical trials; and
- serious and unexpected drug-related side effects related to the product candidate being tested.

Commercialization of our product candidates may be delayed by the imposition of additional conditions on our clinical trials by the FDA or any other applicable foreign regulatory authority or the requirement of additional supportive studies by the FDA or such foreign regulatory authority.

We do not know whether our clinical trials will begin as planned, will need to be restructured, or will be completed on schedule, if at all. Delays in the initiation, enrollment or completion of our clinical trials will result in increased development costs for our product candidates, and our financial resources may be insufficient to fund any incremental costs. In addition, if our clinical trials are

delayed, our competitors may be able to bring products to market before we do and the commercial viability of our product candidates could be limited.

If we inadvertently fail to comply with foreign regulatory requirements governing human clinical trials and marketing approval for drugs, we could be prevented from selling our drug candidates in foreign markets, which may adversely affect our operating results and financial condition.

The requirements governing the conduct of clinical trials, product licensing, pricing, and reimbursement for marketing our drug candidates outside the United States vary greatly from country to country and may require additional testing. We expect that our future clinical development of our drug candidates will involve a number of clinical trials in foreign jurisdictions, particularly in Europe. We have no experience in obtaining foreign regulatory approvals. The time required to obtain approvals outside the United States may differ from that required to obtain FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. Approval by the FDA does not guarantee approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other countries or by the FDA. Failure to comply with these regulatory requirements or obtain required approvals could impair our ability to develop foreign markets for our drug candidates and may have a material adverse effect on our results of operations and financial condition.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

We may not be able to initiate, continue, or complete clinical trials required by the FDA or foreign regulatory agencies for MGL-3196 if we are unable to locate and enroll a sufficient number of eligible patients to participate in these clinical trials. Patient enrollment, a significant factor in the timing to conduct and complete clinical trials, is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, competing clinical trials, and clinicians' and patients' perceptions as to the potential advantages and disadvantages of the product candidate being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. In the proposed clinical trials, patient willingness to undergo a liver biopsy in our NASH trials, and identification of patients willing to participate in our FH trials due to the rarity of the disease, are also risk factors. Potential patients for MGL-3196 may not be adequately diagnosed or identified with the diseases which we are targeting or may not meet the entry criteria for our studies.

The FDA typically requires sponsors of lipid-lowering product candidates to conduct drug-drug interaction studies with statins because statins may have increased safety risks when administered together with other drug therapies that affect their pharmacokinetic profile. We have completed one clinical drug interaction study of MGL-3196 and two statins in 25 normal healthy volunteers, which showed MGL-3196 to have a favorable safety profile and to be well-tolerated. We are currently conducting a second drug-interaction study of MGL-3196 with a third statin. We have initiated a Phase 2 clinical study in NASH including patients taking low dose statins. We have also initiated a Phase 2 clinical study in HeFH including patients taking high dose statins.

We will be required to identify and enroll a sufficient number of patients for each of our ongoing and planned clinical trials of MGL-3196 for NASH and FH indications, respectively. We also may encounter difficulties in identifying and enrolling NASH patients and FH patients with a stage of disease appropriate for our ongoing or future clinical trials. We may not be able to initiate or continue clinical trials if we are unable to locate a sufficient number of eligible patients to participate in the clinical trials required by the FDA or other foreign regulatory agencies. In addition, the process of finding and diagnosing patients may prove costly. Our inability to enroll a sufficient number of patients

for any of our clinical trials would result in significant delays or may require us to abandon one or more clinical trials.

Any product candidate in our current or future clinical trials may cause unacceptable adverse events or have other properties that may delay or prevent its regulatory approval or commercialization or limit its commercial potential.

Unacceptable adverse events caused by any of our product candidates in current or future clinical trials could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications and markets. This in turn could prevent us from completing development of or commercializing the affected product candidate and generating revenue from its sale. If any of our product candidates cause unacceptable adverse events in clinical trials, we may not be able to obtain regulatory approval or commercialize such product candidate.

Our product candidates will remain subject to ongoing regulatory review even if they receive marketing approval, and if we fail to comply with continuing regulations, we could lose these approvals and the sale of any approved commercial products could be suspended.

Even if we receive regulatory approval to market a particular product candidate, the manufacturing, labeling, packaging, adverse event reporting, storage, advertising, promotion, and record keeping related to the product will remain subject to extensive regulatory requirements. If we fail to comply with the regulatory requirements of the FDA and other applicable domestic and foreign regulatory authorities, or previously unknown problems with any approved product, manufacturer, or manufacturing process are discovered, we could be subject to administrative or judicially imposed sanctions, including:

- restrictions on the products, manufacturers, or manufacturing processes;
- warning letters;
- civil or criminal penalties;
- fines;
- injunctions;
- product seizures or detentions;
- pressure to initiate voluntary product recalls;
- suspension or withdrawal of regulatory approvals; and
- refusal to approve pending applications for marketing approval of new products or supplements to approved applications.

Our industry is highly competitive, and our product candidates may become obsolete.

We are engaged in a rapidly evolving field. Competition from other pharmaceutical companies, biotechnology companies and research and academic institutions is intense and likely to increase. Many of those companies and institutions have substantially greater financial, technical and human resources than us. Those companies and institutions also have substantially greater experience in developing products, conducting clinical trials, obtaining regulatory approval and in manufacturing and marketing pharmaceutical products. Our competitors may succeed in obtaining regulatory approval for their products more rapidly than we do. Competitors have developed or are in the process of developing technologies that are, or in the future may be, the basis for competitive products. Some of these competitive products may have an entirely different approach or means of accomplishing the desired

therapeutic effect than products being developed by us. Our competitors may succeed in developing products that are more effective and/or cost competitive than those we are developing, or that would render our product candidates less competitive or even obsolete. In addition, one or more of our competitors may achieve product commercialization or patent protection earlier than us, which could materially adversely affect our business.

If the FDA or other applicable regulatory authorities approve generic products that compete with any of our or any of our partners' product candidates, the sales of our product candidates would be adversely affected.

Once an NDA or marketing authorization application outside the United States is approved, the product covered thereby becomes a "listed drug" that can, in turn, be cited by potential competitors in support of approval of an abbreviated new drug application in the United States. Agency regulations and other applicable regulations and policies provide incentives to manufacturers to create modified, non-infringing versions of a drug to facilitate the approval of an abbreviated new drug application or other application for generic substitutes in the United States and in nearly every pharmaceutical market around the world. These manufacturers might only be required to conduct a relatively inexpensive study to show that their product has the same active ingredient(s), dosage form, strength, route of administration and conditions of use, or labeling, as our product and that the generic product is bioequivalent to our product, meaning it is absorbed in the body at the same rate and to the same extent as our product. These generic equivalents, which must meet the same quality standards as branded pharmaceuticals, would be significantly less costly than our product to bring to market, and companies that produce generic equivalents are generally able to offer their products at lower prices. Thus, after the introduction of a generic competitor, a significant percentage of the sales of any branded product are typically lost to the generic product. Accordingly, competition from generic equivalents to our product or any of our partners' future products, if any, would materially adversely affect our future revenue, profitability and cash flows and substantially limit our ability to obtain a return on the investments we have made and expect to make in our or any of our partners' product candidates, including MGL-3196.

If physicians and patients do not accept our future products or if the market for indications for which any product candidate is approved is smaller than expected, we may be unable to generate significant revenue, if any.

Even if any of our product candidates obtain regulatory approval, they may not gain market acceptance among physicians, patients, and third-party payers. Physicians may decide not to recommend its treatments for a variety of reasons including:

- timing of market introduction of competitive products;
- demonstration of clinical safety and efficacy compared to other products;
- cost-effectiveness;
- limited or no coverage by third-party payers;
- convenience and ease of administration;
- prevalence and severity of adverse side effects;
- restrictions in the label of the drug;
- other potential advantages of alternative treatment methods; and
- ineffective marketing and distribution support of its products.

If any of our product candidates are approved, but fail to achieve market acceptance or such market is smaller than anticipated, we may not be able to generate significant revenue and our business would suffer.

As we evolve from a company that is primarily involved in clinical development to a company that is also involved in commercialization, we may encounter difficulties in expanding our operations successfully.

As we advance our product candidates through clinical trials, we will need to expand our development, regulatory, manufacturing, and marketing and sales capabilities and may need to further contract with third parties to provide these capabilities. As our operations expand, we likely will need to manage additional relationships with such third parties, as well as additional collaborators, distributors, marketers and suppliers.

Maintaining third party relationships for these purposes will impose significant added responsibilities on members of our management and other personnel. We must be able to effectively manage our development efforts; recruit and train sales and marketing personnel, effectively manage our participation in the clinical trials in which our product candidates are involved and improve our managerial, development, operational and finance systems, all of which may impose a strain on our administrative and operational infrastructure.

If we enter into arrangements with third parties to perform sales, marketing or distribution services, any product revenues that we receive, or the profitability of these product revenues to us, are likely to be lower than if we were to market and sell any products that we develop without the involvement of these third parties. In addition, we may not be successful in entering into arrangements with third parties to sell and market our products or in doing so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our products.

The uncertainty associated with pharmaceutical reimbursement and related matters may adversely affect our business.

Market acceptance and sales of any one or more of our product candidates will depend on reimbursement policies and may be affected by future healthcare reform measures in the United States and in foreign jurisdictions. Government authorities and third-party payers, such as private health insurers and health maintenance organizations, decide which drugs they will cover and establish payment levels. We cannot be certain that reimbursement will be available for any of our product candidates. Also, we cannot be certain that reimbursement policies will not reduce the demand for, or the price paid for, our products. If reimbursement is not available or is available on a limited basis, we may not be able to successfully commercialize any product candidates that we develop.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the Medicare Modernization Act, or MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation established Medicare Part D, which expanded Medicare coverage for outpatient prescription drug purchases by the elderly but provided authority for limiting the number of drugs that will be covered in any therapeutic class. The MMA also introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. The United States and several foreign jurisdictions are considering, or have already enacted, a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payers in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access to healthcare. In the United

States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. We expect to experience pricing pressures in connection with the sale of any products that we develops due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, and additional legislative proposals.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or collectively, ACA, became law in the United States. The goal of ACA is to reduce the cost of healthcare and substantially change the way healthcare is financed by both government and private insurers. While we cannot predict what impact on federal reimbursement policies this legislation will have in general or on our business specifically, the ACA may result in downward pressure on pharmaceutical reimbursement, which could negatively affect market acceptance of, and the price we may charge for, any products we develop that receives regulatory approval. We also cannot predict the impact of ACA on us as many of the ACA reforms require the promulgation of detailed regulations implementing the statutory provisions, which have not yet been fully implemented.

If any product liability lawsuits are successfully brought against us or any of our collaborative partners, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability lawsuits related to the testing of our product candidates in seriously ill patients and will face an even greater risk if product candidates are approved by regulatory authorities and introduced commercially. Product liability claims may be brought against us or our partners by participants enrolled in our clinical trials, patients, healthcare providers or others using, administering or selling any of our future approved products. If we cannot successfully defend ourselves against any such claims, we may incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any of our future approved products;
- injury to our reputation;
- withdrawal of clinical trial participants;
- termination of clinical trial sites or entire trial programs;
- significant litigation costs;
- substantial monetary awards to or costly settlements with patients or other claimants;
- product recalls or a change in the indications for which products may be used;
- loss of revenue;
- diversion of management and scientific resources from our business operations; and
- the inability to commercialize our product candidates.

If any of our product candidates are approved for commercial sale, we will be highly dependent upon consumer perceptions of us and the safety and quality of our products. We could be adversely affected if we are subject to negative publicity. We could also be adversely affected if any of our products or any similar products distributed by other companies prove to be, or are asserted to be, harmful to patients. Also, because of our dependence upon consumer perceptions, any adverse publicity associated with illness or other adverse effects resulting from patients' use or misuse of our products or any similar products distributed by other companies could have a material adverse impact on our results of operations.

We do not currently hold product liability insurance coverage. Prior to commercialization of our product candidates, we will need to purchase insurance coverage. As a result, we may be unable to

maintain or obtain sufficient insurance at a reasonable cost to protect us against losses that could have a material adverse effect on our business. These liabilities could prevent or interfere with our product development and commercialization efforts. A successful product liability claim or series of claims brought against us, particularly if judgments exceed our insurance coverage, could decrease our cash resources and adversely affect our business, financial condition and results of operations.

Our employees, contractors, vendors and partners may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, contractors, vendors or partners. Misconduct by these parties could include failures to comply with FDA regulations, to provide accurate information to the FDA, to comply with federal and state healthcare fraud and abuse laws and regulations, to report financial information or data timely, completely or accurately, or to disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Third-party misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Code of Business Conduct and Ethics, but it is not always possible to identify and deter misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us resulting from this misconduct and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

We enter into various contracts in the normal course of our business in which we indemnify the other party to the contract. In the event we have to perform under these indemnification provisions, it could have a material adverse effect on our business, financial condition and results of operations.

In the normal course of business, we periodically enter into academic, commercial, service, collaboration, licensing, consulting and other agreements that contain indemnification provisions. With respect to our academic and other research agreements, we typically indemnify the institution and related parties from losses arising from claims relating to the products, processes or services made, used, sold or performed pursuant to the agreements for which we have secured licenses, and from claims arising from our or our potential sublicensees' exercise of rights under the agreement. With respect to our commercial agreements, we indemnify our vendors from any third-party product liability claims that could result from the production, use or consumption of the product, as well as for alleged infringements of any patent or other intellectual property right by a third party.

Should our obligation under an indemnification provision exceed applicable insurance coverage or if we are denied insurance coverage, our business, financial condition and results of operations could be adversely affected. Similarly, if we are relying on a collaborator to indemnify us and the collaborator is denied insurance coverage or the indemnification obligation exceeds the applicable insurance coverage, and if the collaborator does not have other assets available to indemnify us, our business, financial condition and results of operations could be adversely affected.

If we fail to develop and commercialize other product candidates, we may be unable to grow our business.

Although the development and commercialization of MGL-3196 is our primary focus, as part of our longer-term growth strategy, we plan to evaluate the development and commercialization of other

therapies related to thyroid hormone, orphan and other diseases. We will evaluate internal opportunities from our compound libraries, and also may choose to in-license or acquire other product candidates as well as commercial products to treat patients suffering from thyroid hormone, orphan or other disorders with high unmet medical needs and limited treatment options. These other product candidates may require additional, time-consuming development efforts prior to commercial sale, including preclinical studies, clinical trials and approval by the FDA and/or applicable foreign regulatory authorities. All product candidates are prone to the risks of failure that are inherent in pharmaceutical product development, including the possibility that the product candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, we cannot assure you that any such products that are approved will be manufactured or produced economically, be successfully commercialized, be widely accepted in the marketplace, or be more effective than other commercially available alternatives.

If we lose key management personnel, or if we fail to recruit additional highly skilled personnel, our ability to identify, develop and commercialize products will be impaired.

We are highly dependent on principal members of our management team, including our Chief Executive Officer, Paul A. Friedman, M.D., and our Chief Medical Officer, Rebecca Taub, M.D. These executives each have significant pharmaceutical industry experience. The loss of any member of our management team or scientific staff, including Drs. Friedman and Taub, would impair our ability to identify, develop and market new products. Our management and other employees may voluntarily terminate their employment with us at any time. The loss of the services of these or other key personnel, or the inability to attract and retain additional qualified personnel, could result in delays to development or approval, loss of sales and diversion of management resources. In addition, we depend on our ability to attract and retain other highly skilled personnel. Competition for qualified personnel is intense, and the process of hiring and integrating such qualified personnel is often lengthy. We may be unable to recruit such personnel on a timely basis, if at all, which would negatively impact our development and commercialization programs.

Additionally, we do not currently maintain "key person" life insurance on the lives of our executives or any of our employees. This lack of insurance means that we may not receive adequate compensation for the loss of the services of these individuals.

We currently have no marketing, sales or distribution infrastructure with respect to our product candidates. If we are unable to develop are sales, marketing and distribution capability on our own or through collaborations with marketing partners, we will not be successful in commercializing our product candidates.

We currently have no marketing, sales or distribution capabilities and have limited sales or marketing experience within our organization. If our product candidate, MGL-3196, is approved, we intend either to establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize MGL-3196, or to outsource this function to a third party. Either of these options would be expensive and time consuming. Some or all of these costs may be incurred in advance of any approval of MGL-3196. In addition, we may not be able to hire a sales force in the United States that is sufficient in size or has adequate expertise in the medical markets that we intend to target. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely affect the commercialization of MGL-3196 and other future product candidates.

With respect to our existing and future product candidates, we may choose to collaborate with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or as an alternative to our own sales force and distribution systems. To the extent that we enter into co-promotion or other licensing arrangements, our product revenue may be lower than if we directly marketed or sold any approved products. In addition, any

revenue we receive will depend in whole or in part upon the efforts of these third parties, which may not be successful and are generally not within our control. If we are unable to enter into these arrangements on acceptable terms or at all, we may not be able to successfully commercialize any approved products. If we are not successful in commercializing any approved products, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

Even if we obtain FDA approval of MGL-3196 or any other future product candidate, we or our partners may never obtain approval or commercialize our products outside of the United States, which would limit our ability to realize their full market potential.

In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements of other countries regarding clinical trial design, safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval procedures vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approvals could result in significant delays, difficulties and costs for us and may require additional preclinical studies or clinical trials which would be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. Satisfying these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, our failure to obtain regulatory approval in any country may delay or have negative effects on the process for regulatory approval in other countries. We and our partners do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we or our partners fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, our target market will be reduced and our ability to realize the full market potential of our products will be harmed.

If we do not obtain protection under the Hatch-Waxman Amendments and similar foreign legislation by extending the term of patents covering each of our product candidates, our business may be materially harmed.

Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our United States patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. However, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for that product may not extend beyond the current patent expiration dates and our competitors may obtain approval to market competing products sooner. As a result, our revenue could be potentially materially reduced.

If we or our partners market products in a manner that violates fraud and abuse and other healthcare laws, or if we or our partners violate government price reporting laws, we or our partners may be subject to administrative civil and/or criminal penalties.

In addition to FDA restrictions on marketing of pharmaceutical products, several other types of state and federal healthcare laws, including those commonly referred to as "fraud and abuse" laws, have been applied in recent years to restrict certain marketing practices in the pharmaceutical industry. These laws include, among others, false claims and anti-kickback statutes. At such time, if ever, as we or any of our partners market any of our future approved products, it is possible that some of our business activities and/or our partners could be subject to challenge under one or more of these laws.

Federal false claims, false statements and civil monetary penalties laws prohibit, among others, any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, or causing to be made, a false statement to get a false claim paid. The federal healthcare program anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid or other federally financed healthcare programs. This statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other. Although there are several statutory exceptions and regulatory safe harbors protecting certain common activities from prosecution, the exceptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exception or safe harbor.

In addition, we and/or our partners may be subject to data privacy and security regulation, including the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, and their respective implementing regulations, which impose specified requirements relating to the privacy, security and transmission of individually identifiable health information.

Most states also have statutes or regulations similar to these federal laws, which may apply to items such as pharmaceutical products and services reimbursed by private insurers. We and/or our partners may be subject to administrative, civil and criminal sanctions for violations of any of these federal and state laws. Pharmaceutical and other healthcare companies have been prosecuted under these laws for a variety of promotional and marketing activities, such as: providing free trips, free goods, sham consulting fees and grants and other monetary benefits to prescribers; reporting to pricing services inflated average wholesale prices that were then used by federal programs to set reimbursement rates; engaging in off-label promotion; and submitting inflated best price information to the Medicaid Rebate Program to reduce liability for Medicaid rebates.

If the third parties on which we rely for the conduct of our clinical trials and results do not perform our clinical trial activities in accordance with good clinical practices and related regulatory requirements, we may be unable to obtain regulatory approval for or commercialize our product candidates.

We use third-party service providers to conduct and/or oversee the clinical trials of our product candidates and expect to continue to do so for the foreseeable future. We rely heavily on these parties for successful execution of our clinical trials. Nonetheless, we are responsible for confirming that each of our clinical trials is conducted in accordance with FDA requirements and our general investigational plan and protocol.

The FDA requires us and our third-party service providers to comply with regulations and standards, commonly referred to as good clinical practices, or GCP, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate,

and that the trial participants are adequately protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities on schedule or may not conduct our clinical trials in accordance with regulatory or GCP requirements or the respective trial plans and protocols. In addition, third parties may not be able to repeat their past successes in clinical trials. The failure of these third parties to carry out their obligations could delay or prevent the development, approval and commercialization of our product candidates or result in enforcement action against us.

We have relied on, and expect to continue to rely on, third-party manufacturers to produce our product candidates.

We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of our product candidates, and we lack the resources and the capabilities to do so. As a result, we currently rely, and expect to rely for the foreseeable future, on third-party manufacturers to supply its product candidates. Reliance on third-party manufacturers entail risks to which we would not be subject if we manufactured our product candidates or products ourselves, including:

- reliance on third-parties for manufacturing process development, regulatory compliance and quality assurance;
- limitations on supply availability resulting from capacity and scheduling constraints of third-parties;
- the possible breach of manufacturing agreements by third-parties because of factors beyond our control; and
- the possible termination or non-renewal of manufacturing agreements by third-parties, at a time that is costly or inconvenient to us.

If we do not maintain our key manufacturing relationships, we may fail to find replacement manufacturer or develop our own manufacturing capabilities, which could delay or impair our ability to obtain regulatory approval for our products and substantially increase our costs or deplete profit margins, if any. If we do find replacement manufacturer, we may not be able to enter into agreements with them on terms and conditions favorable to us and there could be a substantial delay before new facilities could be qualified and registered with the FDA and other foreign regulatory authorities.

The FDA and other foreign regulatory authorities require manufacturers to register manufacturing facilities. The FDA and corresponding foreign regulators also inspect these facilities to confirm compliance with current good manufacturing practices, or cGMPs. Contract manufacturers may face manufacturing or quality control problems causing drug substance production and shipment delays or a situation where the contractor may not be able to maintain compliance with the applicable cGMP requirements. Any failure to comply with cGMP requirements or other FDA, European Medicines Agency, or EMA, and comparable foreign regulatory requirements could adversely affect our clinical research activities and our ability to develop our product candidates and market our products following approval.

Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins and our ability to develop our product candidates and commercialize any products that receive regulatory approval on a timely basis.

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

Because we rely on third parties to conduct our clinical trials and to produce our product candidates, we must, at times, share trade secrets with them. We seek to protect our proprietary

technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our third party contractors and consultants prior to disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have a material adverse effect on our business.

We previously identified a material weakness in our internal control over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause us to fail to meet our reporting obligations or fail to prevent fraud; and in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. If we fail to maintain an effective system of internal controls, we may be unable to report our financial results accurately or prevent fraud; and in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock. On March 31, 2017, we filed with the SEC an amendment to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 to correct certain errors therein. Management reported a material weakness in our system of internal control over financial reporting as of September 30, 2016. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. We are remediating this material weakness. We cannot assure you that the measures we have taken to date will be sufficient to avoid future material weaknesses. Even when we conclude that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, because of its inherent limitations, internal control over financial reporting may not prevent or detect fraud or misstatements.

Our reporting obligations as a public company will require significant managerial, operational and financial resources for the foreseeable future. If we fail to maintain the adequacy of our internal control over financial reporting, we may not be able to produce reliable financial reports or help prevent fraud. Our failure to maintain effective internal control over financial reporting could prevent us from filing our periodic reports on a timely basis which could result in the loss of investor confidence in the reliability of our financial statements, harm our business and negatively impact the trading price of our common stock.

Risks Relating to Our Intellectual Property

Our rights to develop and commercialize our product candidates are subject in part to the terms and conditions of a license to MGL-3196 granted to us by Roche.

We entered into a research, development and commercialization agreement, or the Roche Agreement, with Hoffmann-La Roche Pharmaceutical Company Limited, or Roche, on December 18, 2008. Pursuant to the terms of the Roche Agreement, we assumed control of all development and commercialization of MGL-3196 and will own exclusive worldwide rights for all potential indications. Roche assigned all patent rights relating to MGL-3196 to us and granted us an exclusive license to use certain know-how relating to MGL-3196 in exchange for consideration consisting of an upfront

payment, milestone payments tied to the achievement of product development and regulatory milestones, and royalty payments based on net sales of products containing MGL-3196, subject to certain reductions. We must use commercially reasonable efforts to conduct clinical and commercial development programs for products containing MGL-3196. If we determine that it is not reasonable to continue clinical trials or other development of MGL-3196, we may elect to cease further development and Roche may terminate the license. If we determine not to pursue the development or commercialization of MGL-3196 in certain jurisdictions, including the United States, Roche may terminate the license for such territories. The Roche Agreement will expire, unless earlier terminated pursuant to other provisions of the agreement, on the last to occur of (i) the expiration of the last valid claim of a licensed patent covering the manufacture, use or sale of products containing MGL-3196, or (ii) ten years after the first sale of a product containing MGL-3196.

We do not have, nor have we had, any material disputes with Roche regarding the Roche Agreement. However, if there is any future dispute between us and Roche regarding the parties' rights under the Roche Agreement, our ability to develop and commercialize MGL-3196 may be materially harmed. Any uncured, material breach under the Roche Agreement could result in our loss of exclusive rights to MGL-3196 and may lead to a complete termination of the Roche Agreement and force us to cease product development efforts for MGL-3196.

We may fail to comply with any of our obligations under agreements pursuant to which we license rights or technology, which could result in the loss of rights or technology that are material to our business.

We may enter into license agreements from time to time. Licensing of intellectual property is important to our business and involves complex legal, business and scientific issues. Disputes may arise regarding intellectual property subject to a licensing agreement, including but not limited to:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the ownership of inventions and know-how resulting from the joint creation or use of intellectual property by us and our licensors and collaborators; and
- the priority of invention of patented technology.

If disputes over intellectual property and other rights that we have licensed or acquired from third parties prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates.

Our success depends on our ability to protect our intellectual property and our proprietary technologies.

Our success depends on our ability to protect our intellectual property and our proprietary technologies. Our commercial success depends in part on our ability to obtain and maintain patent protection and trade secret protection for our product candidates, proprietary technologies, and their uses, as well as our ability to operate without infringing upon the proprietary rights of others.

We can provide no assurance that our patent applications or those of our licensors will result in additional patents being issued or that issued patents will afford sufficient protection against competitors with similar technologies, nor can we provide any assurance that the patents issued will not be infringed, designed around or invalidated by third parties. Even issued patents may later be found unenforceable or may be modified or revoked in proceedings instituted by third parties before various patent offices or in courts. The degree of future protection for our proprietary rights is uncertain. Only limited protection may be available and may not adequately protect our rights or permit us to gain or keep any competitive advantage. This failure to properly protect the intellectual property rights relating to our product candidates could have a material adverse effect on our financial condition and results of operations. Composition-of-matter patents on the biological or chemical active pharmaceutical ingredients are generally considered to offer the strongest protection of intellectual property and provide the broadest scope of patent protection for pharmaceutical products, as such patents provide protection without regard to any method of use or any method of manufacturing. While we own and have licensed rights to issue composition-of-matter patents in the United States and other jurisdictions for MGL-3196, we cannot be certain that the claims in issued composition-of-matter patents will not be found invalid or unenforceable if challenged. We cannot be certain that the claims in owned and licensed patent applications covering our product candidates will be considered patentable by the United States Patent and Trademark Office, or USPTO, and valid by courts in the United States or by the patent offices and courts in foreign jurisdictions. Even if we owned and licensed patent applications covering our product candidates, the patents may not be enforced against competitors. For example, a formulation patent will not be enforced against those making and marketing a product that has the same active pharmaceutical ingredient in a different formulation that is not claimed in the formulation patent. Method-of-use patents protect the use of a product for the specified method or for treatment of a particular indication. This type of patent may not be enforced against competitors making and marketing a product that has the same active pharmaceutical ingredient but is used for a method not claimed in the patent. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products "off-label." Although off-label prescriptions may infringe or contribute to the infringement of method-of-use patents, the practice is common and such infringement is difficult to prevent or prosecute.

Our licensed composition-of-matter patent from Roche for MGL-3196 is expected to expire in the United States in 2026. Our owned patents and pending patent applications that cover solid form, method of manufacturing, and use of MGL-3196 to treat various indications are expected to expire in 2033. While patent term adjustments or patent term extensions could result in later expiration dates for each of these patents, there can be no assurances that we will receive any patent adjustments or patent term extensions. The patent application process and patent maintenance and enforcement are subject to numerous risks and uncertainties, and there can be no assurance that we or any of our future development partners will be successful in protecting our product candidates by obtaining and defending patents. These risks and uncertainties include the following:

- the USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process and after a patent has issued. There are situations in which noncompliance can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case;

- patent applications may not result in any patents being issued;

- patents may be challenged, invalidated, modified, revoked, circumvented, found to be unenforceable or otherwise may not provide any competitive advantage;

- us and our licensor(s) may not have been the first to make the inventions covered by pending patent applications or issued patents;
- us and our licensor(s) may not have been the first to file patent applications for its product candidates or the compositions our developed, or for their uses;
- others may independently develop identical, similar or alternative products or compositions and uses thereof;
- us and our licensor(s)' disclosures in patent applications may not be sufficient to meet the statutory requirements for patentability;
- others may design around our owned and licensed patent claims to produce competitive products which fall outside of the scope of the patents;
- others may identify prior art or other bases which could invalidate our or licensor(s)' patents;
- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where us and our licensor(s) do not have patent rights, and then use the information learned from such activities to develop competitive products for sale in major commercial markets;
- there may be significant pressure on the United States government and international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful, as a matter of public policy regarding worldwide health concerns; and
- countries other than the United States may have patent laws less favorable to patentees than those upheld by United States courts, allowing foreign competitors a better opportunity to create, develop and market competing product candidates.

In addition, we rely on the protection of our trade secrets and proprietary know-how. Although we have taken steps to protect our trade secrets and unpatented know-how, including entering into confidentiality agreements with third parties, and confidential information and inventions agreements with employees, consultants and advisors, we cannot provide any assurances that any of these parties would not breach the agreements to disclose any proprietary information, including trade secrets, and we may not be able to obtain adequate remedies for such breaches. Further, third parties may still obtain this information by other means, such as breaches of our physical or computer security systems. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. Moreover, third parties may come upon this or similar information lawfully and independently. We would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. Further, intellectual property rights have limitations and do not necessarily address all potential threats to our competitive position. If any of these events occurs or if we otherwise lose protection for our trade secrets or proprietary know-how, our business may be harmed.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications will be prosecuted and may also affect patent litigation. In particular, under the Leahy-Smith Act, the United States transitioned in March 2013 to a "first inventor to file" system in which the first inventor to file a patent application will be entitled to the patent. Third parties are allowed to submit prior art before the issuance of a patent by

the USPTO, in which case a patent may become subject to post-grant proceedings including opposition, derivation, reexamination, *inter partes* review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope or enforceability of, or invalidate, our patent rights, which could adversely affect our competitive position.

Claims by third parties that we infringe their proprietary rights may result in liability for damages or prevent or delay our developmental and commercialization efforts.

The biotechnology industry has been characterized by frequent litigation regarding patent and other intellectual property rights. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates. As the biotechnology industry expands and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties. Because patent applications are maintained in secrecy until the application is published, we may be unaware of third party patents that may be infringed by commercialization of MGL-3196 or our other product candidates. Moreover, because patent applications can take many years to issue, there may be currently-pending patent applications that may later result in issued patents that our product candidates may infringe. In addition, identification of third party patent rights that may be relevant to our technology is difficult because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. Any claims of patent infringement asserted by third parties would be time consuming and could likely:

- result in costly litigation;
- divert the time and attention of our technical personnel and management;
- cause development delays;
- prevent us from commercializing MGL-3916 for NASH or FH or our other product candidates until the asserted patent expires or is held finally invalid or not infringed in a court of law;
- require us to develop non-infringing technology, which may not be possible on a cost-effective basis; or
- require us to enter into royalty or licensing agreements.

Although no third party has asserted a claim of patent infringement against us as of the filing date of this report, others may hold proprietary rights that could prevent MGL-3196 or our other product candidates from being marketed. Any patent-related legal action against us claiming damages and seeking to enjoin commercial activities relating to our product candidate or processes could subject us to potential liability for damages and require us to obtain a license to continue to manufacture or market MGL-3196 or our other product candidates. We cannot predict whether we would prevail in any such actions or that any license required under any of these patents would be made available on commercially acceptable terms, if at all. In addition, we cannot be sure that we could redesign our product candidate or processes to avoid infringement, if necessary. Accordingly, an adverse determination in a judicial or administrative proceeding, or the failure to obtain necessary licenses, could prevent us from developing and commercializing MGL-3196 or our other product candidates, which could harm our business, financial condition and operating results.

Moreover, we may be subject to a third party preissuance submission of prior art to the USPTO or in addition to interference proceedings, may become involved in opposition, derivation, reexamination, *inter partes* review, post-grant review or other post-grant proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our

technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time consuming, and unsuccessful. Further, our issued patents could be found invalid or unenforceable if challenged in court.

If we or any of our future development partners were to initiate legal proceedings against a third party to enforce a patent directed at one of our product candidates, or one of our future product candidates, the defendant could counterclaim that our patent is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement or insufficient written description. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. Third parties may also raise similar claims before the USPTO, even outside the context of litigation. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on such product candidate. Such a loss of patent protection would have a material adverse impact on our business.

Interference proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring our product candidates to market.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions, or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to the intellectual property, through licenses from third parties and under patents that we own, to develop our product candidates. Because our programs may require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license, or use these proprietary rights. For example, our product candidates may require specific formulations to work effectively and efficiently and the rights to these formulations may be

held by others. We may be unable to acquire or in-license any compositions, methods of use, processes, or other third party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third party intellectual property rights on terms that would allow us to make an appropriate return on our investment.

We may collaborate with U.S. and foreign academic institutions and industry collaborators to accelerate our preclinical or clinical research. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program.

If we are unable to successfully obtain rights to required third party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of that program and our business and financial condition could suffer.

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

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

In addition, these agreements typically restrict the ability of our advisors, employees, third party contractors and consultants to publish data potentially relating to our trade secrets, although our agreements may contain certain limited publication rights. For example, any academic institution that we may collaborate with in the future will usually expect to be granted rights to publish data arising out of such collaboration, provided that we are notified in advance and given the opportunity to delay publication for a limited time period in order for us to secure patent protection of intellectual property rights arising from the collaboration, in addition to the opportunity to remove confidential or trade secret information from any such publication. In the future we may also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development or similar agreements. Despite our efforts to protect our trade secrets, our competitors may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third party collaborators. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our registered or unregistered trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Our efforts to enforce or protect our proprietary rights related to trademarks, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

We may not be able to protect our intellectual property rights throughout the world.

While we have licensed from Roche issued composition-of-matter patents directed at MGL-3196 in the United States and other countries, filing, prosecuting and defending patents on MGL-3196 in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries may not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing its inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but enforcement is not as strong as that in the United States. These products may compete with MGL-3196, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce its intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Risks Related to Our Financial Position and Need for Capital

If we fail to obtain the capital necessary to fund our operations, we will be unable to successfully develop and commercialize MGL-3196 and other future product candidates.

Although we believe that our existing cash and cash equivalents will be sufficient to fund our current operations through at least the next 12 months, we will require substantial future working capital in order to complete the remaining clinical development for MGL-3196 and our other product candidates through potential regulatory approval and through potential commercialization of these product candidates. In particular, in order to initiate our Phase 3 clinical program for MGL-3196 in NASH, we will need to collaborate with a strategic partner or raise significant financing. We expect our spending levels to increase in connection with our clinical trials of MGL-3196 as well as other corporate activities. The amount and timing of any expenditure needed to implement our development and commercialization programs will depend on numerous factors, including:

- the type, number, scope, progress, expansion costs, results of and timing of our ongoing or future clinical trials or the need for additional clinical trials of MGL-3196 for NASH and FH or any of our other product candidates which we are pursuing or may choose to pursue in the future;
- the costs of obtaining, maintaining and enforcing our patents and other intellectual property rights;
- the costs and timing of obtaining regulatory approval for MGL-3196 for NASH and FH and any of our other product candidates;
- the costs and timing of obtaining or maintaining manufacturing for MGL-3196 for NASH and FH and any of our other product candidates, including commercial manufacturing if any product candidate is approved;
- the costs and timing of establishing sales, marketing and reimbursement capabilities and enhanced internal controls over financial reporting;
- the terms and timing of establishing and maintaining collaborations, license agreements and other partnerships;
- costs associated with any new product candidates that we may develop, in-license or acquire;
- the effect of competing technological and market developments; and
- the costs associated with being operating as a public company.

Some of these factors are outside of our control. We do not expect our existing capital resources to be sufficient to enable us to fund the completion of our clinical trials and commercialization of our product candidates. We expect that we will need to raise substantial additional funds in the future.

We have not sold any products, and we do not expect to sell or derive revenue from any product sales for the foreseeable future. We may seek additional funding through future debt and equity financings, as well as potential additional collaborations or strategic partnerships with other companies or through non-dilutive financings. Additional funding may not be available to us on acceptable terms or at all. In addition, the terms of any financing may adversely affect the holdings or the rights of our stockholders. In addition, the issuance of additional shares by us, or the possibility of such issuance, may cause the market price of our shares to decline.

If we are unable to obtain additional funding on a timely basis, we may be unable to complete ongoing and planned clinical trials for MGL-3196 for NASH and FH and any of our other product candidates, and we may be required to significantly curtail some or all of our activities. We also could

be required to seek funds through arrangements with collaborative partners or otherwise that may require us to relinquish rights to our product candidates or otherwise agree to terms unfavorable to us.

Our ability to use net operating loss and tax credit carryforwards and certain built-in losses to reduce future tax payments may be limited by provisions of the Internal Revenue Code.

Our net operating losses have been fully offset by a valuation allowance due to uncertainties surrounding our ability to realize these tax benefits. Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change" (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 net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. Similar rules may apply under state tax laws. We have not performed a detailed analysis to determine whether an ownership change under Section 382 of the Code, or similar state provisions, has previously occurred. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may become subject to limitations, which could potentially result in increased future tax liability to us and may be substantial.

Risks Relating to Ownership of Our Common Stock

The price of our common stock has been, and may continue to be, volatile.

Historically, the market price of our common stock has fluctuated over a wide range, and it is likely that the price of our common stock will continue to be volatile in the future. The market price of our common stock could be impacted due to a variety of factors, including, in addition to global and industry-wide events:

- the losses we may incur;
- developments in patent or other proprietary rights owned or licensed by us, our collaborative partners or our competitors;
- public concern as to the safety and efficacy of products developed by us or others; and
- litigation.

In addition, due to one or more of the foregoing factors in one or more future quarters, our results of operations may fall below the expectations of securities analysts and investors. In that event, the market price of our common stock could materially decline.

A small number of our stockholders beneficially own a substantial amount of our common stock and have substantial control over us; therefore, your ability to influence corporate matters may be limited.

Certain stockholders affiliated with our officers and directors collectively beneficially own or control approximately 52.4% of our outstanding common stock as of December 31, 2016 and acting together, may have the ability to affect matters submitted to our stockholders for approval. This concentration of ownership may have the effect of delaying, deferring or preventing a strategic transaction, even if such a transaction would benefit other stockholders.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our charter and bylaws may delay or prevent a merger, acquisition or other change of control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions include a classified board of directors. In addition,

we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits, with some exceptions, stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. Although we believe these provisions together provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if the offer may be considered beneficial by some stockholders.

Future sales and issuances of our common stock or rights to purchase common stock could result in additional dilution of the percentage ownership of our stockholders and could cause our share price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

Sales of a substantial number of shares of our common stock by our existing stockholders in the public market could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could significantly reduce the market price of our common stock and impair our ability to raise adequate capital through the sale of additional equity securities.

We do not anticipate paying cash dividends on our common stock, and accordingly, stockholders must rely on stock appreciation for any return on their investment.

We have never declared or paid any cash dividend on our common stock and do not anticipate paying cash dividends on our common stock in the future. As a result, the only return to stockholders will be appreciation in the price of our common stock, which may never occur. Investors seeking cash dividends should not invest in our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease our approximately 1,000 square-foot corporate headquarters facility located in West Conshohocken, Pennsylvania. We believe our facility is adequate for our current needs. Our lease expires in May 2017. We may need to acquire additional space as our business continues to grow. We continue to evaluate our facility requirements and believe that appropriate space will be available to accommodate our future needs.

Item 3. Legal Proceedings

We are currently not a party to any material legal proceedings.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

The term "Private Madrigal" refers to Madrigal Pharmaceuticals, Inc. prior to the consummation of the Merger.

Market Information

Our common stock is traded on the NASDAQ stock market under the symbol "MDGL" as of July 25, 2016, the trading date following the consummation of our merger with Private Madrigal. Prior to July 25, 2016, our common stock was traded on the NASDAQ stock market under the symbol "SNTA." The following table sets forth the quarterly high and low sales prices of our common stock. The per share prices for the third and fourth quarters of 2016 below reflect a 1-for-35 reverse stock split effected on July 22, 2016:

	Price Range	
2015:	High	Low
First Quarter	$ 2.98	$ 1.85
Second Quarter	3.17	1.91
Third Quarter	2.37	1.57
Fourth Quarter	2.08	0.29

2016:	High	Low
First Quarter	$ 0.36	$ 0.15
Second Quarter	0.45	0.23
Third Quarter	13.93	6.60
Fourth Quarter	18.24	12.60

Stockholders

On March 24, 2017, the last reported sale price of our common stock was $15.22 per share as reported by the NASDAQ Stock Market. As of March 24, 2017, there were approximately 44 stockholders of record of the 12,167,405 outstanding shares of our common stock.

Dividends

We have never paid or declared any cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, results of operations, contractual restrictions, capital requirements, and other factors that our board of directors deems relevant.

Unregistered Sales of Securities

We did not sell or issue any equity securities that were not registered under the Securities Act, except as previously disclosed on our Quarterly Reports on Form 10-Q.

Issuer Purchases of Equity Securities

None.

Item 6. Selected Financial Data.

We are a smaller reporting company and thus not required to disclose this information.

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

The Risk Factors in Part I, Item 1A of this Annual Report on Form 10-K, the audited financial statements and accompanying notes, included elsewhere in this Annual Report on Form 10-K, and this Management's Discussion and Analysis of Financial Condition and Results of Operations should be read together. In addition to historical information, this discussion and analysis contains forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. Operating results are not necessarily indicative of results that may occur for the full fiscal year or any other future period. The term "Private Madrigal" refers to Madrigal Pharmaceuticals, Inc. prior to the consummation of the Merger described herein. The term "Synta" refers to Synta Pharmaceuticals Corp. prior to the consummation of the Merger described herein. Unless otherwise indicated, references to the terms "Madrigal," the "Company," "we," "our" and "us" refer to Private Madrigal prior to the consummation of the Merger described herein and Madrigal Pharmaceuticals, Inc. (formerly known as Synta Pharmaceuticals Corp.) upon the consummation of the Merger described herein.

Overview

We are a clinical-stage biopharmaceutical company focused on the development and commercialization of innovative therapeutic candidates for the treatment of cardiovascular, metabolic and liver diseases. Our lead product candidate, MGL-3196, is a proprietary, liver-directed, selective thyroid hormone receptor-ß, or THR-ß, agonist that can potentially be used to treat a number of disease states with high unmet medical need. We are developing MGL-3196 for non-alcoholic steatohepatitis, or NASH and we have initiated a Phase 2 clinical trial in this indication. We are also developing MGL-3196 for dyslipidemia, particularly genetic dyslipidemias such as familial hypercholesterolemia, or FH, including both homozygous and heterozygous forms of the disease. We have initiated a Phase 2 clinical trial in heterozygous FH, or HeFH, patients and we are planning to conduct a proof-of-concept clinical trial in homozygous FH, or HoFH, patients. MGL-3196 is a once-daily oral pill that has been studied in four completed Phase 1 trials in a total of 129 subjects. MGL-3196 appeared to be safe and well-tolerated in these trials, which included a single ascending dose trial, a multiple ascending dose trial, and two drug interaction trials with statins.

Key Developments

Reverse Merger

On July 22, 2016, Synta completed its business combination with Private Madrigal in accordance with the terms of an Agreement and Plan of Merger and Reorganization, dated as of April 13, 2016, or the Merger Agreement. Pursuant to the Merger Agreement, Synta formed a wholly-owned subsidiary that merged with and into Private Madrigal, with Private Madrigal surviving the merger and becoming a wholly-owned subsidiary of Synta, or the Merger. In connection with, and prior to the consummation of, the Merger, Synta effected a 1-for-35 reverse stock split of its common stock, or the Reverse Stock Split, and, following the Merger, changed its name to "Madrigal Pharmaceuticals, Inc." All shares and per share amounts have been retrospectively adjusted to give effect to the Reverse Stock Split, except as otherwise disclosed. Following the consummation of the Merger, our business became the business conducted by Private Madrigal prior to the consummation of the Merger.

In October 2016, Madrigal initiated a Phase 2 clinical study in NASH ([NCT02912260] at www.ClinicalTrials.gov). The randomized, double-blind, placebo-controlled, multi-center Phase 2 study will enroll 117 patients 18 years of age and older with biopsy-confirmed NASH. Patients are randomized to receive either placebo or MGL-3196, twice as many receiving MGL-3196 as placebo. Efficacy will be confirmed at the end of the trial (36 weeks) by repeat Magnetic Resonance Imaging—Proton Density Fat Fraction (MRI-PDFF) and conventional liver biopsy to examine histological evidence for the resolution of NASH. Recent published data show a high correlation of reduction of

liver fat measured by MRI-PDFF to NASH scoring on liver biopsy. Other secondary endpoints include changes in clinically relevant biomarkers at 12 and 36 weeks, improvement in fibrosis by at least one stage with no worsening of steatohepatitis, and safety and tolerability. The Company expects to have top-line MRI-PDFF data from this study near year-end 2017.

In February 2017, Madrigal initiated a Phase 2 clinical study in HeFH ([NCT03038022] at www.ClinicalTrials.gov). The 12-week, randomized, double-blind, placebo-controlled, multi-center Phase 2 study is expected to enroll 105 patients with HeFH in several European countries. Patients will be randomized in a 2:1 ratio to receive either MGL-3196 or placebo, in addition to their current drug regimen (including high dose statins and/or ezetimibe). The primary endpoint of the study is reduction of LDL cholesterol, with secondary endpoints including reductions in triglycerides, Lp(a), and ApoB, as well as safety. Lp(a) is a severely atherogenic lipid particle, commonly elevated in familial hypercholesterolemia patients, the levels of which are not adequately reduced by existing lipid lowering therapies. THR-ß agonism is one of the few therapeutic approaches that can substantially lower Lp(a). The Company expects to have topline data from this study near year-end 2017.

Basis of Presentation

Research and Development Expenses

Research and development expenses primarily consist of costs associated with our research activities, including the preclinical and clinical development of our product candidates. We expense our research and development expenses as incurred. We contract with clinical research organizations to manage our clinical trials under agreed upon budgets for each study, with oversight by our clinical program managers. We account for nonrefundable advance payments for goods and services that will be used in future research and development activities as expenses when the service has been performed or when the goods have been received. Manufacturing expense includes costs associated with drug formulation development and clinical drug production. We do not track employee and facility related research and development costs by project, as we typically use our employee and infrastructure resources across multiple research and development programs. We believe that the allocation of such costs would be arbitrary and not be meaningful.

Our research and development expenses consist primarily of:

- salaries and related expense, including stock based compensation;
- external expenses paid to clinical trial sites, contract research organizations, laboratories, database software and consultants that conduct clinical trials;
- expenses related to development and the production of nonclinical and clinical trial supplies, including fees paid to contract manufacturers;
- expenses related to preclinical studies;
- expenses related to compliance with drug development regulatory requirements; and
- other allocated expenses, which include direct and allocated expenses for depreciation of equipment and other supplies.

We expect to continue to incur substantial expenses related to our development activities for the foreseeable future as we conduct our Phase 2 clinical program, manufacturing and toxicology studies. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials, additional drug manufacturing requirements, and later stage toxicology studies such as carcinogenicity studies. Our research and development expenses increased between 2015 and 2016, and we expect that our research and development expenses will increase substantially in the future. The

process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time consuming. The probability of success for each product candidate is affected by numerous factors, including preclinical data, clinical data, competition, manufacturing capability and commercial viability. Accordingly, we may never succeed in achieving marketing approval for any of our product candidates

Completion dates and costs for our clinical development programs as well as our research program can vary significantly for each current and future product candidate and are difficult to predict. As a result, we cannot estimate with any degree of certainty the costs we will incur in connection with the development of our product candidates at this point in time. We expect that we will make determinations as to which programs and product candidates to pursue and how much funding to direct to each program and product candidate on an ongoing basis in response to the scientific success of early research programs, results of ongoing and future clinical trials, our ability to enter into collaborative agreements with respect to programs or potential product candidates, as well as ongoing assessments as to each current or future product candidate's commercial potential.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, benefits and stock-based compensation expense for employees, management costs, costs associated with obtaining and maintaining our patent portfolio, professional fees for accounting, auditing, consulting and legal services, and allocated overhead expenses.

We expect that our general and administrative expenses may increase in the future as we expand our operating activities, maintain and expand our patent portfolio and incur additional costs associated with being a public company and maintaining compliance with exchange listing and SEC requirements. We expect these potential increases will likely include management costs, legal fees, accounting fees, directors' and officers' liability insurance premiums and expenses associated with investor relations.

Critical Accounting Policies and Estimates

Our management's 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, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities, and expenses and the disclosure of contingent assets and liabilities at the date of the financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued research and development expenses. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be 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 materially from these estimates under different assumptions or conditions.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs are comprised of costs incurred in performing research and development activities, including internal costs (including stock-based compensation), costs for consultants, and other costs associated with the Company's preclinical and clinical programs. In particular, Madrigal has conducted safety studies in animals, optimized and implemented the API manufacturing, and conducted Phase 1 & 2 clinical trials, all of which are considered research and development expenditures.

Stock-Based Compensation

We recognize stock-based compensation expense based on the grant date fair value of stock options granted to employees, officers and directors. We use the Black-Scholes option pricing model to determine the grant date fair value as our management believes it is the most appropriate valuation method for its option grants. The Black-Scholes model requires inputs for risk-free interest rate, dividend yield, volatility and expected lives of the options.

Certain of the employee stock options granted by us are structured to qualify as incentive stock options, or ISOs. Under current tax regulations, we do not receive a tax deduction for the issuance, exercise or disposition of ISOs if the employee meets certain holding requirements. If the employee does not meet the holding requirements, a disqualifying disposition occurs, at which time we may receive a tax deduction. We do not record tax benefits related to ISOs unless and until a disqualifying disposition is reported. In the event of a disqualifying disposition, the entire tax benefit is recorded as a reduction of income tax expense. We have not recognized any income tax benefit for its share-based compensation arrangements due to the fact that we do not believe it is more likely than not it will realize the related deferred tax assets.

Results of Operations

Comparison Years Ended December 31, 2016 and 2015

The following table provides comparative results of operations for the years ended December 31, 2016 and 2015 (in thousands):

	Year Ended December 31,		Increase/Decrease
	2016	2015	$
Research and Development Expenses	$ 15,933	$ 2,427	$ 13,506
General and Administrative Expenses	9,290	806	8,484
Interest Expense, net	1,164	3,612	(2,448)

Research and Development Expense

Our research and development expenses were $15.9 million for the year ended December 31, 2016 compared to $2.4 million for the year ended December 31, 2015. Research and development expenses increased in 2016 primarily due to increased expenses for our clinical and preclinical development programs for MGL-3196. Expense related to stock based compensation increased by $5.4 million, of which $4.8 million related to Private Madrigal's change in control bonus plan recognized at the Merger. With the exception of the expense related to Private Madrigal's change in control bonus plan, we expect our research and development expenses to increase over time as we advance our clinical and preclinical development.

General and Administrative Expense

Our general and administrative expenses were $9.3 million for the year ended December 31, 2016 compared to $0.8 million for the year ended December 31, 2015. The increase in general and administrative expenses for the year ended December 31, 2016 was primarily due to approximately $2.1 million in costs associated with the Merger and the increased operating expenses of maintaining a public company. Expense related to stock based compensation increased by $2.5 million, of which $.6 million was related to Private Madrigal's change in control bonus plan. With the exception of the Merger-related expenses, we believe that our general and administrative expenses may increase over time as we advance our clinical and preclinical development programs for MGL-3196 and continue

operating as a public company, both of which will likely result in an increase in our headcount, consulting services, and certain overhead needed to support those efforts.

Interest Expense

Our interest expense was $1.2 million for the year ended December 31, 2016 compared to $3.6 million for the year ended December 31, 2015. The decrease in interest expense was primarily driven by lower interest expense on our convertible notes outstanding. On April 13, 2016, we entered into the restated purchase agreement with certain of our investors whereby such investors committed $9.0 million of financing before the consummation of the Merger. Pursuant to the restated purchase agreement, Bay City Capital agreed to waive all accrued interest on the convertible notes incurred prior to April 13, 2016. In addition, the investors, including Bay City Capital, agreed that no interest would accrue on such convertible notes from the date of the restated purchase agreement through the date we consummated the Merger.

Liquidity and Capital Resources

As of December 31, 2016, we had cash, cash equivalents and marketable securities of $40.5 million. To date, we have funded our operations primarily through the issuance of convertible debt and the proceeds from the Merger. We believe our cash and cash equivalents will be sufficient to fund our operations through at least the first quarter of 2018, which is more than one year after the date the December 31, 2016 financial statements were issued.

On July 22, 2016, we completed the Merger with Synta which provided $42.6 million in cash, cash equivalents and marketable securities.

In December 2016, we sold an aggregate of 381,717 shares of common stock pursuant to the at-the-market issuance sales agreement (October 2015 Sales Agreement), with Cowen and Company, LLC (Cowen) for an aggregate of approximately $6.1 million in gross proceeds. Net proceeds to the Company were approximately $6.0 million after deducting commissions and other transactions costs. As of March 24, 2017, in 2017 the Company sold an aggregate of 215,539 shares of common stock pursuant to the October 2015 Sales Agreement for an aggregate of approximately $3.5 million in gross proceeds. Net proceeds to the Company were approximately $3.4 million after deducting commissions and other transactions costs. Approximately $90.4 million remained reserved under the Company's shelf registration statement and the applicable prospectus supplement for possible future issuance under the October 2015 Sales Agreement.

Our primary uses of capital are, and we expect will continue to be, funding research efforts and the development of our product candidates, compensation and related expenses, hiring additional staff, including clinical, scientific, operational, financial and management personnel, and costs associated with operating as a public company. We expect to incur substantial expenditures in the foreseeable future for the development and potential commercialization of our product candidates.

We plan to continue to fund losses from operations and capital funding needs through future equity and/or debt financings, as well as potential additional collaborations or strategic partnerships with other companies. The sale of additional equity or convertible debt could result in additional dilution to our stockholders. The incurrence of indebtedness would result in debt service obligations and could result in operating and financing covenants that would restrict our operations. We can provide no assurance that financing will be available in the amounts we need or on terms acceptable to us, if at all. If we are not able to secure adequate additional funding we may be forced to delay, make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. Any of these actions could materially harm our business.

Cash Flows

The following table provides a summary of our net cash flow activity (in thousands).

	December 31,	
	2016	2015
Net cash used in operating activities	$ (17,607)	$ (3,142)
Net cash provided by investing activities	21,992	—
Net cash provided by financing activities	14,454	3,300
Net increase in cash and cash equivalents	$ 18,839	$ 158

Net cash used in operating activities was $17.6 million for the year ended December 31, 2016 compared to $3.1 million for the year ended December 31, 2015. The use of cash in operating activities for the year ended December 31, 2016 reflected a net loss of $26.4 million from our operations, including costs related to the Merger, and changes in our operating assets and liabilities, partially offset by $1.2 million of interest expense related to our related party convertible notes and $8.7 million of stock-based compensation expense. The use of cash in operating activities for the year ended December 31, 2015 reflected a net loss of $6.8 million from our operations, partially offset by $3.6 million of interest expense related to our related party convertible notes.

Net cash provided by investing activities was $22.0 million for the year ended December 31, 2016 compared to zero for the year ended December 31, 2015. Net cash provided by investing activities for the year ended December 31, 2016 consisted of $5.9 million in cash received by us in the Merger, $0.7 million in net proceeds from the sale of assets and $26.1 million from sales and maturities of marketable securities in our investment portfolio, partially offset by $10.7 million of purchases of marketable securities for our investment portfolio.

Net cash provided by financing activities was $14.5 million for the year ended December 31, 2016 compared to $3.3 million for the year ended December 31, 2015. Net cash provided by financing activities for the year ended December 31, 2016 consisted of $6.0 million of net proceeds from the issuance of common stock and $8.5 million of net proceeds from the issuance of related party convertible notes. Net cash provided by financing activities for the year ended December 31, 2015 consisted of $2.8 million of net proceeds from the issuance of related party convertible notes and $0.5 million from related party advances.

Contractual Obligations

We are a smaller reporting company and are not required to disclose this information.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Recent Accounting Pronouncements

Refer to Note 2, "Summary of Significant Accounting Policies," in the accompanying notes to the consolidated financial statements for a discussion of recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are a smaller reporting company and are not required to disclose this information.

Item 8. Financial Statements and Supplementary Data.

The information required by this Item 8 is included at the end of this Annual Report on Form 10-K beginning on page F-1.

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

On July 22, 2016, our Audit Committee approved the dismissal of Ernst & Young LLP, or E&Y, as our independent registered public accounting firm, effective immediately. The reports of E&Y on our financial statements for each of the two years ended December 31, 2015 and December 31, 2014 did not contain an adverse opinion or a disclaimer of opinion, nor were they qualified or modified as to uncertainty, audit scope or accounting principles. In connection with the audit of our financial statements for each of the two years ended December 31, 2015 and December 31, 2014, and the subsequent interim periods through July 22, 2016, there were no "disagreements" (as that term is defined in Item 304(a)(1)(iv) of Regulation S-K and related instructions) between us and E&Y on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedures which, if not resolved to the satisfaction of E&Y, would have caused E&Y to make reference to the subject matter of the disagreement in their reports. This disclosure and the response by E&Y were filed on a Current Report on Form 8-K with the SEC on July 22, 2016.

Friedman LLP audited the financial results of Private Madrigal during the years ended December 31, 2015 and 2014. The audits of Private Madrigal did not contain an adverse opinion or disclaimer of opinion, and was not qualified or modified as to uncertainty, audit scope or accounting principles, except that the audited financial statements included a going concern qualification in the report of Friedman LLP. During the fiscal year ended December 31, 2015, and the subsequent interim periods preceding their dismissal, there were no disagreements with Friedman LLP, whether or not resolved, on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which, if not resolved to the satisfaction of Friedman LLP, would have caused them to make reference to the subject matter of the disagreement in connection with their report on the our financial statements.

On September 26, 2016, our Audit Committee approved, on our behalf, the engagement of PricewaterhouseCoopers LLP, or PwC, as our independent registered public accounting firm, effective as of September 28, 2016.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures

Our principal executive officer and principal financial officer evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Report. Based on such evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were not effective due to a material weakness in internal control over financial reporting described below in Management's Report on Internal Control over Financial Reporting. Notwithstanding the identified material weakness, our management, including our principal executive officer and principal financial officer, believe that the consolidated financial statements included in this Annual Report fairly represent in all material respects our financial condition, results of operations and cash flows at and for the periods presented in accordance with GAAP.

Limitations on the Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable,

not absolute, assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs. The design of any disclosure controls and procedures also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving it stated goals under all potential future conditions.

Management's Report On Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2016. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control—Integrated Framework" (2013). Based on its assessment our management concluded that a material weakness existed as described below.

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

We did not design and maintain effective controls over the accuracy of earnings per share and recapitalization of the prior year shares outstanding. Specifically, the design of our internal controls did not identify that certain shares associated with convertible promissory notes were improperly included in the calculation of weighted shares outstanding, which are used in the determination of earnings per share. The error that resulted from the material weakness required us to restate our interim financial statements for the three and nine months ended September 30, 2015 and 2016 for our earnings per share determination and the retrospective application of the recapitalization in the reverse merger. Additionally, this material weakness could result in misstatements of the aforementioned disclosure that would result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected.

Based on its assessment our management has also concluded that, while there were no misstatements identified in the consolidated financial statements in this Annual Report, our internal control over financial reporting is not effective as of December 31, 2016.

Changes in Internal Control Over Financial Reporting

There have been no changes in internal control over financial reporting during the quarter ended December 31, 2016 that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Remediation Efforts to Address the Material Weakness

Our management has corrected the process of calculating our earnings per share, including additional instruction to our accounting staff on the calculation of earnings per share. No other changes were required to remediate the control. With the effective operation of these enhanced controls, we expect remediation of the material weakness in fiscal 2017.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item will be contained in our definitive proxy statement on Schedule 14A to be filed with the SEC in connection with our 2017 annual meeting of stockholders, or the Proxy Statement, which we expect to file not later than 120 days after the end of our year ended December 31, 2016, and is incorporated in this report by reference.

Item 11. Executive Compensation.

The information required by this item will be contained in our Proxy Statement, which we expect to file not later than 120 days after the end of our year ended December 31, 2016, and is incorporated in this report by reference.

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

The information required by this item will be contained in our Proxy Statement, which we expect to file not later than 120 days after the end of our year ended December 31, 2016, and is incorporated in this report by reference.

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

The information required by this item will be contained in our Proxy Statement, which we expect to file not later than 120 days after the end of our year ended December 31, 2016, and is incorporated in this report by reference.

Item 14. Principal Accountant Fees and Services

The information required by this item will be contained in our Proxy Statement, which we expect to file not later than 120 days after the end of our year ended December 31, 2016, and is incorporated in this report by reference.

PART IV

Item 15. **EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

Item 15(a) The following documents are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

Item 15(a)(1) and (2) The Consolidated Financial Statements beginning on page F-1 are filed as part of this Annual Report on Form 10-K. Other financial statement schedules have been omitted because the information required to be presented in them is not applicable or is shown in the financial statements or related notes.

Item 15(a)(3) We have filed, or incorporated into this Annual Report on Form 10-K by reference, the exhibits listed on the accompanying Exhibit Index.

Item 15(b) See Item 15(a)(3) above.

Item 15(c) See Item 15(a)(2) above.

The following is a list of exhibits filed as part of, or incorporated by reference into, this Annual Report on Form 10-K.

Exhibit Number	Exhibit Description	Filed Herewith	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
2.1	Agreement and Plan of Merger and Reorganization, dated April 13, 2016, by and among Synta, Madrigal and Saffron Merger Sub, Inc.		DEFA14A; Form 8-K (Exhibit 2.1)	04/14/16	001-33277
3.1	Restated Certificate of Incorporation of the Registrant.	X			
3.2	Bylaws of the Registrant, as amended April 13, 2016.		DEFA14A; Form 8-K (Exhibit 3.1)	04/14/16	001-33277
Equity Agreements					
10.1	Sales Agreement, dated October 16, 2015, by and between the Registrant and Cowen and Company, LLC.		Form 8-K (Exhibit 10.1)	10/16/15	001-33277
Agreements with Respect to Collaborations, Licenses, Research and Development					
10.2†	Research, Development and Commercialization Agreement, dated December 18, 2008, by and between Hoffmann-La Roche, Inc., F. Hoffmann-La Roche Ltd and the Registrant.		Form 10-Q (Exhibit 10.5)	11/14/16	001-33277
Equity Compensation Plans					
10.3*	Amended and Restated 2006 Stock Plan.		Form 8-K (Exhibit 10.1)	06/21/10	001-33277

Exhibit Number	Exhibit Description	Filed Herewith	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.4*	Form of Incentive Stock Option Agreement under 2006 Stock Plan.		Form S-1/A (Exhibit 10.2(a))	01/23/07	333-138894
10.5*	Form of Nonqualified Stock Option Agreement under 2006 Stock Plan.		Form S-1/A (Exhibit 10.2(b))	01/23/07	333-138894
10.6*	Form of Restricted Stock Agreement under 2006 Stock Plan.		Form S-1/A (Exhibit 10.2(c))	01/23/07	333-138894
10.7*	Form of Nonqualified Stock Option Agreement for Directors under 2006 Stock Plan.		Form S-1/A (Exhibit 10.2(d))	01/23/07	333-138894
10.8*	Form of Restricted Stock Agreement for Non-Employee Directors under 2006 Stock Plan.		Form S-1/A (Exhibit 10.2(e))	01/23/07	333-138894
10.9*	Amended 2015 Stock Plan		Form 8-K (Exhibit 10.1)	07/22/16	001-33277
10.10*	Form of Incentive Stock Option Agreement under Amended 2015 Stock Plan.	X			
10.11*	Form of Nonqualified Stock Option Agreement under Amended 2015 Stock Plan.	X			
10.12*	Form of Restricted Stock Agreement under Amended 2015 Stock Plan.	X			
10.13*	Form of Nonqualified Stock Option Agreement for Directors under Amended 2015 Stock Plan.	X			
10.14*	Form of Restricted Stock Unit Agreement under Amended 2015 Stock Plan.		Form 10-Q (Exhibit 10.1)	05/10/16	001-33277
Agreements with Executive Officers and Directors					
10.15*	Non-Qualified Stock Option Agreement, dated February 27, 2008, by and between the Registrant and Keith R. Gollust.		Form 10-K (Exhibit 10.4)	03/20/08	001-33277

Exhibit Number	Exhibit Description	Filed Herewith	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.16*	Letter Agreement, dated January 14, 2003, by and between the Registrant and Wendy E. Rieder.		Form S-1/A (Exhibit 10.18)	12/01/06	333-138894
10.17*	Letter Agreement, dated December 3, 2014, between Synta Pharmaceuticals Corp. and Chen Schor.		Form 8-K (Exhibit 10.1)	12/04/14	001-33277
10.18*	Offer Letter Addendum, dated as of June 9, 2015, by and between the Registrant and Chen Schor.		Form 10-Q (Exhibit 10.3)	08/06/15	001-33277
10.19*	Letter Agreement, dated November 24, 2014, between Synta Pharmaceuticals Corp. and Marc R. Schneebaum		Form 8-K (Exhibit 10.3)	12/04/14	001-33277
10.20*	Form of Severance and Change in Control Agreement between the Registrant and each of Keith S. Ehrlich and Wendy E. Rieder.		Form 10-K (Exhibit 10.31)	03/11/10	001-33277
10.21*	Severance and Change of Control Agreement, dated December 3, 2014, between Synta Pharmaceuticals Corp. and Chen Schor.		Form 8-K (Exhibit 10.2)	12/04/14	001-33277
10.22*	Severance and Change of Control Agreement, dated November 24, 2014, between Synta Pharmaceuticals Corp. and Marc R. Schneebaum.		Form 8-K (Exhibit 10.4)	12/04/14	001-33277
10.23*	Form of Indemnification Agreement between the Registrant and certain directors and executive officers.		Form 8-K (Exhibit 10.2)	07/22/16	001-33277
10.24*	Non-Qualified Stock Option Agreement (outside of the Amended and Restated 2006 Stock Plan), dated December 8, 2014, between the Registrant and Marc Schneebaum.		Form 10-K (Exhibit 10.46)	03/12/15	001-33277

Exhibit Number	Exhibit Description	Filed Herewith	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.25	Letter Agreement, dated April 13, 2016, by and between the Company and Paul A. Friedman, MD		Form 8-K (Exhibit 10.3)	07/22/16	001-33277
10.26	Letter Agreement, dated April 13, 2016, by and between the Company and Rebecca Taub, MD		Form 8-K (Exhibit 10.4)	07/22/16	001-33277
16.1	Letter from Ernst & Young LLP dated July 22, 2016		Form 8-K (Exhibit 16.1)	07/22/16	001-33277
21.1	List of Subsidiaries.	X			
23.1	Consent of Friedman LLP, Independent Registered Public Accounting Firm	X			
23.2	Consent of PricewaterhouseCoopers, Independent Registered Public Accounting Firm.	X			
31.1	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X			
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X			
32.1**	Certifications of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X			
101.INS	XBRL Instance Document.	X			
101.SCH	XBRL Taxonomy Extension Schema Document.	X			

Exhibit Number	Exhibit Description	Filed Herewith	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	X			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	X			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	X			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	X			

* Indicates a management contract, compensatory plan or arrangement.

** The certifications attached as Exhibits 32.1 and 32.2 that accompany this Annual Report on Form 10-K are not deemed filed with the SEC and are not to be incorporated by reference into any filing of the registrant 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 this Annual Report on Form 10-K, regardless of any general incorporation language contained in any filing.

† Confidential portions of these documents have been filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.

SIGNATURES

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

MADRIGAL PHARMACEUTICALS INC.

Date: March 31, 2017 By: /s/ PAUL A. FRIEDMAN, M.D.

Paul A. Friedman, M.D.
Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below hereby constitutes and appoints Paul A. Friedman, M.D. and Marc R. Schneebaum, and each or either of them, acting individually, as his or her true and lawful attorney-in-fact and agent, 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 to this Report, and to file the same, with all exhibits thereto and other documents in connection therewith, with the SEC, granting unto said attorney-in-fact and agent, 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 for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or any of them, or their or his or her substitutes, may lawfully do or cause to be done or by virtue hereof.

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

Signatures	Title	Date
/s/ PAUL A. FRIEDMAN, M.D. Paul A. Friedman, M.D.	Chairman of the Board of Directors and Chief Executive Officer (Principal Executive Officer)	March 31, 2017
/s/ MARC R. SCHNEEBAUM Marc R. Schneebaum	Chief Financial Officer (Principal Accounting and Financial Officer)	March 31, 2017
/s/ REBECCA TAUB, M.D. Rebecca Taub, M.D.	Director	March 31, 2017
/s/ FRED B. CRAVES, PH.D. Fred B. Craves, Ph.D.	Director	March 31, 2017

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Signatures	Title	Date
/s/ KENNETH M. BATE Kenneth M. Bate	Director	March 31, 2017
/s/ KEITH R. GOLLUST Keith R. Gollust	Director	March 31, 2017
/s/ DAVID MILLIGAN, PH.D. David Milligan, Ph.D.	Director	March 31, 2017
/s/ RICHARD S. LEVY, M.D. Richard S. Levy, M.D.	Director	March 31, 2017

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Madrigal Pharmaceuticals, Inc.

In our opinion, the accompanying consolidated balance sheet as of December 31, 2016 and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for the year then ended, present fairly, in all material respects, the financial position of Madrigal Pharmaceuticals, Inc. and its subsidiaries as of December 31, 2016, and the results of their operations and their cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
March 31, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Madrigal Pharmaceuticals, Inc.

We have audited the accompanying balance sheet of Madrigal Pharmaceuticals, Inc. (the "Company") as of December 31, 2015 and the related statements of operations, comprehensive loss, changes in stockholders' equity (deficit), and cash flows for the year then ended. The Company's management is responsible for these financial statements. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, 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. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2015, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As described in Note 4 to the financial statements, the Company has sustained recurring losses from operations, has not yet generated any revenues, and has a working capital deficiency of approximately $48,913,000 at December 31, 2015. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans regarding these matters are also described in Note 4. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Friedman LLP

East Hanover, NJ
April 12, 2016, except for Note 13, as to which date is March 31, 2017

MADRIGAL PHARMACEUTICALS, INC.

Consolidated Balance Sheets

	December 31, 2016	December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents	$ 19,144,983	$ 306,249
Marketable securities	21,354,525	—
Other receivable—related party	—	7,332
Prepaid expenses and other current assets	707,971	50,000
Total current assets	41,207,479	363,581
Property and equipment, net	2,946	—
Total assets	$ 41,210,425	$ 363,581
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 762,035	$ 102,293
Accrued expenses	4,037,888	70,203
Convertible promissory notes payable—related parties	—	48,595,166
Advances payable—related party	—	500,000
Accrued interest on advances—related party	—	9,278
Total current liabilities	4,799,923	49,276,940
Total liabilities	4,799,923	49,276,940
Stockholders' equity:		
Preferred stock, par value $0.0001 per share authorized: 5,000,000 shares at December 31, 2016 and December 31, 2015; no shares issued and outstanding at each of December 31, 2016 and December 31, 2015	—	—
Common stock, par value $0.0001 per share authorized: 200,000,000 shares at December 31, 2016 and December 31, 2015, respectively; 11,951,866 and 176,158 shares issued and outstanding at December 31, 2016 and December 31, 2015, respectively	1,195	18
Additional paid-in-capital	111,691,351	6,213
Accumulated other comprehensive income	25,404	—
Accumulated deficit	(75,307,448)	(48,919,590)
Total stockholders' equity (deficit)	36,410,502	(48,913,359)
Total liabilities and stockholders' equity	$ 41,210,425	$ 363,581

See accompanying notes to consolidated financial statements.

MADRIGAL PHARMACEUTICALS, INC.

Consolidated Statements of Operations

	Years Ended December 31,	
	2016	2015
Revenues:		
Total revenues	$ —	$ —
Operating expenses:		
Research and development	15,933,483	2,427,170
General and administrative	9,290,158	805,762
Total operating expenses	25,223,641	3,232,932
Loss from operations	(25,223,641)	(3,232,932)
Interest expense	(1,212,520)	(3,611,931)
Interest income	48,303	—
Net loss	$ (26,387,858)	$ (6,844,863)
Net loss per common share:		
Basic and diluted net loss per common share	$ (5.07)	$ (40.03)
Basic and diluted weighted average number of common shares outstanding	5,204,644	171,012

See accompanying notes to consolidated financial statements.

MADRIGAL PHARMACEUTICALS, INC.

Consolidated Statements of Comprehensive Loss

	Years Ended December 31,	
	2016	2015
Net Loss	$ (26,387,858)	$ (6,844,863)
Other comprehensive income (loss):		
Unrealized gain on available-for-sale securities	25,404	—
Comprehensive loss	$ (26,362,454)	$ (6,844,863)

See accompanying notes to consolidated financial statements.

MADRIGAL PHARMACEUTICALS, INC.

Consolidated Statements of Stockholders' Equity

	Common stock		Additional paid-in Capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balance at December 31, 2014	166,469	$ 17	$ 6,208	$ —	$(42,074,727)	$(42,068,502)
Issuance of restricted common shares	9,689	1	5	—	—	6
Net loss					(6,844,863)	(6,844,863)
Balance at December 31, 2015	176,158	$ 18	$ 6,213	$ —	$(48,919,590)	$(48,913,359)
Related party debt restructuring			11,224,294			11,224,294
Conversion of convertible notes and related accrued interest to common stock	7,087,186	708	47,591,814			47,592,522
Retirement of restricted stock	(9,689)	(1)	(5)			(6)
Acquisition of Synta	4,029,138	403	38,236,075			38,236,478
Issuance of shares to financial advisors in connection with Merger	79,101	8	749,992			750,000
Issuance of restricted common shares	208,255	21				21
Issuance of common shares in equity offering, net of transaction costs	381,717	38	5,953,794			5,953,832
Compensation related to share-based awards			7,929,174			7,929,174
Unrealized gain on marketable securities				25,404		25,404
Net loss					(26,387,858)	(26,387,858)
Balance at December 31, 2016	11,951,866	$ 1,195	$111,691,351	$ 25,404	$(75,307,448)	$ 36,410,502

See accompanying notes to consolidated financial statements.

MADRIGAL PHARMACEUTICALS, INC.

Consolidated Statements of Cash Flows

	Years Ended December 31,	
	2016	2015
Cash flows from operating activities:		
Net loss	$ (26,387,858)	$ (6,844,863)
Adjustments to reconcile net loss to net cash used in operating activities:		
PIK interest expense on convertible promissory notes payable—related parties	1,206,853	3,602,653
Stock-based compensation expense	7,929,174	—
Other share based compensation	750,000	—
Depreciation and amortization	156	—
Changes in operating assets and liabilities:		
Accounts receivable—related parties	7,332	38,823
Prepaid expenses and other current assets	1,290,470	(50,000)
Accounts payable	(128,058)	87,083
Accrued expense	(2,281,366)	15,203
Accrued interest—related party	5,677	9,278
Net cash used in operating activities	(17,607,620)	(3,141,823)
Cash flows from investing activities:		
Cash received from merger transaction	5,849,278	—
Purchases of marketable securities	(10,696,781)	—
Sales and maturities of marketable securities	26,062,846	—
Purchases of property and equipment	(3,080)	—
Net proceeds from the sale of property, equipment and other assets	697,509	—
Release of restricted cash	82,500	—
Net cash provided by investing activities	21,992,272	—
Cash flows from financing activities:		
Proceeds from issuance of common stock, net of transaction costs	5,953,832	6
Proceeds from convertible notes—related parties	8,500,250	2,800,000
Proceeds from advances—related party	—	500,000
Net cash provided by financing activities	14,454,082	3,300,006
Net increase in cash and cash equivalents	18,838,734	158,183
Cash and cash equivalents at beginning of period	306,249	148,066
Cash and cash equivalents at end of period	$ 19,144,983	$ 306,249
Supplemental disclosure of non-cash financing activities:		
Exchange of related party advances payable for convertible notes	500,000	—
Related party debt restructuring	13,680,000	—

See accompanying notes to consolidated financial statements.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements

1. Organization, Business and Basis of Presentation

Organization and Business

Madrigal Pharmaceuticals, Inc. (the "Company" or "Madrigal") was incorporated on August 19, 2011 and commenced operations in September 2011. On September 14, 2011, the Company entered into an Assignment and Issuance Agreement pursuant to which the Company was assigned the rights, title and interest in and to the tangible and intangible assets owned by Bay City Capital Fund IV, L.P. ("Lender A") and Bay City Capital Fund IV Co-Investment Fund, L.P ("Lender B" and together with Lender A, "BCC"), in exchange for the assumption of outstanding convertible promissory notes. Assets contributed to the Company were primarily intangible assets related to several drug development programs of VIA Pharmaceuticals, Inc. ("VIA"), which was an investee company of BCC.

The underlying assets of VIA transferred to BCC and subsequently contributed to the Company were notionally valued at $3 million. BCC credit bid $3 million for the VIA assets as part of an assignment for the benefit of creditors process. Due to the common control nature of the transaction and in accordance with accounting principles generally accepted in the United States of America ("GAAP"), the assigned assets and liabilities were recorded by the Company at their respective carryover basis which was zero for the tangible and intangible assets and $23.4 million for the assumed debt. In 2012, Madrigal entered into a transaction with Tallikut Pharmaceuticals, Inc. ("Tallikut") whereby Madrigal sold certain assets to Tallikut in exchange for the assumption of $2 million of convertible promissory notes. On July 22, 2016 the Company completed a reverse merger (the "Merger") into Synta Pharmaceuticals Corp. ("Synta") (see Note 3). Upon the consummation of the Merger, the historical financial statements of Madrigal become the Company's historical financial statements. Accordingly, the historical financial statements of Madrigal are included in the comparative prior periods.

The Company is developing novel, high-quality small-molecule drugs addressing major unmet needs in cardiovascular and metabolic diseases. The lead compound MGL-3196 is being advanced for non-alcoholic steatohepatitis (NASH), a liver disease that commonly affects people with metabolic diseases such as obesity and diabetes, and indications in dyslipidemia, particularly genetic dyslipidemias such as familial hypercholesterolemia, or FH, including both homozygous and heterozygous forms of the disease. The Company initiated a Phase II study of MGL-3196 in NASH in October of this year. In February of 2017, the Company initiated a Phase II study of MGL-3196 in patients with Heterozygous Familial Hypercholesterolemia (HeFH).

2. Summary of Significant Accounting Policies

Principle of Consolidation

The consolidated financial statements include the financial statements of the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect certain reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. The Company bases its estimates on historical

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

experience and various other assumptions that management believes to be reasonable under the circumstances. Changes in estimates are recorded in the period in which they become known. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less at the date of purchase to be cash equivalents. The Company maintains its cash in bank accounts, the balance of which, at times, exceeds Federal Deposit Insurance Corporation insured limits.

The primary objective of the Company's investment activities is to preserve its capital for the purpose of funding operations and the Company does not enter into investments for trading or speculative purposes. The Company's cash is deposited in highly rated financial institutions in the United States. The Company invests in money market funds and high-grade, short-term commercial paper and corporate bonds, which management believes are subject to minimal credit and market risk.

Marketable Securities

Marketable securities consist of investments in high-grade corporate obligations, and government and government agency obligations that are classified as available-for-sale. Since these securities are available to fund current operations they are classified as current assets on the consolidated balance sheets.

The Company adjusts the cost of available-for-sale debt securities for amortization of premiums and accretion of discounts to maturity. The Company includes such amortization and accretion as a component of interest income, net. Realized gains and losses and declines in value, if any, that the Company judges to be other-than-temporary on available-for-sale securities are reported as a component of interest income, net. To determine whether an other-than-temporary impairment exists, the Company considers whether it intends to sell the debt security and, if the Company does not intend to sell the debt security, it considers available evidence to assess whether it is more likely than not that it will be required to sell the security before the recovery of its amortized cost basis. During the years ended December 31, 2016 and 2015, the Company determined it did not have any securities that were other-than-temporarily impaired.

Marketable securities are stated at fair value, including accrued interest, with their unrealized gains and losses included as a component of accumulated other comprehensive income or loss, which is a separate component of stockholders' equity. The fair value of these securities is based on quoted prices and observable inputs on a recurring basis. Realized gains and losses are determined on the specific identification method. During the years ended December 31, 2016 and 2015, the Company did not have any realized gains or losses on marketable securities.

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments, which include cash equivalents, and marketable securities, approximate their fair values. The fair value of the Company's financial instruments reflects the amounts that would be received upon sale of an asset or paid to transfer a

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy has the following three levels:

Level 1—quoted prices in active markets for identical assets and liabilities.

Level 2—observable inputs other than Level 1 inputs. Examples of Level 2 inputs include quoted prices in active markets for similar assets or liabilities and quoted prices for identical assets or liabilities in markets that are not active.

Level 3—unobservable inputs that reflect the Company's own assumptions about the assumptions market participants would use in pricing the asset or liability.

Financial assets and liabilities are classified in their entirety within the fair value hierarchy based on the lowest level of input that is significant to the fair value measurement. The Company measures the fair value of its marketable securities by taking into consideration valuations obtained from third-party pricing sources. The pricing services utilize industry standard valuation models, including both income and market based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include reported trades of and broker-dealer quotes on the same or similar securities, issuer credit spreads, benchmark securities and other observable inputs. As of December 31, 2016, the Company's financial assets valued based on Level 1 inputs consisted of cash and cash equivalents in a money market fund and its financial assets valued based on Level 2 inputs consisted of high-grade corporate bonds and commercial paper. During the years ended December 31, 2016 and 2015, the Company did not have any transfers of financials assets between Levels 1 and 2. As of December 31, 2016, the Company did not have any financial liabilities that were recorded at fair value on a recurring basis on the balance sheet.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development costs are comprised of costs incurred in performing research and development activities, including internal costs (including stock-based compensation), costs for consultants, and other costs associated with the Company's preclinical and clinical programs. In particular, Madrigal has conducted safety studies in animals, optimized and implemented the API manufacturing, and conducted Phase 1 & 2 clinical trials, all of which are considered research and development expenditures.

Patents

Costs to secure and defend patents are expensed as incurred and are classified as general and administrative expense in the Company's statements of operations. Patent expenses were approximately $242,000 and $62,000 for the years ended December 31, 2016 and 2015, respectively.

Stock-Based Compensation

The Company recognizes stock-based compensation expense based on the grant date fair value of stock options granted to employees, officers and directors. The Company uses the Black-Scholes option pricing model to determine the grant date fair value as management believes it is the most appropriate valuation method for its option grants. The Black-Scholes model requires inputs for risk-free interest rate, dividend yield, volatility and expected lives of the options.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Certain of the employee stock options granted by the Company are structured to qualify as incentive stock options (ISOs). Under current tax regulations, the Company does not receive a tax deduction for the issuance, exercise or disposition of ISOs if the employee meets certain holding requirements. If the employee does not meet the holding requirements, a disqualifying disposition occurs, at which time the Company may receive a tax deduction. The Company does not record tax benefits related to ISOs unless and until a disqualifying disposition is reported. In the event of a disqualifying disposition, the entire tax benefit is recorded as a reduction of income tax expense. The Company has not recognized any income tax benefit for its share-based compensation arrangements due to the fact that the Company does not believe it is more likely than not it will realize the related deferred tax assets.

Income Taxes

The Company uses the asset and liability method to account for income taxes. Deferred tax assets and liabilities are determined based on the expected future tax consequences of temporary differences between the Company's financial statement carrying amounts and the tax basis of assets and liabilities using enacted tax rates expected to be in effect in the years in which the differences are expected to reverse. The Company currently maintains a 100% valuation allowance on its deferred tax assets.

Comprehensive Loss

Comprehensive loss is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. Changes in unrealized gains and losses on marketable securities represent the only difference between the Company's net loss and comprehensive loss.

Basic and Diluted Loss Per Common Share

Basic net loss per share is computed using the weighted average number of common shares outstanding during the period, excluding restricted stock that has been issued but is not yet vested. Diluted net loss per common share is computed using the weighted average number of common shares outstanding and the weighted average dilutive potential common shares outstanding using the treasury stock method. However, for the years ended December 31, 2016 and 2015, diluted net loss per share is the same as basic net loss per share as the inclusion of weighted average shares of unvested restricted common stock and common stock issuable upon the exercise of stock options would be anti-dilutive.

The following table summarizes outstanding securities not included in the computation of diluted net loss per common share as their inclusion would be anti-dilutive:

	December 31,	
	2016	2015
Common stock options	784,011	—
Unvested restricted common stock	157,262	—
Conversion option on promissory notes—related parties	—	541,435

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

Recent Accounting Pronouncements

In August 2016, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") No. 2016-15, *"Statement of Cash Flows (Topic 230): Clarification of Certain Cash Receipts and Cash Payments."* The objective of ASU 2016-15 is to eliminate the diversity in practice related to the classification of certain cash receipts and payments in the statement of cash flows, by adding or clarifying guidance on eight specific cash flow issues. For public business entities, ASU 2016-15 is effective for annual and interim reporting periods beginning after December 15, 2017, with early adoption permitted. ASU 2015-16 provides that the amendments in the update should be applied retrospectively to all periods presented, unless deemed impracticable, in which case, prospective application is permitted. The Company is currently evaluating the impact this standard may have on our financial statements.

In March 2016, the FASB, issued ASU No. 2016-09, *"Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting,"* which changes the accounting for certain aspects of share-based payments to employees. The amendments in this ASU require the recognition of the income tax effects of awards in the income statement when the awards vest or are settled, thus eliminating additional paid-in capital pools. The standard also allows the employer to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting. In addition, the standard allows for a policy election to account for tax forfeitures as they occur rather than on an estimated basis. The amendments in this ASU are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods. The Company is currently evaluating the impact of adopting this standard.

In January 2016, the FASB issued ASU No. 2016-01, *"Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities,"* which amends the guidance in U.S. generally accepted accounting principles on the classification and measurement of financial instruments. Changes to the current guidance primarily affect the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. In addition, the ASU clarifies guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. The amendments in this ASU are effective for fiscal years and interim periods beginning after December 15, 2017, and are to be adopted by means of a cumulative-effect adjustment to the balance sheet at the beginning of the first reporting period in which the guidance is effective. Early adoption is not permitted except for the provision to record fair value changes for financial liabilities under the fair value option resulting from instrument-specific credit risk in other comprehensive income. The Company is currently evaluating the impact of adopting this standard.

In November 2015, the FASB issued ASU No. 2015-17, *Income Taxes (Topic 740), Balance Sheet Classification of Deferred Taxes.* This ASU is intended to simplify the presentation of deferred income taxes by requiring that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position. The amendments in this ASU are effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods, with early application permitted. The Company adopted ASU No. 2015-17 effective December 31, 2016.

In August 2014, the FASB issued ASU No. 2014-15,*—Presentation of Financial Statements—Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*. This ASU is intended to define management's responsibility to evaluate whether there is

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

2. Summary of Significant Accounting Policies (Continued)

substantial doubt about an organization's ability to continue as a going concern within one year of the date of issuance of the entity's financial statements and to provide related footnote disclosures. This guidance is effective for fiscal years ending after December 15, 2016, with early application permitted. The Company adopted ASU No. 2014-15 effective December 31, 2016.

In June 2014, the FASB issued ASU No. 2014-12,—*Compensation—Stock Compensation (Topic 718), Accounting for Share-Based Payments When the Terms of an Award Provide That a Performance Target Could Be Achieved after the Requisite Service Period*. ASU No. 2014-12 requires that a performance target that affects vesting and that could be achieved after the requisite service period be treated as a performance condition. The amendments in this update apply prospectively to all share-based payment awards that are granted or modified on or after the effective date, or retrospectively to all awards with performance targets that are outstanding as of the beginning of the earliest annual period presented in the consolidated financial statements, and to all new or modified awards thereafter. ASU No. 2014-12 is effective for annual periods and interim periods within those annual periods, beginning after December 15, 2015. The Company adopted ASU No. 2014-12 effective January 1, 2016.

3. Reverse Merger

On July 22, 2016, the Company, Synta and Saffron Merger Sub, Inc., a wholly-owned subsidiary of Synta ("Merger Sub"), completed their merger transaction pursuant to which Merger Sub merged with and into the Company with the Company becoming a wholly-owned subsidiary of Synta and the surviving corporation of the merger. Each outstanding share of private Madrigal common stock was converted into 0.1593 shares of common stock of the post-merger combined company. As a result, Synta issued 7.3 million shares of common stock to the stockholders of private Madrigal in exchange for common shares of private Madrigal. For accounting purposes, the Company is considered to be acquiring Synta in the merger. The Company was determined to be the accounting acquirer based upon the terms of the Merger Agreement and other factors including: (i) Madrigal security holders own approximately 64% of the voting interests of the combined company immediately following the closing of the merger; (ii) directors appointed by Madrigal hold a majority of board seats in the combined company; and (iii) Madrigal management hold a majority of the key positions in the management of the combined company. As the accounting acquirer, the Company's assets and liabilities continue to be recorded at their historical carrying amounts and the historical operations that will be reflected in the financial statements will be those of the Company.

Immediately prior to the closing of the merger, Synta completed a one-for-35 reverse stock split. Following the reverse stock split and the merger, the post-merger combined company had approximately 11.3 million shares outstanding and the former stockholders of the Company owned approximately 64% of the outstanding capital stock of the post-merger combined company. The impact of the recapitalization of the Company has been retroactively applied to all periods presented.

Upon the closing of the merger transaction, the Company incurred an expense for a success fee of $750,000 in cash, plus settled $750,000 for both parties in shares of the post-merger combined company's common stock with a third party financial advisor.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

3. Reverse Merger (Continued)

Purchase Price

Pursuant to the Merger Agreement, Synta issued to Madrigal stockholders a number of shares of Synta common stock representing approximately 64% of the outstanding shares of common stock of the combined company. The purchase price, which represents the consideration transferred to Synta stockholders in the reverse merger is calculated based on the number of shares of common stock of the combined company that Synta stockholders will own as of the closing of the merger, which consists of the following:

Number of shares of the combined company to be owned by Synta stockholders(1)	4,032,734
Multiplied by the fair value of Synta common stock(2)	$ 9.48
Purchase price (in thousands)	$ 38,236

(1) Represents the number of shares of common stock of the combined company that Synta stockholders owned as of the closing of the merger pursuant to the Merger Agreement, including restricted stock awards and common stock underlying outstanding restricted stock units attributed to pre-combination services rendered by certain Synta employees and directors. This amount is calculated as 3,937,309 shares of Synta common stock outstanding as of July 22, 2016, including unvested restricted common stock, plus 95,425 shares of Synta common stock issuable pursuant to restricted stock units, net of tax withholdings, that vested immediately upon closing of the merger. The number of shares of common stock Synta issued to Madrigal stockholders was 7,253,655, calculated pursuant to the terms of the Merger Agreement based on Synta's common stock outstanding as of July 22, 2016.

(2) The fair value of Synta common stock used in determining the purchase price was $9.48, which was derived from the $0.2709 per share closing price of Synta common stock on July 21, 2016, the current price at the time of the closing, adjusted for the 1-for-35 reverse stock split.

Under the acquisition method of accounting, the total purchase price is allocated to the acquired tangible and intangible assets and assumed liabilities of Synta based on their estimated fair values as of the merger closing date. The excess of the purchase price over the fair value of assets acquired and liabilities assumed, if any, is allocated to goodwill. The allocation of the purchase price to the acquired assets and liabilities assumed of Synta based on the fair values as of July 22, 2016 is as follows,

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

3. Reverse Merger (Continued)

including measurement period adjustments since the fair values presented in the Company's Form 10-Q for the quarter ended September 30, 2016 (in thousands):

	July 22, 2016	Measurement period adjustments	July 22 2016 (As adjusted)
Cash, cash equivalents and marketable securities	$ 42,611		$ 42,611
Prepaid expenses and other currents assets	1,715		1,715
Property and equipment, net	482	65	547
Accounts payable, accrued expenses and other liabilities	(7,019)		(7,019)
Term loans and capital lease obligations	(18)		(18)
In-process research and development	150	250	400
Goodwill	315	(315)	—
Net assets acquired	$ 38,236		$ 38,236

The Company's measurement period adjustments were complete as of December 31, 2016. As a result of the measurement period adjustments recorded above, there was no gain or losses on the disposed tangible or intangible assets.

Convertible Promissory Notes-Related Parties

Immediately prior to the consummation of the merger, the September 14, 2011, September 16, 2011 and March 1, 2016 (amended and restated April 13, 2016) convertible note issuances outstanding totaling $47.6 million on July 22, including accrued but unpaid interest, were converted into 7.1 million shares of common stock on a post-split basis of the Company pursuant to their respective amended and restated terms (see Note 6).

Bonus Plan Awards

Pursuant to the terms of the Change in Control Bonus Plan, the participants therein received 0.6 million shares of common stock of the Company from certain former stockholders of the Company in connection with the merger, which represented 7.87% of Madrigal's common shares outstanding at the time of the merger. The Company recorded $5.4 million in stock compensation associated with the transaction (see Note 9).

Stock Based Compensation

Following the consummation of the merger, the Company issued a combined 208,255 shares of restricted common stock and 557,386 stock options to purchase shares of common stock to the new Chief Executive Officer, Chief Medical Officer and Executive Vice President, and Chief Financial Officer and Senior Vice President.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

4. Liquidity and Uncertainties

The Company is subject to risks common to development stage companies in the Bio-Pharmaceutical industry including, but not limited to, uncertainty of product development and commercialization, dependence on key personnel, uncertainty of market acceptance of products and product reimbursement, product liability, uncertain protection of proprietary technology, potential inability to raise additional financing necessary for development and commercialization, and compliance with the U.S. Food and Drug Administration and other government regulations.

The Company has incurred losses since inception, including approximately $26,388,000 for the year ended December 31, 2016, resulting in an accumulated deficit of approximately $75,307,000 and $48,920,000 as of December 31, 2016 and 2015, respectively. Management expects to incur losses for the foreseeable future. To date, the Company has funded its operations primarily through the issuance of convertible debt (see Note 6), the proceeds from the Merger on July 22, 2016 (see Note 3) and proceeds from the Company's at-the-market issuance sales agreement (see Note 8).

The Company believes that its cash, cash equivalents and marketable securities at December 31, 2016, as well as proceeds raised from its at-the-market issuances agreement during the first quarter of 2017 (see Note 14), will be sufficient to fund operations into the second quarter of 2018. To meet its future capital needs, the Company intends to raise additional capital through debt or equity financings, collaborations, partnerships or other strategic transactions. However, there can be no assurance that the Company will be able to complete any such transactions on acceptable terms or otherwise. The inability of the Company to obtain sufficient funds on acceptable terms when needed could have a material adverse effect on the Company's business, results of operations and financial condition. The Company has the ability to delay certain research activities and related clinical expenses if necessary due to liquidity concerns until a date in which those concerns are relieved.

5. Cash, Cash Equivalents and Marketable Securities

A summary of cash, cash equivalents and available-for-sale marketable securities held by the Company as of December 31, 2016 and December 31, 2015 is as follows:

	December 31, 2016			
	Amortized Cost	Unrealized gains	Unrealized Losses	Fair value
Cash and cash equivalents:				
Cash and money market funds (Level 1)	$ 19,144,983	$ —	$ —	$ 19,144,983
Corporate debt securities due within 3 months of date of purchase (Level 2)	—	—	—	—
Total cash and cash equivalents	19,144,983	—	—	19,144,983
Marketable securities:				
Corporate debt securities due within 1 year of date of purchase (Level 2)	21,329,121	25,404	—	21,354,525
Total cash, cash equivalents and marketable securities	$ 40,474,104	$ 25,404	$ —	$ 40,499,508

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

5. Cash, Cash Equivalents and Marketable Securities (Continued)

	December 31, 2015			
	Amortized Cost	Unrealized gains	Unrealized Losses	Fair value
Cash and cash equivalents:				
Cash and money market funds (Level 1)	$ 306,249	$ —	$ —	$ 306,249
Total cash, cash equivalents and marketable securities	$ 306,249	$ —	$ —	$ 306,249

6. Convertible Promissory Notes—Related Parties

Convertible Promissory Note Amendments:

Effective April 13, 2016, the Lenders collectively waived all accrued and unpaid interest under all of the convertible notes. The total accrued and waived interest amounted to $13,680,000. The Lenders also agreed that no additional interest on these notes would be accrued through the date on which the Merger is consummated or terminated. On April 13, 2016, the Company reduced the convertible notes payable by the waived accrued interest less $2,456,000 of accrued interest for the period April 14, 2016 through the maturity date of December 31, 2016, as required under Troubled Debt Restructuring accounting guidance. The net waived interest of $11,224,000 was recorded as an increase in Additional Paid in Capital ("APIC") at the time of the amendment as the notes were held by related parties. The remaining $2,456,000 of accrued interest was recorded as an increase in APIC upon conversion at the Merger.

September 14, 2011 Notes

The Company was assigned convertible promissory notes ("the September 14, 2011 Notes") pursuant to an Assignment and Issuance Agreement with Lender A and Lender B or collectively the "Lender(s)". Lender A and Lender B are stockholders of the Company. Interest on the outstanding principal accrued and compounded monthly at 8% per annum. Accrued and unpaid interest was to be either paid upon principal repayment or converted with the outstanding principal amount. The notes were collateralized by all assets of the Company. The initial maturity date was December 31, 2012 but was amended on various dates extending the maturity date to December 31, 2016. The September 14, 2011 Notes could be converted as follows:

(a) *Optional Conversion—Third Party Financing.* At any time following the closing of a preferred equity financing with an outside investor ("Third Party"), all outstanding principal and interest ("Accreted Value") may, at the option of the Lenders, be converted into equity securities of private Madrigal, having the same rights, preferences and privileges as the securities issued in the Third Party financing ("Third Party Led Securities"). The numbers of shares to be issued upon such conversion shall be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) eighty percent (80%) of the per share purchase price of the Third Party Led Securities.

(b) *Optional Conversion—Series A Preferred Stock.* At any time, all Accreted Value may, at the option of the Lenders, be converted into shares of private Madrigal's Series A Preferred Stock. The number of shares of Series A Preferred Stock to be issued upon such conversion shall be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the original issue prices of the Series A Preferred Stock.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

6. Convertible Promissory Notes—Related Parties (Continued)

(c) *Optional Conversion—Common Stock.* At any time, Lenders may convert all or any portion of the Accreted Value of the Note into common shares of private Madrigal with the number of common shares issuable upon such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 14.29759. Any Third Party Led Securities and Series A Preferred Stock issued to the Lenders shall be convertible at any time at the option of Lenders into common stock of private Madrigal.

(d) *Mandatory Conversion.* If the principal and interest of the convertible note has not been repaid in full by the maturity date, the Accreted Value shall automatically convert into common stock of private Madrigal. The conversion price shall equal to the per share value of private Madrigal's common stock at the time of conversion.

September 14, 2011 Notes (Amended and Restated April 13, 2016)

On April 13, 2016, the Company amended and restated the terms to modify the conversion terms to include the following:

(a) *Optional Conversion—Common Stock.* At any time following the date on which the Merger Agreement is terminated as defined in the agreement, Lenders may convert all of the Accreted Value of the Note into common shares of private Madrigal with the number of common shares issuable upon such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.00.

(b) *Mandatory Conversion Upon a Merger with Synta.* If a Merger was consummated prior to the maturity date all Accreted Value would automatically be converted into shares of Common Stock of private Madrigal. The number of shares of Common Stock to be issued upon such conversion would be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.00.

September 16, 2011 Notes

The Company entered into a Note Purchase Agreement with Lender A and Lender B in which the Company agreed to sell and issue to the Lenders secured convertible promissory notes ("the September 16, 2011 Notes"). Interest on the outstanding principal accrued and compounded monthly at 8% per annum. Accrued and unpaid interest shall either be paid upon principal repayment or converted with the outstanding principal amount. The notes were collateralized by all assets of the Company. The initial maturity date was the earliest of October 31, 2012 or an event of default as defined in the agreement but such notes have been amended on various dates extending the maturity date to December 31, 2016. The September 16, 2011 notes can by converted as follows:

(a) *Optional Conversion—Third Party Financing.* At any time following the closing of a preferred equity financing with a Third Party, all Accreted Value may, at the option of the Lenders, be converted into equity securities of private Madrigal, having the same rights, preferences and privileges as the securities issued in the Third Party financing. The numbers of shares to be issued upon such conversion shall be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) eighty percent (80%) of the per share purchase price of the Third Party Led Securities.

In addition, the Company shall issue to each Lender, upon conversion of such Lender's note, a warrant to purchase up to the number of shares of Third Party Led Securities sold in such Third Party

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

6. Convertible Promissory Notes—Related Parties (Continued)

Financing that equals the quotient obtained by dividing (a) ten percent (10%) of the original principal amount of the notes issued to such Lenders pursuant to the Note Purchase Agreement by (b) the per share purchase price of the Third Party Led Securities. The Company has not issued any warrants to date.

(b) *Optional Conversion—Series A Preferred Stock.* At any time, all Accreted Value may, at the option of the Lenders, be converted into shares of private Madrigal's Series A Preferred Stock. The number of shares of Series A Preferred Stock to be issued upon such conversion shall be equal to the Quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 14.29759.

September 16, 2011 Notes (Amended and Restated April 13, 2016)

On April 13, 2016, the Company amended and restated the terms to modify the conversion terms to include the following:

(a) *Optional Conversion—Common Stock.* At any time following the date on which the Merger Agreement is terminated as defined in the agreement, Lenders may convert all of the Accreted Value of the Note into common shares of private Madrigal with the number of common shares issuable upon such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.00.

(b) *Optional Conversion—Series A Preferred Stock.* At any time following the date on which the Merger Agreement is terminated as defined in the agreement, Lenders may convert all of the Accreted Value of the Note into Series A Preferred Stock of private Madrigal, $0.0001 par value per share ("Series A Preferred Stock") with the number of Series A Preferred Stock issuable upon such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the original issue price of the Series A Preferred Stock, as adjusted for splits, dividends and the like.

(c) *Mandatory Conversion Upon a Merger with Synta.* If a Merger was consummated prior to the maturity date all Accreted Value would automatically be converted into shares of Common Stock of private Madrigal. The number of shares of Common Stock to be issued upon such conversion would be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.00.

March 1, 2016 Notes

On March 1, 2016, the Company entered into a Note Purchase Agreement with Lender A and Lender B in which the Company agreed to sell and issue to the Lenders secured convertible promissory notes ("the March 1, 2016 Notes") in the amount of up to $2,000,000. Interest on the outstanding principal accrued and compounded monthly at 8% per annum. Accrued and unpaid interest shall either be paid upon repayment or converted with the outstanding principal amount. The notes were collateralized by all assets of the Company. The maturity date is the earliest of December 31, 2016 or an event of default as defined in the agreement. On March 1, 2016, the first closing date, $750,000 aggregate principal amount was issued. The March 1, 2016 notes could be converted as follows:

(a) *Optional Conversion—Third Party Financing.* At any time following the closing of a preferred equity financing by the Company led by a Third Party, all Accreted Value may, at the option of the Lenders, be converted into equity securities of private Madrigal, having the same rights, preferences

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

6. Convertible Promissory Notes—Related Parties (Continued)

and privileges as the securities issued in the Third Party financing . The numbers of shares to be issued upon such conversion shall be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the per share purchase price of the Third Party Led Securities.

(b) *Optional Conversion—Series A Preferred Stock.* At any time, all Accreted Value may, at the option of the Lenders, be converted into shares of private Madrigal's Series A Preferred Stock. The number of shares of Series A Preferred Stock to be issued upon such conversion shall be equal to the Quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the original issue price of the Series A Preferred Stock.

(c) *Optional Conversion—Common Stock.* At any time, Lenders may convert all of the Accreted Value of the Note into common shares of private Madrigal with the number of common shares issuable upon such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the then per share fair market value of Common Stock. Any Third Party Led Securities and Series A Preferred Stock issued to the Lenders shall be convertible at any time at the option of Lenders into common stock of private Madrigal.

March 1, 2016 Notes (Amended and Restated April 13, 2016)

On April 13, 2016, the Company amended and restated the terms of its March 1, 2016 Note Purchase Agreement to increase the principal amount of notes available for issuance to $9,000,000, to be funded at specific dates in accordance with a funding schedule, and to add two additional related party lenders ("Lender C and Lender D"). The notes were collateralized by all assets of the Company and are senior in right of payment to all outstanding indebtedness of the Company. The maturity date is the earliest of December 31, 2016, the date the Merger Agreement is terminated (see Note 3), or an event of default as defined in the agreement. The conversion terms of the March 1, 2016 notes were amended to include the following:

(a) *Optional Conversion-Qualified Financing.* At any time following the closing of a preferred equity financing of the Company (a "Qualified Financing"), all Accreted Value may, at the option of the Lenders, be converted into equity securities of private Madrigal of the same class and having the same rights, preferences and privileges as the securities issued in the Qualified Financing (the "Qualified Financing Securities"). The number of shares of Qualified Financing Securities to be issued upon such conversion shall be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the product of 0.85 times the lowest per share purchase price of the Qualified Financing Securities paid by the other investors in the Qualified Financing.

(b) *Optional Conversion—Series A Preferred Stock.* At any time following the date on which the Merger Agreement is terminated as defined in the agreement, all Accreted Value may, at the option of the Lenders, be converted into shares of private Madrigal's Series A Preferred Stock. The number of shares of Series A Preferred Stock to be issued upon such conversion shall be equal to the Quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) the original issue price of the Series A Preferred Stock.

(c) *Optional Conversion—Common Stock.* At any time following the date on which the Merger Agreement is terminated as defined in the agreement, Lenders may convert all of the Accreted Value of the Note into common shares of private Madrigal with the number of common shares issuable upon

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

6. Convertible Promissory Notes—Related Parties (Continued)

such conversion to equal the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.07581.

(d) *Mandatory Conversion Upon a Merger with Synta.* If a Merger was consummated prior to the maturity date all Accreted Value would automatically be converted into shares of Common Stock of private Madrigal. The number of shares of Common Stock to be issued upon such conversion would be equal to the quotient obtained by dividing (a) the Accreted Value on the date of conversion by (b) 1.07581.

Lenders A, B, C and D provided convertible promissory note financing of $8,500,000 in cash during the period March 1, 2016 through the Merger. Additionally, on April 13, 2016, Lender D exchanged $500,000 of Advances Payable for an equal amount of convertible promissory notes.

7. Advances Payable—Related Party

On June 29, 2015 and July 30, 2015 a related party agreed to advance the Company a total of $500,000 to be used for working capital requirements. The advances accrued interest at a rate of four percent (4%) per annum compounded annually. On April 13, 2016, these advances were exchanged for $500,000 in convertible promissory notes payable and all accrued interest was waived (see Note 6).

8. Stockholders' Equity (Deficit)

Common Stock

Each common stockholder is entitled to one vote for each share of common stock held. The common stock will vote together with all other classes and series of stock of the Company as a single class on all actions to be taken by the Company's stockholders. Each share of common stock is entitled to receive dividends, as and when declared by the Company's board of directors.

The Company has never declared cash dividends on its common stock and does not expect to do so in the foreseeable future.

At-The-Market Issuance Sales Agreement

In October 2015, the Company entered into an at-the-market issuance sales agreement (October 2015 Sales Agreement), with Cowen and Company, LLC (Cowen), pursuant to which the Company may issue and sell shares of its common stock, having an aggregate offering price of up to $100 million, from time to time, at the Company's option, through Cowen as its sales agent. Sales of common stock through Cowen may be made by any method that is deemed an "at-the-market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including by means of ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by the Company and Cowen. Subject to the terms and conditions of the Sales Agreement, Cowen will use commercially reasonable efforts consistent with its normal trading and sales practices to sell the common stock based upon the Company's instructions (including any price, time or size limits or other customary parameters or conditions the Company may impose). The Company is not obligated to make any sales of its common stock under the Sales Agreement. Any shares sold will be sold pursuant to an effective shelf registration statement on Form S-3 (file no. 333-206135). The Company will pay Cowen a commission of up to 3% of the gross proceeds. The October 2015 Sales Agreement may be terminated by the Company at any time upon 10 days' notice.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

8. Stockholders' Equity (Deficit) (Continued)

In December 2016, the Company sold an aggregate of 381,717 shares of common stock pursuant to the October 2015 Sales Agreement for an aggregate of approximately $6.1 million in gross proceeds. Net proceeds to the Company were approximately $6.0 million after deducting commissions and other transactions costs. As of December 31, 2016, approximately $93.9 million remained reserved under the Company's shelf registration statement and the applicable prospectus supplement for possible future issuance under the October 2015 Sales Agreement.

9. Stock-based Compensation

In June 2015, upon obtaining stockholder approval at its annual shareholder meeting, the Company implemented its new 2015 Stock Plan. The 2015 Stock Plan replaced the 2006 Stock Plan which was terminated upon adoption of the 2015 Stock Plan. Shares of common stock reserved for outstanding awards under the 2006 Stock Plan that lapse or are cancelled will be added back to the share reserve available for future awards under the 2015 Stock Plan. The 2015 Stock Plan provides for the grant of incentive stock options, non-statutory stock options, restricted stock and other stock-based compensation awards to employees, officers, directors and consultants of the Company. The administration of the 2015 Stock Plan is under the general supervision of the compensation committee of the board of directors. The exercise price of the stock options is determined by the compensation committee of the board of directors, provided that incentive stock options are granted with an exercise price not less than fair market value of the common stock on the date of grant and expire no later than ten years from the date the option is granted. As of December 31, 2016, the Company had options outstanding to purchase 784,011 shares of its common stock, which includes options outstanding under its 2006 Stock Plan that was terminated in June 2015. As of December 31, 2016, 651,261 shares were available for future issuance.

The following table summarizes stock option activity during the twelve months ended December 31, 2016:

	Shares	Weighted average exercise price	Weighted average remaining contractual life (years)	Aggregate intrinsic value
Outstanding at January 1, 2016	—	$ —		
Options carried forward at merger	148,115	113.96		
Options granted	772,410	9.51		
Options exercised	—	—		
Options cancelled	(136,514)	116.06		
Outstanding at December 31, 2016	784,011	$ 10.70	9.55	$ 4,162,179
Exercisable at December 31, 2016	146,668	$ 12.47	9.51	$ 773,066

The total cash received by the Company as a result of stock option exercises was $0 in each of the years ended December 31, 2016 and 2015. The weighted-average grant date fair values, based on the Black-Scholes option model, of options granted during the year ended December 31, 2016 and 2015 was $7.50 and $0, respectively.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

9. Stock-based Compensation (Continued)

Restricted Common Stock

The Company's share-based compensation plan provides for awards of restricted shares of common stock to employees, officers, directors and consultants to the Company. Restricted stock awards are subject to forfeiture if employment or service terminates during the prescribed retention period. Restricted shares vest over the service period.

The following table summarizes unvested restricted share activity during the year ended December 31, 2016:

	Shares	Weighted average grant date fair value
Outstanding at January 1, 2016	—	$ —
Restricted stock carried forward at merger	2,142	99.75
Granted	208,255	9.45
Forfeited	—	—
Vested	(53,135)	11.27
Outstanding at December 31, 2016	157,262	$ 10.06

Stock-Based Compensation Expense

Stock-based compensation expense during the years ended December 31, 2016 and 2015 was as follows:

	Years ended December 31,	
	2016	2015
Stock-based compensation expense by type of award:		
Employee stock options	$ 1,782,195	$ —
Restricted stock	736,139	—
Change in control bonus plan (see Note 3)	5,410,840	—
Total stock-based compensation expense	$ 7,929,174	$ —
Effect of stock-based compensation expense by line item:		
Research and development	$ 5,387,137	$ —
General and administrative	2,542,037	—
Total stock-based compensation expense included in net loss	$ 7,929,174	$ —

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

9. Stock-based Compensation (Continued)

Unrecognized stock-based compensation expense as of December 31, 2016 was as follows:

	Unrecognized stock compensation expense	Weighted average remaining period (in years)
Employee stock options	$ 4,442,827	2.37
Restricted stock	1,357,771	2.44
Total	$ 5,800,598	2.39

10. Related Party Transactions

Related party financing

Lenders A and B have provided financing to the Company since its inception. Lenders A, B, C and D had agreed to provide funding under the April 13, 2016 amended and restated March 1, 2016 agreement. For the years ended December 31, 2016 and 2015, the Company incurred approximately $1,213,000 and $3,603,000, respectively of interest expense to these Lenders which was subsequently waived (see Note 6). This debt was converted to equity at the time of the Merger.

Consulting agreement

The Company had a consulting agreement with its former Chief Executive Officer ("CEO"), who is also a stockholder of the Company. The consulting agreement automatically renewed monthly unless terminated. The consulting agreement could be terminated upon fifteen (15) day notice by the Company or the CEO. The consultant was paid $93,000 and $165,000, respectively, for the years ended December 31, 2016 and 2015. On July 22, 2016, this consulting agreement was replaced by an employment agreement for the position of Chief Medical Officer ("CMO") upon the completion of the Merger (see Note 3).

11. Commitments and Contingencies

The Company has a Research, Development and Commercialization Agreement with Hoffmann-La Roche ("Roche") which grants a sole and exclusive license to develop, use, sell, offer for sale and import any Licensed Product as defined by the agreement.

The agreement requires future milestone payments to Roche, the remainder of which total $10 million and are earned by the commencement of Phase II and Phase III clinical trials as well as future regulatory approval in the United States and Europe of a product developed from MGL-3916. A single-digit royalty payment range is based on net sales of products developed from MGL-3196, subject to certain reductions. In October 2016 the Company commenced a Phase II study in Non-Alcoholic Steatohepatitis (NASH), which triggered a milestone payment under the agreement. The Company also made a milestone payment related to the start of a Phase 1 study in 2011. Except as previously described, the Company has not achieved any additional product development or regulatory milestones to date and has no Licensed Product sales for the years ended December 31, 2016 and 2015.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

11. Commitments and Contingencies (Continued)

During 2016, the Company has entered into several customary contractual arrangements and letters of intent in preparation for and in support of the expected Phase II clinical trials.

12. Income Taxes

At December 31, 2016, the Company had federal net operating loss ("NOL") carryforwards of approximately $32,622,000 and state operating loss carryforwards of approximately $25,643,000, available to reduce future taxable income, which expire between 2031 and 2036. The Company has unused federal research and development carryforwards of approximately $846,000 which will begin to expire in 2031.

The Internal Revenue Code ("IRC") limits the amounts of NOL carryforwards that a Company may use in any one year in the event of certain cumulative changes in ownership over a three-year period as described in Section 382 of the IRC. Such change in ownership could limit the Company's utilization of the NOL, and could be triggered by subsequent sales of securities by the Company or stockholders. The deferred tax asset related to the NOL reflected on the financial statements could be affected by this limitation. The Company has analyzed the tax effect of the merger and concluded that an ownership change did take place for IRC 382 purposes. Based on the value of the business, Synta's federal net operating losses and R&D credits are no longer available to be used by the Company. Further, the Company has concluded that the transaction did not trigger an ownership change for Madrigal.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. As there is no assurance of future taxable income, a full valuation allowance has been established to offset the deferred tax assets. The valuation allowance increased $9,825,000 for the year ended December 31, 2016, of which $75,000 related to the merger and $9,750,000 was in the normal course. Changes in the deferred tax asset will be recorded as an income tax benefit or expense on the accompanying statements of operations.

Entities are also required to evaluate, measure, recognize and disclose any uncertain income tax provisions taken on their income tax returns. The Company has analyzed its tax positions and has concluded that as of December 31, 2016 there were no uncertain positions. The 2012 through 2016 tax returns are open to review by the IRS and state taxing authorities. Interest and penalties, if any, as they relate to income taxes assessed, are included in the income tax provision. There was no income tax related interest and penalties included in the income tax provision for 2016.

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

12. Income Taxes (Continued)

Temporary differences that give rise to deferred tax assets and liabilities are as follows:

	For the years ended December 31,	
	2016	2015
Deferred Tax Liabilities		
Stock Compensation	$ 269,787	$ —
Property, Plant & Equipment	116	—
Unrealized Gains on Investments	12,739	—
Total Deferred Tax Liabilities	$ 282,642	$ —
Deferred Tax Assets		
Charitable Contributions	$ 3,262	$ 609
Stock Compensation	—	228
Intangibles	997,068	930,647
Property, Plant & Equipment	—	322
Net Operating Losses	12,749,167	7,324,215
Capitalized R&D	4,225,659	—
R&D Credit	846,034	456,496
Total deferred tax assets before valuation allowance	18,821,190	8,712,517
Valuation Allowance	(18,538,548)	(8,712,517)
Total deferred tax assets	282,642	—
Net deferred tax assets	$ —	$ —

Differences between the effective income tax rate and the US statutory rate were as follows (in thousands):

	For the years ended December 31,	
	2016	2015
Tax benefit at U.S. federal statutory rate	$ (8,972)	$ (2,344)
Non-deductible interest expenses	410	749
Stock based compensation	407	—
Transaction Costs	256	—
Other Nondeductible Expenses	1	—
State income taxes benefit before valuation allowance, net of federal benefit	(1,491)	(309)
Increase in domestic valuation allowance	9,750	1,987
Research and development credit	(390)	(83)
Other adjustments	29	—
Income tax expense (benefit)	$ —	$ —

MADRIGAL PHARMACEUTICALS, INC.

Notes to Consolidated Financial Statements (Continued)

13. Recapitalization

Private Madrigal's historical (pre-merger) common stock, including share and per share amounts, have been retroactively adjusted to reflect the common stock of the post-merger combined company based upon the exchange ratio established in the Merger Agreement as adjusted for the one-for-35 reverse stock split effected by Synta immediately prior to the Merger. As a result, each outstanding share of private Madrigal common stock was exchanged for 0.1593 shares of common stock of the post-merger combined company. The recapitalization of the Company has been retrospectively applied to 2015.

14. Subsequent Event

In February of 2017, the Company initiated a Phase II study of MGL-3196 in patients with Heterozygous Familial Hypercholesterolemia (HeFH).

As of March 24, 2017, in 2017 the Company sold an aggregate of 215,539 shares of common stock pursuant to the October 2015 Sales Agreement (see Note 8) for an aggregate of approximately $3.5 million in gross proceeds. Net proceeds to the Company were approximately $3.4 million after deducting commissions and other transactions costs. Approximately $90.4 million remained reserved under the Company's shelf registration statement and the applicable prospectus supplement for possible future issuance under the October 2015 Sales Agreement.

Exhibit 3.1

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED ARE TRUE AND CORRECT COPIES OF ALL DOCUMENTS FILED FROM AND INCLUDING THE RESTATED CERTIFICATE OR A MERGER WITH A RESTATED CERTIFICATE ATTACHED OF "MADRIGAL PHARMACEUTICALS, INC." AS RECEIVED AND FILED IN THIS OFFICE.

THE FOLLOWING DOCUMENTS HAVE BEEN CERTIFIED:

RESTATED CERTIFICATE, FILED THE NINTH DAY OF FEBRUARY, A.D. 2007, AT 11:13 O`CLOCK A.M.

CERTIFICATE OF AMENDMENT, FILED THE THIRTEENTH DAY OF JUNE, A.D. 2013, AT 1:08 O`CLOCK P.M.

CERTIFICATE OF AMENDMENT, FILED THE TWENTY-SECOND DAY OF JULY, A.D. 2016, AT 8:09 O`CLOCK A.M.

CERTIFICATE OF AMENDMENT, CHANGING ITS NAME FROM "SYNTA PHARMACEUTICALS CORP." TO "MADRIGAL PHARMACEUTICALS, INC.", FILED THE TWENTY-SECOND DAY OF JULY, A.D. 2016, AT 10:18 O`CLOCK A.M.

Jeffrey W. Bullock, Secretary of State

3191544 8100X
SR# 20170317167

Authentication: 201895857
Date: 01-19-17

You may verify this certificate online at corp.delaware.gov/authver.shtml

Delaware

The First State

Jeffrey W. Bullock, Secretary of State

3191544 8100X
SR# 20170317167

Authentication: 201895857
Date: 01-19-17

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State of Delaware
Secretary of State
Division of Corporations
Delivered 11:12 AM 02/09/2007
FILED 11:13 AM 02/09/2007
SRV 070146613 - 3191544 FILE

RESTATED
CERTIFICATE OF INCORPORATION
OF
SYNTA PHARMACEUTICALS CORP.
(Originally incorporated on March 10, 2000
under the name Neutra Pharmaceuticals Corp.)

FIRST: The name of the corporation is Synta Pharmaceuticals Corp. (the "Corporation").

SECOND: The name and address of the Corporation's registered agent in the State of Delaware is The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, City of Wilmington, County of New Castle.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity or carry on any business for which corporations may be organized under the Delaware General Corporation Law or any successor statute.

FOURTH:

A. Designation and Number of Shares.

The total number of shares of all classes of stock which the Corporation shall have the authority to issue is 105,000,000 shares, consisting of 100,000,000 shares of common stock, par value $0.0001 per share (the "Common Stock") and 5,000,000 shares of Preferred Stock, par value $0.0001 per share (the "Preferred Stock").

B. Preferred Stock

1. Shares of Preferred Stock may be issued in one or more series at such time or times and for such consideration as the Board of Directors may determine.

2. Authority is hereby expressly granted to the Board of Directors to fix from time to time, by resolution or resolutions providing for the establishment and/or issuance of any series of Preferred Stock, the designation and number of the shares of such series and the powers, preferences and rights of such series, and the qualifications, limitations or restrictions thereof, to the fullest extent such authority may be conferred upon the Board of Directors under the Delaware General Corporation Law.

The number of authorized shares of Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote thereon, without a vote of the holders of the

Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the terms of any Preferred Stock designation.

C. Common Stock.

The holders of the Common Stock are entitled to one vote for each share held; provided, however, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Restated Certificate of Incorporation (including any certificate of designation relating to Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon by law or pursuant to this Restated Certificate of Incorporation (including any certificate of designation relating to Preferred Stock).

FIFTH: The following provisions are inserted for the management of the business and the conduct of the affairs of the Corporation, and for further definition, limitation and regulation of the powers of the Corporation and of its directors and stockholders:

A. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. In addition to the powers and authority expressly conferred upon them by statute or by this Restated Certificate of Incorporation or the Bylaws of the Corporation as in effect from time to time, the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation.

B. The directors of the Corporation need not be elected by written ballot unless the Bylaws so provide.

C. Subject to the rights of the holders of any series of Preferred Stock then outstanding, any action required or permitted to be taken by the stockholders of the Corporation may be effected only at a duly called annual or special meeting of stockholders of the Corporation and not by written consent.

D. Special meetings of the stockholders may only be called by the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board. For the purposes of this Restated Certificate of Incorporation, the term "Whole Board" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships.

SIXTH:

A. Subject to the rights of the holders of shares of any series of Preferred Stock then outstanding to elect additional directors under specified circumstances, the number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the Whole Board.

B. The directors, other than those who may be elected by the holders of shares of any series of Preferred Stock under specified circumstances, shall be divided into three classes, with the term of office of the first class to expire at the first annual meeting of stockholders following the initial classification of directors, the term of office of the second class to expire at the second annual meeting of stockholders following the initial classification of directors, and the term of office of the third class to expire at the third annual meeting of stockholders following the initial classification of directors. At each annual meeting of stockholders, directors elected to succeed those directors whose terms expire, other than directors elected by the holders of any series of Preferred Stock under specified circumstances, shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election and until their successors are duly elected and qualified. The Board of Directors is authorized to assign members of the Board already in office to such classes as it may determine at the time the classification of the Board of Directors pursuant to this Restated Certificate of Incorporation becomes effective.

C. Subject to the rights of the holders of any series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall, unless otherwise required by law or by resolution of the Board of Directors, be filled only by a majority vote of the directors then in office even though less than a quorum, or by a sole remaining director, and not by stockholders, and directors so chosen shall serve for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been chosen expires or until such director's successor shall have been duly elected and qualified. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

D. Advance notice of stockholder nominations for the election of directors and of business to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws of the Corporation.

E. Subject to the rights of the holders of any series of Preferred Stock then outstanding, any director, or the entire Board of Directors, may be removed from office at any time only for cause and only by the affirmative vote of the holders of at least eighty percent (80%) of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote at an election of the directors, voting together as a single class.

SEVENTH: The Board of Directors is expressly empowered to adopt, amend or repeal Bylaws of the Corporation. Any adoption, amendment or repeal of the Bylaws of the Corporation by the Board of Directors shall require the approval of a majority of the Whole Board. The stockholders shall also have power to adopt, amend or repeal the Bylaws of the Corporation; provided, that in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by this Restated Certificate of Incorporation, the affirmative vote of the holders of at least eighty (80%) of the voting power of all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal any provision of the Bylaws of the Corporation.

EIGHTH:

A. Each person who was or is made a party or is threatened to be made a party to or is otherwise involved (including, without limitation, as a witness) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director or an officer of the Corporation or is or was serving at the request of the Corporation as a director, officer, or trustee of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "Indemnitee"), whether the basis of such proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by the Delaware General Corporation Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such Indemnitee in connection therewith; provided, however, that, except as provided in Paragraph C of this Article EIGHTH with respect to proceedings to enforce rights to indemnification or as otherwise required by law, the Corporation shall not be required to indemnify or advance expenses to any such Indemnitee in connection with a proceeding (or part thereof) initiated by such Indemnitee unless such proceeding (or part thereof) was authorized by the Board of Directors of the Corporation.

B. In addition to the right to indemnification conferred in Paragraph A of this Article EIGHTH, an Indemnitee shall also have the right to be paid by the Corporation the expenses (including attorney's fees) incurred in defending any such proceeding in advance of its final disposition; provided, however, that, if the Delaware General Corporation Law requires, an advancement of expenses incurred by an Indemnitee in his capacity as a director or officer (and not in any other capacity in which service was or is rendered by such Indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such Indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such Indemnitee is not entitled to be indemnified for such expenses under this Paragraph B or otherwise.

C. If a claim under Paragraph A or B of this Article EIGHTH is not paid in full by the Corporation within sixty (60) days after a written claim has been received by the Corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be twenty (20) days, the Indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Indemnitee shall also be entitled to be paid the expenses of prosecuting or defending such suit. In (i) any suit brought by the Indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the Indemnitee to enforce a right to an advancement of expenses) it shall be a defense that, and (ii) in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation

shall be entitled to recover such expenses upon a final adjudication that, the Indemnitee has not met any applicable standard for indemnification set forth in the Delaware General Corporation Law. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel, or its stockholders) that the Indemnitee has not met such applicable standard of conduct, shall create a presumption that the Indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the Indemnitee, be a defense to such suit. In any suit brought by the Indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the Indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Article EIGHTH or otherwise shall be on the Corporation.

D. The rights to indemnification and to the advancement of expenses conferred in this Article EIGHTH shall not be exclusive of any other right which any person may have or hereafter acquire under any statute, the Corporation's Certificate of Incorporation as amended from time to time, the Corporation's Bylaws, any agreement, any vote of stockholders or disinterested directors or otherwise.

E. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

F. The Corporation may, to the extent authorized from time to time by the Board of Directors, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation to the fullest extent of the provisions of this Article EIGHTH with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

G. The rights conferred upon Indemnitees in this Article EIGHTH shall be contract rights and such rights shall continue as to an Indemnitee who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the Indemnitee's heirs, executors and administrators. Any amendment, alteration or repeal of this Article EIGHTH that adversely affects any right of an Indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to any such amendment, alteration or repeal.

NINTH: No director shall be personally liable to the Corporation or its stockholders for any monetary damages for breaches of fiduciary duty as a director; provided that this provision shall not eliminate or limit the liability of a director, to the extent that such liability is imposed by applicable law, (i) for any breach of the director's duty of loyalty to the Corporation or its

stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (iii) under Section 174 or successor provisions of the Delaware General Corporation Law; or (iv) for any transaction from which the director derived an improper personal benefit. No amendment to or repeal of this provision shall apply to or have any effect on the liability or alleged liability of any director for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal. If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended. All references in this Article NINTH to a director shall also be deemed to refer to any such director acting in his or her capacity as a Continuing Director (as defined in Article ELEVENTH).

TENTH: The Corporation reserves the right to amend or repeal any provision contained in this Restated Certificate of Incorporation in the manner prescribed by the Delaware General Corporation Law and all rights conferred upon stockholders are granted subject to this reservation; provided that in addition to the vote of the holders of any class or series of stock of the Corporation required by law or by this Restated Certificate of Incorporation, the affirmative vote of the holders of shares of voting stock of the Corporation representing at least eighty (80%) of the voting power of all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend, alter or repeal, or adopt any provision inconsistent with, Articles FIFTH, SIXTH, SEVENTH, EIGHTH, NINTH, this Article TENTH and Article ELEVENTH of this Restated Certificate of Incorporation.

ELEVENTH: The Board of Directors is expressly authorized to cause the Corporation to issue rights pursuant to Section 157 of the Delaware General Corporation Law and, in that connection, to enter into any agreements necessary or convenient for such issuance, and to enter into other agreements necessary and convenient to the conduct of the business of the Corporation. Any such agreement may include provisions limiting, in certain circumstances, the ability of the Board of Directors of the Corporation to redeem the securities issued pursuant thereto or to take other action thereunder or in connection therewith unless there is a specified number or percentage of Continuing Directors then in office. Pursuant to Section 141(a) of the Delaware General Corporation Law, the Continuing Directors shall have the power and authority to make all decisions and determinations, and exercise or perform such other acts, that any such agreement provides that such Continuing Directors shall make, exercise or perform. For purposes of this Article ELEVENTH and any such agreement, the term, "Continuing Directors," shall mean (1) those directors who were members of the Board of Directors of the Corporation at the time the Corporation entered into such agreement and any director who subsequently becomes a member of the Board of Directors, if such director's nomination for election to the Board of Directors is recommended or approved by the majority vote of the Continuing Directors then in office or (2) such members of the Board of Directors designated in, or in the manner provided in, such agreement as Continuing Directors.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of the Restated Certificate of Incorporation of this

Corporation, and which has been duly adopted in accordance with Sections 242 and 245 of the Delaware General Corporation Law, has been executed by its duly authorized President and Chief Executive Officer this 9th day of February, 2007.

SYNTA PHARMACEUTICALS CORP.

By: _____
Safi R. Bahcall, Ph.D.
Its President and Chief Executive Officer

TRA 2244753v.1

State of Delaware
Secretary of State
Division of Corporations
Delivered 01:19 PM 06/13/2013
FILED 01:08 PM 06/13/2013
SRV 130771921 - 3191544 FILE

CERTIFICATE OF AMENDMENT
OF
RESTATED CERTIFICATE OF INCORPORATION
OF
SYNTA PHARMACEUTICALS CORP.

(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Synta Pharmaceuticals Corp.

2. The Restated Certificate of Incorporation is hereby amended to change the capitalization of the Corporation by striking Article FOURTH, Section A of the Restated Certificate of Incorporation and by replacing Article FOURTH, Section A with the following new Article FOURTH, Section A:

"A. Designation and Number of Shares.

The total number of shares of all classes of stock which the Corporation shall have the authority to issue is 205,000,000 shares, consisting of 200,000,000 shares of common stock, par value $0.0001 per share (the "Common Stock") and 5,000,000 shares of Preferred Stock, par value $0.0001 per share (the "Preferred Stock")."

3. The Amendment of the Restated Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

In witness whereof, the Corporation has caused this Certificate of Amendment to be signed by its duly authorized officer this 13th day of June, 2013.

Safi R. Bahcall, Ph.D.
President and Chief Executive Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 08:09 AM 07/22/2016
FILED 08:09 AM 07/22/2016
SR 20165025235 - File Number 3191544

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION
OF
SYNTA PHARMACEUTICALS CORP.
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Synta Pharmaceuticals Corp.

2. The Restated Certificate of Incorporation filed on February 9, 2007, as amended, is hereby further amended as follows:

A. To change the capitalization of the Corporation by adding the following paragraph to Article FOURTH, Section A of the Restated Certificate of Incorporation immediately following the paragraph set forth in Article FOURTH, Section A of the Restated Certificate of Incorporation:

"Upon the effectiveness of the Certificate of Amendment of Restated Certificate of Incorporation, to effect a plan of recapitalization of the Common Stock by effecting a 1-for-35 reverse stock split with respect to the issued and outstanding shares of the Common Stock (the "Reverse Stock Split"), without any change in the powers, preferences and rights or qualifications, limitations or restrictions thereof, such that, without further action of any kind on the part of the Corporation or its stockholders, every thirty-five (35) shares of Common Stock outstanding or held by the Corporation in its treasury on the date of the filing of the Certificate of Amendment (the "Effective Date") shall be changed and reclassified into one (1) share of Common Stock, $0.0001 par value per share, which shares shall be fully paid and nonassessable shares of Common Stock. There shall be no fractional shares issued. A holder of record of Common Stock on the Effective Date who would otherwise be entitled to a fraction of a share shall, in lieu thereof, be entitled to receive a cash payment in an amount equal to the fraction to which the stockholder would otherwise be entitled multiplied by the closing price of the Common Stock, as reported in the Wall Street Journal, on the last trading day prior to the Effective Date (or if such price is not available, the average of the last bid and asked prices of the Common Stock on such day or other price determined by the Corporation's board of directors)."

3. The Amendment of the Restated Certificate of Incorporation, as amended, herein certified has been duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, this 22nd day of July 2016.

Synta Pharmaceuticals Corp.

By: _____
Marc R. Schneebaum
Senior Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:18 AM 07/22/2016
FILED 10:18 AM 07/22/2016
SR 20165028200 - File Number 3191544

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION
OF
SYNTA PHARMACEUTICALS CORP.
(Pursuant to Section 242 of the
General Corporation Law of the State of Delaware)

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Synta Pharmaceuticals Corp.

2. The Restated Certificate of Incorporation filed on February 9, 2007, as amended, is hereby further amended as follows:

   A. To change the name of the Corporation by striking out Article FIRST of the Restated Certificate of Incorporation in its entirety and by substituting in lieu of said Article FIRST the following: "The name of the corporation is Madrigal Pharmaceuticals, Inc. (the "Corporation")."

3. The Amendment of the Restated Certificate of Incorporation, as amended, herein certified has been duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, this 22nd day of July 2016.

Synta Pharmaceuticals Corp.

By: _____
Marc R. Schneebaum
Senior Vice President and Chief Financial Officer

Exhibit 10.10

INCENTIVE STOCK OPTION AGREEMENT

SHARES OF COMMON STOCK,
$.0001 PAR VALUE PER SHARE

MADRIGAL PHARMACEUTICALS, INC.

, 20

As of , 20 (the "Grant Date"), Madrigal Pharmaceuticals, Inc. (the "Company"), a Delaware corporation, grants to (the "Employee") the right and option (the "Option") to purchase up to shares of the Common Stock, $.0001 par value per share, of the Company (the "Shares"), at a purchase price of **$** per share (the "Purchase Price") and on the terms and subject to the conditions set forth in the Company's 2015 Stock Plan (the "Plan"), United States securities and tax laws and this Agreement. For the purpose of this Agreement, the initial vesting date shall be , 20 ("Initial Vesting Date").

This Agreement, which includes the terms and conditions attached hereto, does not set forth all of the terms and conditions of the Plan, which is hereby incorporated into and made a part of this Agreement by reference. Any terms used and not defined herein have the same meanings as in the Plan. The Employee acknowledges that he or she has received a copy of the Plan from the Company and has carefully read the terms and conditions of the Plan and the attached terms and conditions which make up a part of this Agreement.

MADRIGAL PHARMACEUTICALS, INC.

Paul A. Friedman, M.D.
Chief Executive Officer

1. GRANT OF OPTION.

The Company hereby grants to the Employee, as of the Grant Date, the right and option to purchase all or any part of the aggregate number of Shares set forth on the signed cover page of this Agreement, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Employee acknowledges receipt of a copy of the Plan. The Option is intended to qualify for special federal tax treatment as an "incentive stock option" pursuant to Section 422 of the Internal Revenue Code of 1986, as amended (the "Code").

2. PURCHASE PRICE.

The purchase price of the Shares covered by the Option shall be the Purchase Price set forth on the cover page of this Agreement, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares. Payment shall be made in accordance with Section 10 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable [insert vesting schedule]. Notwithstanding the foregoing, the Option shall become vested and exercisable in accordance with the terms and conditions set forth in Sections 25B and G of the Plan.

4. TERM OF OPTION.

The Option shall terminate ten years from the date of this Agreement or, if the Employee owns as of the date hereof more than 10% of the total combined voting power of all classes of capital stock of the Company or of an Affiliate, five years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Employee ceases to be an employee of the Company or of an Affiliate (for any reason other than the death or Disability of the Employee or termination of the Employee's employment for "cause" as defined in the Plan, the Option may be exercised, if it has not previously terminated, within three months after the date the Employee ceases to be an employee of the Company or of an Affiliate, or within the originally prescribed term of the Option, whichever is earlier, but may not be exercised thereafter except as set forth below**.** In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of employment.

If the Employee ceases to be an employee of the Company or of an Affiliate but continues after termination of employment to provide service to the Company or an Affiliate as a consultant, this Option shall continue to vest in accordance with Section 3 above as if this Option had not terminated until the Employee is no longer providing services to the Company. In such case, this Option shall automatically convert and be deemed a Non-Qualified Option as of the date that is three months from termination of the Employee's employment and this Option shall continue on the same terms and conditions set forth herein until such Employee is no longer providing service to the Company or an Affiliate.

Notwithstanding the foregoing, in the event of the Employee's Disability or death within three months after the termination of employment, the Employee or the Employee's Survivors may exercise the Option within one year after the date of the Employee's termination of employment, but in no event after the date of expiration of the term of the Option.

In the event the Employee's employment is terminated by the Employee's employer for "cause" as defined in the Plan, the Employee's right to exercise any unexercised portion of this Option shall cease immediately as of the time the Employee is notified his or her employment is terminated for "cause," and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Employee's termination as an employee, but prior to the exercise of the Option, the Board of Directors of the Company determines that, either prior or subsequent to the Employee's termination, the Employee engaged in conduct which would constitute "cause," then the Employee shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Employee, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Employee's termination of employment or, if earlier, within the term originally prescribed by the Option. In such event, the Option shall be exercisable:

(a) to the extent that the Option has become exercisable but has not been exercised as of the date of Disability; and

(b) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of Disability of any additional vesting rights that would have accrued on the next vesting date had the Employee not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

In the event of the death of the Employee while an employee of the Company or of an Affiliate, the Option shall be exercisable by the Employee's Survivors within one year after the date of death of the Employee or, if earlier, within the originally prescribed term of the Option. In such event, the Option shall be exercisable:

(x) to the extent that the Option has become exercisable but has not been exercised as of the date of death; and

(y) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Employee not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Employee's date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form prescribed by the Company or its designee. Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option. Payment of the purchase price for such Shares shall be made in accordance with Section 10 of the Plan. The Company shall deliver such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Employee and if the Employee shall so request in the notice exercising the Option, shall be registered in the Company's share register in the name of the Employee and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by

any person other than the Employee, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Employee otherwise than by will or by the laws of descent and distribution. The Option shall be exercisable, during the Employee's lifetime, only by the Employee (or, in the event of legal incapacity or incompetency, by the Employee's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Employee shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Employee. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

10. TAXES.

The Employee acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Employee's responsibility.

In the event of a Disqualifying Disposition (as defined in Section 15 below) or if the Option is converted into a Non-Qualified Option and such Non-Qualified Option is exercised, the Company may withhold from the Employee's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Employee on exercise of the Option. The Employee further agrees that, if the Company does not withhold an amount from the Employee's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Employee will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing the Shares issued pursuant to such exercise:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Shares acquired by the Employee pursuant to the exercise of the Option granted hereby shall not be transferred by the Employee except as permitted herein.

12.2 If, in connection with a registration statement filed by the Company pursuant to the 1933 Act, the Company or its underwriter so requests, the Employee will agree not to sell any Shares for a period not to exceed 210 days following the effectiveness of such registration.

12.3 The Employee acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Employee any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the employment of the Employee by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

13. NO OBLIGATION TO EMPLOY.

The Company is not by the Plan or this Option obligated to continue the Employee as an employee of the Company or of an Affiliate. The Employee acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such

future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Employee's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation which is outside the scope of the Employee's employment contract, if any; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. OPTION IS INTENDED TO BE AN ISO.

The parties each intend that the Option be an ISO so that the Employee (or the Employee's Survivors) may qualify for the favorable tax treatment provided to holders of Options that meet the standards of Section 422 of the Code. Any provision of this Agreement or the Plan which conflicts with the Code so that this Option would not be deemed an ISO is null and void and any ambiguities shall be resolved so that the Option qualifies as an ISO. Nonetheless, if the Option is determined not to be an ISO, the Employee understands that neither the Company nor any Affiliate is responsible to compensate him or her or otherwise make up for the treatment of the Option as a Non-qualified Option and not as an ISO. The Employee should consult with the Employee's own tax advisors regarding the tax effects of the Option and the requirements necessary to obtain favorable tax treatment under Section 422 of the Code, including, but not limited to, holding period requirements.

15. NOTICE TO COMPANY OF DISQUALIFYING DISPOSITION.

The Employee agrees to notify the Company in writing immediately after the Employee makes a Disqualifying Disposition of any of the Shares acquired pursuant to the exercise of the Option. A Disqualifying Disposition is defined in Section 424(c) of the Code and includes any disposition (including any sale) of such Shares before the later of (a) two years after the date the Employee was granted the Option or (b) one year after the date the Employee acquired Shares by exercising the Option, except as otherwise provided in Section 424(c) of the Code. If the Employee has died before the Shares are sold, these holding period requirements do not apply and no Disqualifying Disposition can occur thereafter.

16. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Madrigal Pharmaceuticals, Inc.
200 Barr Harbor Drive, Suite 400
West Conshohocken, PA 19428
Attention: Stock Plan Administrator

If to the Employee, the Employee's Company email address or the mailing address provided to the Company on the Employee's employment application or resume, or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

17. GOVERNING LAW.

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in the Commonwealth of Pennsylvania and agree that such litigation shall be conducted in the courts of Montgomery County, Pennsylvania or the federal courts of the United States for the Eastern District of Pennsylvania.

18. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

19. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

20. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

21. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

22. DATA PRIVACY.

By entering into this Agreement, the Employee: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; and (ii) authorizes the Company and each Affiliate to store and transmit such information in electronic form for the purposes set forth in this Agreement.

EXHIBIT A

NOTICE OF EXERCISE OF INCENTIVE STOCK OPTION

TO: Madrigal Pharmaceuticals Inc.

Ladies and Gentlemen:

I hereby exercise my Incentive Stock Option to purchase shares (the "Shares") of the common stock, $.0001 par value, of Madrigal Pharmaceuticals, Inc. (the "Company"), at the exercise price of $ per share, pursuant to and subject to the terms of that certain Incentive Stock Option Agreement between the undersigned and the Company dated , 20 .

I understand the nature of the investment I am making and the financial risks thereof. I am aware that it is my responsibility to have consulted with competent tax and legal advisors about the relevant national, state and local income tax and securities laws affecting the exercise of the Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

Please issue the Shares (check one): to me; or to me and [name], as joint tenants with right of survivorship, at the following address:

My mailing address for shareholder communications, if different from the address listed above, is:

Very truly yours,

Employee (signature)

Print Name

Date

Social Security Number

Exhibit 10.11

NON-QUALIFIED STOCK OPTION AGREEMENT

SHARES OF COMMON STOCK, $.0001 PAR VALUE PER SHARE

MADRIGAL PHARMACEUTICALS, INC.

, 20

As of , 20 (the "Grant Date"), Madrigal Pharmaceuticals, Inc. (the "Company"), a Delaware corporation, grants to (the "Participant") the right and option (the "Option") to purchase up to shares of the Common Stock, $.0001 par value per share, of the Company (the "Shares"), at a purchase price of **$** per share (the "Purchase Price") and on the terms and subject to the conditions set forth in the Company's 2015 Stock Plan (the "Plan"), United States securities and tax laws and this Agreement. For the purpose of this Agreement, the initial vesting date shall be , 20 ("Initial Vesting Date").

This Agreement, which includes the terms and conditions attached hereto, does not set forth all of the terms and conditions of the Plan, which is hereby incorporated into and made a part of this Agreement by reference. Any terms used and not defined herein have the same meanings as in the Plan. The Participant acknowledges that he or she has received a copy of the Plan from the Company and has carefully read the terms and conditions of the Plan and the attached terms and conditions which make up a part of this Agreement.

MADRIGAL PHARMACEUTICALS, INC.

_____

Paul A. Friedman, M.D.
Chief Executive Officer

1. GRANT OF OPTION.

The Company hereby grants to the Participant, as of the Grant Date, the right and option to purchase all or any part of the aggregate number of Shares set forth on the signed cover page of this Agreement, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Participantacknowledges receipt of a copy of the Plan.

2. PURCHASE PRICE.

The purchase price of the Shares covered by the Option shall be the Purchase Price set forth on the cover page of this Agreement, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares. Payment shall be made in accordance with Section 10 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable [insert vesting schedule]. Notwithstanding the foregoing, the Option shall become vested and exercisable in accordance with the terms and conditions set forth in Sections 25B and G of the Plan.

4. TERM OF OPTION.

The Option shall terminate ten years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Participant ceases to be an employee or consultant of the Company or of an Affiliate (for any reason other than the death or Disability of the Participant or termination of the Participant for "cause" (as defined in the Plan), the Option may be exercised, if it has not previously terminated, within three months after the date the Participant ceases to be an employee or consultant of the Company or of an Affiliate, or within the originally prescribed term of the Option, whichever is earlier, but may not be exercised thereafter. In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of service.

Notwithstanding the foregoing, in the event of the Participant's Disability or death within three months after the termination of service, the Participant or the Participant's Survivors may exercise the Option within one year after the date of the Participant's termination of service, but in no event after the date of expiration of the term of the Option.

In the event the Participant's service is terminated by the Company or by an Affiliate for "cause" as defined in the Plan), the Participant's right to exercise any unexercised portion of this Option shall cease immediately as of the time the Participant is notified his or her service is terminated for "cause," and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Participant's termination, but prior to the exercise of the Option, the Board of Directors of the Company determines that, either prior or subsequent to the Participant's termination, the Participant engaged in conduct which would constitute "cause" (as defined in the Plan), then the Participant shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Participant, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Participant's termination of service or, if earlier, within the term originally prescribed by the Option. In such event, the Option shall be exercisable:

(a) to the extent that the Option has become exercisable but has not been exercised as of the date of Disability; and

(b) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of Disability of any additional vesting rights that would have accrued on the next vesting date had the Participant not become Disabled. The proration shall be based upon the number of days accrued in the current vesting period prior to the date of Disability.

In the event of the death of the Participant while an employee or consultant of the Company or of an Affiliate, the Option shall be exercisable by the Participant's Survivors within one year after the date of death of the Participant or, if earlier, within the originally prescribed term of the Option. In such event, the Option shall be exercisable:

(x) to the extent that the Option has become exercisable but has not been exercised as of the date of death; and

(y) in the event rights to exercise the Option accrue periodically, to the extent of a pro rata portion through the date of death of any additional vesting rights that would have accrued on the next vesting date had the Participant not died. The proration shall be based upon the number of days accrued in the current vesting period prior to the Participant's date of death.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of EXHIBIT A attached hereto. Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option. Payment of the purchase price for such Shares shall be made in accordance with Section 9 of the Plan. The Company shall deliver such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Participant and if the Participant shall so request in the notice exercising the Option, shall be registered in the Company's share register in the name of the Participant and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Participant, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Participant otherwise than by will or by the laws of descent and distribution or pursuant to a qualified domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder. However, the Participant, with the approval of the Administrator, may transfer the Option for no consideration to or for the benefit of the Participant's Immediate Family (including, without limitation, to a trust for the benefit of the Participant's Immediate Family or to a partnership or limited liability company for one or more members of the Participant's Immediate Family), subject to such limits as the Administrator may establish, and the transferee shall remain subject to all the terms and conditions applicable to the Option prior to such transfer and each such transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer. Except as provided in the previous sentence, the Option shall be exercisable, during the Participant's lifetime, only by the Participant (or, in the event of legal incapacity or incompetency, by the Participant's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void. The term "Immediate Family" shall mean the Participant's spouse, former spouse, parents, children, stepchildren, adoptive relationships, sisters, brothers, nieces, nephews and grandchildren (and, for this purpose, shall also include the Participant).

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Participant shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Participant. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

10. TAXES.

The Participant acknowledges that upon exercise of the Option the Participant will be deemed to have taxable income measured by the difference between the then fair market value of the Shares received upon exercise and the price paid for such Shares pursuant to this Agreement. The Participant acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Participant's responsibility.

The Participant agrees that the Company may withhold from the Participant's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Participant on exercise of the Option. The Participant further agrees that, if the Company does not withhold an amount from the Participant's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Participant will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing the Shares issued pursuant to such exercise:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws;" and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Shares acquired by the Participant pursuant to the exercise of the Option granted hereby shall not be transferred by the Participant except as permitted herein.

12.2 If, in connection with a registration statement filed by the Company pursuant to the 1933 Act, the Company or its underwriter so requests, the Participant will agree not to sell any Shares for a period not to exceed 210 days following the effectiveness of such registration.

12.3 The Participant acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Participant any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of the employment of the Participant by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

13. NO OBLIGATION TO MAINTAIN RELATIONSHIP.

The Company is not by the Plan or this Option obligated to continue the Participant as an employee or consultant of the Company or of an Affiliate. The Participant acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such

future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Participant's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation which is outside the scope of the Participant's employment contract, if any; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Madrigal Pharmaceuticals, Inc.
200 Barr Harbor Drive, Suite 400
West Conshohocken, PA 19428
Attention: Stock Plan Administrator

If to the Participant, the Participant's Company email address or the mailing address provided to the Company on the Participant's application or resume, or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

15. GOVERNING LAW.

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in the Commonwealth of Pennsylvania and agree that such litigation shall be conducted in the courts of Montgomery County, Pennsylvania or the federal courts of the United States for the Eastern District of Pennsylvania.

16. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

17. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

18. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

19. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

20. DATA PRIVACY.

By entering into this Agreement, the Participant: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; and (ii) authorizes the Company and each Affiliate to store and transmit such information in electronic form for the purposes set forth in this Agreement.

EXHIBIT A

NOTICE OF EXERCISE OF NON-QUALIFIED STOCK OPTION

TO: Madrigal Pharmaceuticals Inc.

Ladies and Gentlemen:

I hereby exercise my Non-Qualified Stock Option to purchase shares (the "Shares") of the common stock, $.0001 par value, of Madrigal Pharmaceuticals, Inc. (the "Company"), at the exercise price of $ per share, pursuant to and subject to the terms of that certain Non Qualified Stock Option Agreement between the undersigned and the Company dated , 20 .

I understand the nature of the investment I am making and the financial risks thereof. I am aware that it is my responsibility to have consulted with competent tax and legal advisors about the relevant national, state and local income tax and securities laws affecting the exercise of the Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

Please issue the Shares (check one): to me; or to me and [name], as joint tenants with right of survivorship, at the following address:

My mailing address for shareholder communications, if different from the address listed above, is:

Very truly yours,

Participant (signature)

Print Name

Date

Social Security Number

Exhibit 10.12

RESTRICTED STOCK AGREEMENT

MADRIGAL PHARMACEUTICALS, INC.

AGREEMENT made as of the day of , 20 (the "Grant Date"), between Madrigal Pharmaceuticals, Inc. (the "Company"), a Delaware corporation having its principal place of business in West Conshohocken, Pennsylvania and (the "Participant").

WHEREAS, the Company has adopted the 2015 Stock Plan (the "Plan") to promote the interests of the Company by providing an incentive for employees, directors and consultants of the Company or its Affiliates;

WHEREAS, pursuant to the provisions of the Plan, the Company desires to offer to the Participant shares of the Company's common stock, $.0001 par value per share ("Common Stock"), in accordance with the provisions of the Plan, all on the terms and conditions hereinafter set forth;

WHEREAS, the Participant wishes to accept said offer; and

WHEREAS, the parties hereto understand and agree that any terms used and not defined herein have the meanings ascribed to such terms in the Plan.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Terms of Grant. The Participant hereby accepts the offer of the Company to issue to the Participant, in accordance with the terms of the Plan and this Agreement, ( ) Shares of the Company's Common Stock (such shares, subject to adjustment pursuant to Section 24 of the Plan and Subsection 2(h) hereof, the "Granted Shares") at a purchase price per share of $.0001 (the "Purchase Price"), receipt of which is hereby acknowledged by the Participant's prior service to the Company and which amount will be reported as income on the Participant's W-2 for this calendar year.

2. Forfeiture Provisions.

(a) Lapsing Forfeiture Right. The Company's Lapsing Forfeiture Right is as follows: [insert vesting schedule].

(b) Effect of Termination for Disability or Upon Death. The following rules apply if the Participant's Termination is by reason of Disability or death: to the extent the Company's Lapsing Forfeiture Right has not lapsed as of the date of Disability or death, as case may be, the Participant shall forfeit to the Company any or all of the Granted Shares subject to such Lapsing Forfeiture Right; provided, however, that the Company's Lapsing Forfeiture Right shall be deemed to have lapsed to the extent of a pro rata portion of the Granted Shares through the date of Disability or death, as would have lapsed had the Participant not become Disabled or died, as the case may be. The proration shall be based upon the number of days accrued in such current vesting period prior to the Participant's date of Disability or death, as the case may be.

(c) Effect of a For Cause Termination. Notwithstanding anything to the contrary contained in this Agreement, in the event the Company or an Affiliate terminates the Participant's employment or service for "cause" (as defined in the Plan) or in the event the Board of Directors determines, within one year after the Participant's termination, that either prior or subsequent to the Participant's termination the Participant engaged in conduct that would constitute "cause," all of the Granted Shares then held by the Participant shall be forfeited to the Company immediately as of the time the Participant is notified that he or she has been terminated for "cause" or that he or she engaged in conduct which would constitute "cause."

(d) Effect of Change of Control. Except as otherwise provided in Subsection 2(c) above, the Company's Lapsing Forfeiture Right shall terminate, and the Participant's ownership of all Granted Shares then owned by the Participant shall become vested in accordance with the terms and conditions set forth in Sections 24B and F of the Plan.

(e) Escrow. The certificates representing all Granted Shares acquired by the Participant hereunder which from time to time are subject to the Lapsing Forfeiture Right shall be delivered to the Company and the Company shall hold such Granted Shares in escrow as provided in this Subsection 2(e). Upon the request of the Participant, the Company shall promptly release from escrow and deliver to the Participant the whole number of Granted Shares, if any, as to which the Company's Lapsing Forfeiture Right has lapsed and without the legend set forth in Section 6. In the event of forfeiture to the Company of Granted Shares subject to the Lapsing Forfeiture Right, the Company shall release from escrow and cancel a certificate for the number of Granted Shares so forfeited. Any securities distributed in respect of the Granted Shares held in escrow, including, without limitation, shares issued as a result of stock splits, stock dividends or other recapitalizations, shall also be held in escrow in the same manner as the Granted Shares.

(f) Prohibition on Transfer. The Participant recognizes and agrees that all Granted Shares which are subject to the Lapsing Forfeiture Right may not be sold, transferred, assigned, hypothecated, pledged, encumbered or otherwise disposed of, whether voluntarily or by operation of law, other than to the Company (or its designee). However, the Participant, with the approval of the Administrator, may transfer the Granted Shares for no consideration to or for the benefit of the Participant's Immediate Family (including, without limitation, to a trust for the benefit of the Participant's Immediate Family or to a partnership or limited liability company for one or more members of the Participant's Immediate Family), subject to such limits as the Administrator may establish, and the transferee shall remain subject to all the terms and conditions applicable to this Agreement prior to such transfer and each such transferee shall so acknowledge in writing as a condition precedent to the effectiveness of such transfer. The term "Immediate Family" shall mean the Participant's spouse, former spouse, parents, children, stepchildren, adoptive relationships, sisters, brothers, nieces and nephews and grandchildren and, for this purpose, shall also include the Participant. The Company shall not be required to transfer any Granted Shares on its books which shall have been sold, assigned or otherwise transferred in violation of this Subsection 2(f), or to treat as the owner of such Granted Shares, or to accord the right to vote as such owner or to pay dividends to, any person or organization to which any such Granted Shares shall have been so sold, assigned or otherwise transferred, in violation of this Subsection 2(f).

(g) Failure to Deliver Granted Shares to be Forfeited. In the event that the Granted Shares to be forfeited to the Company under this Agreement are not in the Company's possession pursuant to Subsection 2(e) above or otherwise and the Participant or the Participant's Survivor fails to deliver such Granted Shares to the Company (or its designee), the Company may

immediately take such action as is appropriate to transfer record title of such Granted Shares from the Participant to the Company (or its designee) and treat the Participant and such Granted Shares in all respects as if delivery of such Granted Shares had been made as required by this Agreement. The Participant hereby irrevocably grants the Company a power of attorney which shall be coupled with an interest for the purpose of effectuating the preceding sentence.

(h) Adjustments. The Plan contains provisions covering the treatment of Shares in a number of contingencies such as stock splits, mergers and Change of Control transactions. Provisions in the Plan for adjustment with respect to the Granted Shares and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

3. General Restrictions on Transfer of Granted Shares.

(a) If in connection with a registration statement filed by the Company pursuant to the Securities Act of 1933, as amended (the "1933 Act"), the Company or its underwriter so requests, the Participant will agree not to sell any of his or her Granted Shares whether or not the Lapsing Forfeiture Right has lapsed for a period not to exceed the lesser of: (i) 210 days following the effectiveness of such registration statement or (ii) such period as the officers and directors of the Company agree not to sell their Common Stock of the Company.

(b) The Participant acknowledges and agrees that neither the Company nor, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Participant any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a Termination, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

4. Securities Law Compliance. The Participant specifically acknowledges and agrees that any sales of Granted Shares shall be made in accordance with the requirements of the 1933 Act.

5. Rights as a Stockholder. The Participant shall have all the rights of a stockholder with respect to the Granted Shares, including voting and dividend rights, subject to the transfer and other restrictions set forth herein and in the Plan.

6. Legend. In addition to any legend required pursuant to the Plan, all certificates representing the Granted Shares to be issued to the Participant pursuant to this Agreement shall have endorsed thereon a legend substantially as follows:

"The shares represented by this certificate are subject to restrictions set forth in a Restricted Stock Agreement dated as of , 20 with this Company, a copy of which Agreement is available for inspection at the offices of the Company or will be made available upon request."

7. Incorporation of the Plan. The Participant specifically understands and agrees that the Granted Shares issued under the Plan are being sold to the Participant pursuant to the Plan, a copy of which Plan the Participant acknowledges he or she has read and understands and by which Plan he or she agrees to be bound. The provisions of the Plan are incorporated herein by reference.

8. Tax Liability of the Participant and Payment of Taxes. The Participant acknowledges and agrees that any income or other taxes due from the Participant with respect to the Granted Shares issued pursuant to this Agreement, including, without limitation, the Lapsing Forfeiture Right, shall be the Participant's responsibility. Without limiting the foregoing, the Participant agrees that, to the extent that the lapsing of restrictions on disposition of any of the Granted Shares or the declaration of dividends on any such shares before the lapse of such restrictions on disposition results in the Participant's being deemed to be in receipt of earned income under the provisions of the Code, the Company shall be entitled to immediate payment from the Participant of the amount of any tax required to be withheld by the Company.

Upon execution of this Agreement, the Participant may file an election under Section 83 of the Code. The Participant acknowledges that if he does not file such an election, as the Granted Shares are released from the Lapsing Forfeiture Right in accordance with Section 2, the Participant will have income for tax purposes equal to the fair market value of the Granted Shares at such date, less the price paid for the Granted Shares by the Participant.

9. Equitable Relief. The Participant specifically acknowledges and agrees that in the event of a breach or threatened breach of the provisions of this Agreement or the Plan, including the attempted transfer of the Granted Shares by the Participant in violation of this Agreement, monetary damages may not be adequate to compensate the Company, and, therefore, in the event of such a breach or threatened breach, in addition to any right to damages, the Company shall be entitled to equitable relief in any court having competent jurisdiction. Nothing herein shall be construed as prohibiting the Company from pursuing any other remedies available to it for any such breach or threatened breach.

10. No Obligation to Maintain Relationship. The Company is not by the Plan or this Agreement obligated to continue the Participant as an employee or consultant of the Company or an Affiliate. The Participant acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Shares is a one-time benefit which does not create any contractual or other right to receive future grants of shares, or benefits in lieu of shares; (iii) that all determinations with respect to any such future grants, including, but not limited to, the times when shares shall be granted, the number of shares to be granted, the purchase price, and the time or times when each share shall be free from a lapsing forfeiture right, will be at the sole discretion of the Company; (iv) that the Participant's participation in the Plan is voluntary; (v) that the value of the Shares is an extraordinary item of compensation which is outside the scope of the Participant's employment contract, if any; and (vi) that the Shares are not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

11. Notices. Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company: Madrigal Pharmaceuticals, Inc.
200 Barr Harbor Drive, Suite 400
West Conshohocken, PA 19428
Attn: Stock Plan Administrator

If to the Participant: PARTICIPANT ADDRESS

or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given on the earliest of receipt, one business day following delivery by the sender to a recognized courier service, or three business days following mailing by registered or certified mail.

12. Benefit of Agreement. Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

13. Governing Law. This Agreement shall be construed and enforced in accordance with the laws of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, whether at law or in equity, the parties hereby consent to exclusive jurisdiction in Pennsylvania and agree that such litigation shall be conducted in the courts of the Commonwealth of Pennsylvania or the federal courts of the United States for the Eastern District of Pennsylvania.

14. Severability. If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, then such provision or provisions shall be modified to the extent necessary to make such provision valid and enforceable, and to the extent that this is impossible, then such provision shall be deemed to be excised from this Agreement, and the validity, legality and enforceability of the rest of this Agreement shall not be affected thereby.

15. Entire Agreement. This Agreement, together with the Plan, constitutes the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict the express terms and provisions of this Agreement provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

16. Modifications and Amendments; Waivers and Consents. The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

17. Consent of Spouse/Domestic Partner. If the Participant has a spouse or domestic partner as of the date of this Agreement, the Participant's spouse or domestic partner shall execute a Consent of Spouse/Domestic Partner in the form of Exhibit A hereto, effective as of the date hereof. Such consent shall not be deemed to confer or convey to the spouse or domestic partner any rights in

the Granted Shares that do not otherwise exist by operation of law or the agreement of the parties. If the Participant subsequent to the date hereof, marries, remarries or applies to the Company for domestic partner benefits, the Participant shall, not later than 60 days thereafter, obtain his or her new spouse/domestic partner's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by having such spouse/domestic partner execute and deliver a Consent of Spouse/Domestic Partner in the form of Exhibit A.

18. Counterparts. This Agreement may be executed in one or more counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

19. Data Privacy. By entering into this Agreement, the Participant: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan record keeping services, to disclose to the Company or any of its Affiliates such information and data as the Company or any such Affiliate shall request in order to facilitate the grant of Shares and the administration of the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company and each Affiliate to store and transmit such information in electronic form.

[THE NEXT PAGE IS THE SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

MADRIGAL PHARMACEUTICALS, INC.

By: _____

PARTICIPANT

EXHIBIT A

CONSENT OF SPOUSE/DOMESTIC PARTNER

I, , spouse or domestic partner of , acknowledge that I have read the RESTRICTED STOCK AGREEMENT dated as of (the "Agreement") to which this Consent is attached as Exhibit A and that I know its contents. Capitalized terms used and not defined herein shall have the meanings assigned to such terms in the Agreement. I am aware that by its provisions the Granted Shares granted to my spouse/domestic partner pursuant to the Agreement are subject to a Lapsing Forfeiture Right in favor of Madrigal Pharmaceuticals, Inc. (the "Company") and that, accordingly, I may be required to forfeit to the Company any or all of the Granted Shares of which I may become possessed as a result of a gift from my spouse/domestic partner or a court decree and/or any property settlement in any domestic litigation.

I hereby agree that my interest, if any, in the Granted Shares subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in the Granted Shares shall be similarly bound by the Agreement.

I agree to the Lapsing Forfeiture Right described in the Agreement and I hereby consent to the forfeiture of the Granted Shares to the Company by my spouse/domestic partner or my spouse/domestic partner's legal representative in accordance with the provisions of the Agreement. Further, as part of the consideration for the Agreement, I agree that at my death, if I have not disposed of any interest of mine in the Granted Shares by an outright bequest of the Granted Shares to my spouse or domestic partner, then the Company shall have the same rights against my legal representative to exercise its rights to the Granted Shares with respect to any interest of mine in the Granted Shares as it would have had pursuant to the Agreement if I had acquired the Granted Shares pursuant to a court decree in domestic litigation.

I AM AWARE THAT THE LEGAL, FINANCIAL AND RELATED MATTERS CONTAINED IN THE AGREEMENT ARE COMPLEX AND THAT I AM FREE TO SEEK INDEPENDENT PROFESSIONAL GUIDANCE OR COUNSEL WITH RESPECT TO THIS CONSENT. I HAVE EITHER SOUGHT SUCH GUIDANCE OR COUNSEL OR DETERMINED AFTER REVIEWING THE AGREEMENT CAREFULLY THAT I WILL WAIVE SUCH RIGHT.

Dated as of the day of , 20 .

_____

_____

Print name

Exhibit 10.13

NON-QUALIFIED STOCK OPTION AGREEMENT

SHARES OF COMMON STOCK, $.0001 PAR VALUE PER SHARE

MADRIGAL PHARMACEUTICALS, INC.

, 20

As of , 20 (the "Grant Date"), Madrigal Pharmaceuticals, Inc. (the "Company"), a Delaware corporation, grants to (the "Non-Employee Director") the right and option (the "Option") to purchase up to shares of the Common Stock, $.0001 par value per share, of the Company (the "Shares"), at a purchase price of **$** per share (the "Purchase Price") and on the terms and subject to the conditions set forth in the Company's 2015 Stock Plan (the "Plan"), United States securities and tax laws and this Agreement. For the purpose of this Agreement, the initial vesting date shall be , ("Initial Vesting Date").

This Agreement, which includes the terms and conditions attached hereto, does not set forth all of the terms and conditions of the Plan, which is hereby incorporated into and made a part of this Agreement by reference. Any terms used and not defined herein have the same meanings as in the Plan. The Employee acknowledges that he or she has received a copy of the Plan from the Company and has carefully read the terms and conditions of the Plan and the attached terms and conditions which make up a part of this Agreement.

MADRIGAL PHARMACEUTICALS, INC.

_____

Paul A. Friedman, M.D.
Chief Executive Officer

1. GRANT OF OPTION.

The Company hereby grants to the Non-Employee Director, as of the Grant Date, the right and option to purchase all or any part of the aggregate number of Shares set forth on the signed cover page of this Agreement, on the terms and conditions and subject to all the limitations set forth herein, under United States securities and tax laws, and in the Plan, which is incorporated herein by reference. The Non-Employee Director acknowledges receipt of a copy of the Plan.

2. PURCHASE PRICE.

The purchase price of the Shares covered by the Option shall be the Purchase Price set forth on the cover page of this Agreement, subject to adjustment, as provided in the Plan, in the event of a stock split, reverse stock split or other events affecting the holders of Shares. Payment shall be made in accordance with Section 9 of the Plan.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement and the Plan, the Option granted hereby shall become exercisable [insert vesting schedule], provided, however, in the event of termination of service of the Non-Employee Director, for any reason other than for "cause" (as defined in the Plan), the Option shall be deemed to have vested to the extent of a pro rata portion of the Option through the Non-Employee Director's last day of service based on the number of days accrued in the applicable quarterly period prior to his or her termination of service. Notwithstanding the foregoing, the Option shall become vested and exercisable in accordance with the terms and conditions set forth in Sections 24B and F of the Plan.

4. TERM OF OPTION.

The Option shall terminate ten years from the date of this Agreement, but shall be subject to earlier termination as provided herein or in the Plan.

If the Non-Employee Director ceases to be a director of the Company or of an Affiliate (for any reason other than the death or Disability of the Non-Employee Director or termination of the Non-Employee Director for "cause" (as defined in the Plan), the Option may be exercised, if it has not previously terminated, within three months after the date the Non-Employee Director ceases to be a director of the Company or of an Affiliate, or within the originally prescribed term of the Option, whichever is earlier, but may not be exercised thereafter. In such event, the Option shall be exercisable only to the extent that the Option has become exercisable and is in effect at the date of such cessation of service.

Notwithstanding the foregoing, in the event of the Non-Employee Director's Disability or death within three months after the termination of service, the Non-Employee Director or the Non-Employee Director's Survivors may exercise the Option within one year after the date of the Non-Employee Director's termination of service, but in no event after the date of expiration of the term of the Option.

In the event the Non-Employee Director's service is terminated by the Company or by an Affiliate for "cause" (as defined in the Plan), the Non-Employee Director's right to exercise any unexercised portion of this Option shall cease immediately as of the time the Non-Employee Director is notified his or her service is terminated for "cause," and this Option shall thereupon terminate. Notwithstanding anything herein to the contrary, if subsequent to the Non-Employee Director's termination, but prior to the exercise of the Option, the Board of Directors of the Company determines that, either prior or subsequent to the Non-Employee Director's termination, the Non-Employee Director

engaged in conduct which would constitute "cause" (as defined in the Plan), then the Non-Employee Director shall immediately cease to have any right to exercise the Option and this Option shall thereupon terminate.

In the event of the Disability of the Non-Employee Director, as determined in accordance with the Plan, the Option shall be exercisable within one year after the Non-Employee Director's termination of service or, if earlier, within the term originally prescribed by the Option.

In the event of the death of the Non-Employee Director while a director of the Company or of an Affiliate, the Option shall be exercisable by the Non-Employee Director's Survivors within one year after the date of death of the Non-Employee Director or, if earlier, within the originally prescribed term of the Option.

5. METHOD OF EXERCISING OPTION.

Subject to the terms and conditions of this Agreement, the Option may be exercised by written notice to the Company or its designee, in substantially the form of Exhibit A attached hereto. Such notice shall state the number of Shares with respect to which the Option is being exercised and shall be signed by the person exercising the Option. Payment of the purchase price for such Shares shall be made in accordance with Section 9 of the Plan. The Company shall deliver such Shares as soon as practicable after the notice shall be received, provided, however, that the Company may delay issuance of such Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including, without limitation, state securities or "blue sky" laws). The Shares as to which the Option shall have been so exercised shall be registered in the Company's share register in the name of the person so exercising the Option (or, if the Option shall be exercised by the Non-Employee Director and if the Non-Employee Director shall so request in the notice exercising the Option, shall be registered in the Company's share register in the name of the Non-Employee Director and another person jointly, with right of survivorship) and shall be delivered as provided above to or upon the written order of the person exercising the Option. In the event the Option shall be exercised, pursuant to Section 4 hereof, by any person other than the Non-Employee Director, such notice shall be accompanied by appropriate proof of the right of such person to exercise the Option. All Shares that shall be purchased upon the exercise of the Option as provided herein shall be fully paid and nonassessable.

6. PARTIAL EXERCISE.

Exercise of this Option to the extent above stated may be made in part at any time and from time to time within the above limits, except that no fractional share shall be issued pursuant to this Option.

7. NON-ASSIGNABILITY.

The Option shall not be transferable by the Non-Employee Director otherwise than by will or by the laws of descent and distribution or pursuant to a qualified domestic relations order as defined by the Code or Title I of the Employee Retirement Income Security Act or the rules thereunder. However, the Non-Employee Director, with the approval of the Administrator, may transfer the Option for no consideration. Except as provided in the previous sentence, the Option shall be exercisable, during the Non-Employee Director's lifetime, only by the Non-Employee Director (or, in the event of legal incapacity or incompetency, by the Non-Employee Director's guardian or representative) and shall not be assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process. Any attempted transfer, assignment, pledge, hypothecation or other disposition of the Option or of any rights granted hereunder contrary to the provisions of this Section 7, or the levy of any attachment or similar process upon the Option shall be null and void.

8. NO RIGHTS AS STOCKHOLDER UNTIL EXERCISE.

The Non-Employee Director shall have no rights as a stockholder with respect to Shares subject to this Agreement until registration of the Shares in the Company's share register in the name of the Non-Employee Director. Except as is expressly provided in the Plan with respect to certain changes in the capitalization of the Company, no adjustment shall be made for dividends or similar rights for which the record date is prior to the date of such registration.

9. ADJUSTMENTS.

The Plan contains provisions covering the treatment of Options in a number of contingencies such as stock splits and mergers. Provisions in the Plan for adjustment with respect to stock subject to Options and the related provisions with respect to successors to the business of the Company are hereby made applicable hereunder and are incorporated herein by reference.

10. TAXES.

The Non-Employee Director acknowledges that upon exercise of the Option the Non-Employee Director will be deemed to have taxable income measured by the difference between the then fair market value of the Shares received upon exercise and the price paid for such Shares pursuant to this Agreement. The Non-Employee Director acknowledges that any income or other taxes due from him or her with respect to this Option or the Shares issuable pursuant to this Option shall be the Non-Employee Director's responsibility.

The Non-Employee Director agrees that the Company may withhold from the Non-Employee Director's remuneration, if any, the minimum statutory amount of federal, state and local withholding taxes attributable to such amount that is considered compensation includable in such person's gross income. At the Company's discretion, the amount required to be withheld may be withheld in cash from such remuneration, or in kind from the Shares otherwise deliverable to the Non-Employee Director on exercise of the Option. The Non-Employee Director further agrees that, if the Company does not withhold an amount from the Non-Employee Director's remuneration sufficient to satisfy the Company's income tax withholding obligation, the Non-Employee Director will reimburse the Company on demand, in cash, for the amount under-withheld.

11. PURCHASE FOR INVESTMENT.

Unless the offering and sale of the Shares to be issued upon the particular exercise of the Option shall have been effectively registered under the Securities Act of 1933, as now in force or hereafter amended (the "1933 Act"), the Company shall be under no obligation to issue the Shares covered by such exercise unless and until the following conditions have been fulfilled:

(a) The person(s) who exercise the Option shall warrant to the Company, at the time of such exercise, that such person(s) are acquiring such Shares for their own respective accounts, for investment, and not with a view to, or for sale in connection with, the distribution of any such Shares, in which event the person(s) acquiring such Shares shall be bound by the provisions of the following legend which shall be endorsed upon the certificate(s) evidencing the Shares issued pursuant to such exercise:

> "The shares represented by this certificate have been taken for investment and they may not be sold or otherwise transferred by any person, including a pledgee, unless (1) either (a) a Registration Statement with respect to such shares shall be

effective under the Securities Act of 1933, as amended, or (b) the Company shall have received an opinion of counsel satisfactory to it that an exemption from registration under such Act is then available, and (2) there shall have been compliance with all applicable state securities laws"; and

(b) If the Company so requires, the Company shall have received an opinion of its counsel that the Shares may be issued upon such particular exercise in compliance with the 1933 Act without registration thereunder. Without limiting the generality of the foregoing, the Company may delay issuance of the Shares until completion of any action or obtaining of any consent, which the Company deems necessary under any applicable law (including without limitation state securities or "blue sky" laws).

12. RESTRICTIONS ON TRANSFER OF SHARES.

12.1 The Shares acquired by the Non-Employee Director pursuant to the exercise of the Option granted hereby shall not be transferred by the Non-Employee Director except as permitted herein.

12.2 If, in connection with a registration statement filed by the Company pursuant to the 1933 Act, the Company or its underwriter so requests, the Non-Employee Director will agree not to sell any Shares for a period not to exceed 210 days following the effectiveness of such registration.

12.3 The Non-Employee Director acknowledges and agrees that neither the Company, its shareholders nor its directors and officers, has any duty or obligation to disclose to the Non-Employee Director any material information regarding the business of the Company or affecting the value of the Shares before, at the time of, or following a termination of service of the Non-Employee Director by the Company, including, without limitation, any information concerning plans for the Company to make a public offering of its securities or to be acquired by or merged with or into another firm or entity.

13. NO OBLIGATION TO MAINTAIN RELATIONSHIP.

The Company is not by the Plan or this Option obligated to continue the Non-Employee Director as a director of the Company or of an Affiliate. The Non-Employee Director acknowledges: (i) that the Plan is discretionary in nature and may be suspended or terminated by the Company at any time; (ii) that the grant of the Option is a one-time benefit which does not create any contractual or other right to receive future grants of options, or benefits in lieu of options; (iii) that all determinations with respect to any such future grants, including, but not limited to, the times when options shall be granted, the number of shares subject to each option, the option price, and the time or times when each option shall be exercisable, will be at the sole discretion of the Company; (iv) that the Non-Employee Director's participation in the Plan is voluntary; (v) that the value of the Option is an extraordinary item of compensation; and (vi) that the Option is not part of normal or expected compensation for purposes of calculating any severance, resignation, redundancy, end of service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

14. NOTICES.

Any notices required or permitted by the terms of this Agreement or the Plan shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Madrigal Pharmaceuticals, Inc.

200 Barr Harbor Drive, Suite 400
West Conshohocken, PA 19428
Attention: Stock Plan Administrator

If to the Non-Employee Director, the Non-Employee Director's Company email address or the mailing address previously provided to the Company, or to such other address or addresses of which notice in the same manner has previously been given. Any such notice shall be deemed to have been given upon the earlier of receipt, one business day following delivery to a recognized courier service or three business days following mailing by registered or certified mail.

15. GOVERNING LAW.

This Agreement shall be construed and enforced in accordance with the law of the State of Delaware, without giving effect to the conflict of law principles thereof. For the purpose of litigating any dispute that arises under this Agreement, the parties hereby consent to exclusive jurisdiction in the Commonwealth of Pennsylvania and agree that such litigation shall be conducted in the courts of Montgomery County, Pennsylvania or the federal courts of the United States for the Eastern District of Pennsylvania.

16. BENEFIT OF AGREEMENT.

Subject to the provisions of the Plan and the other provisions hereof, this Agreement shall be for the benefit of and shall be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

17. ENTIRE AGREEMENT.

This Agreement, together with the Plan, embodies the entire agreement and understanding between the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings relating to the subject matter hereof. No statement, representation, warranty, covenant or agreement not expressly set forth in this Agreement shall affect or be used to interpret, change or restrict, the express terms and provisions of this Agreement, provided, however, in any event, this Agreement shall be subject to and governed by the Plan.

18. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended as provided in the Plan.

19. WAIVERS AND CONSENTS.

Except as provided in the Plan, the terms and provisions of this Agreement may be waived, or consent for the departure therefrom granted, only by written document executed by the party entitled to the benefits of such terms or provisions. No such waiver or consent shall be deemed to be or shall constitute a waiver or consent with respect to any other terms or provisions of this Agreement, whether or not similar. Each such waiver or consent shall be effective only in the specific instance and for the purpose for which it was given, and shall not constitute a continuing waiver or consent.

20. DATA PRIVACY.

By entering into this Agreement, the Non-Employee Director: (i) authorizes the Company and each Affiliate, and any agent of the Company or any Affiliate administering the Plan or providing Plan recordkeeping services, to disclose to the Company or any of its Affiliates such information and data as

the Company or any such Affiliate shall request in order to facilitate the grant of options and the administration of the Plan; (ii) waives any data privacy rights he or she may have with respect to such information; and (iii) authorizes the Company and each Affiliate to store and transmit such information in electronic form.

EXHIBIT A

NOTICE OF EXERCISE OF NON-QUALIFIED STOCK OPTION

TO: Madrigal Pharmaceuticals, Inc.

Ladies and Gentlemen:

I hereby exercise my Non-Qualified Stock Option to purchase shares (the "Shares") of the common stock, $.0001 par value, of Madrigal Pharmaceuticals, Inc. (the "Company"), at the exercise price of $ per share, pursuant to and subject to the terms of that certain Non-Qualified Stock Option Agreement between the undersigned and the Company dated , 20 .

I understand the nature of the investment I am making and the financial risks thereof. I am aware that it is my responsibility to have consulted with competent tax and legal advisors about the relevant national, state and local income tax and securities laws affecting the exercise of the Option and the purchase and subsequent sale of the Shares.

I am paying the option exercise price for the Shares as follows:

Please issue the Shares (check one):

- ☐ to me; or
- ☐ to me and , as joint tenants with right of survivorship,

at the following address:

My mailing address for shareholder communications, if different from the address listed above, is:

Very truly yours,

Non-Employee Director (signature)

Print Name

Date

Social Security Number

Exhibit 21.1

SUBSIDIARIES OF MADRIGAL PHARMACEUTICALS, INC.

Synta Securities Corp., a Massachusetts securities corporation

Synta Limited Incorporated, a United Kingdom company

Synta Pharmaceuticals (Bermuda) Ltd., a Bermuda company

Canticle Pharmaceuticals, Inc., a Delaware corporation

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements on Form S-3 (Nos. 333-187242 and 333-206135) and on Form S-8 (Nos. 333-141903, 333-152824, 333-173862, 333-181117, 333-187243, 333-194477, 333-202680, 333-206128 and 333-212615) of our report dated April 12, 2016, except for Note 13, as to which date is March 31, 2017, relating to the Madrigal Pharmaceuticals, Inc. (the "Company") financial statements as of December 31, 2015 and for the year then ended, which includes an explanatory paragraph as to the Company's ability to continue as going concern, included in this Form 10-K.

/s/ Friedman LLP
East Hanover, New Jersey
March 31, 2017

QuickLinks

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 (No. 333-187242, No. 333-206135) and Form S-8 (No. 333-141903, No. 333-152824, No. 333-173862, No. 333-181117, No. 333-187243, No. 333-194477, No. 333-202680, No. 333-206128, No. 333-212615) of Madrigal Pharmaceuticals, Inc. of our report dated March 31, 2017 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
March 31, 2017

QuickLinks

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO SECURITIES EXCHANGE ACT RULES 13A-14(a) AND 15D-14(a) AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Paul A. Friedman, M.D., certify that:

1. I have reviewed this Annual Report on Form 10-K of Madrigal Pharmaceuticals, Inc.;

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.

/s/ Paul A. Friedman, M.D.

Paul A. Friedman, M.D.
Chief Executive Officer and Chairman of the Board
(Principal Executive Officer)
Date: March 31, 2017

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO SECURITIES EXCHANGE ACT RULES 13A-14(A) AND 15D-14(A) AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Marc R. Schneebaum, certify that:

1. I have reviewed this Annual Report on Form 10-K of Madrigal Pharmaceuticals, Inc.;

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.

/s/ Marc R. Schneebaum

Marc R. Schneebaum
Chief Financial Officer
(Principal Financial Officer)
Date: March 31, 2017

Exhibit 32.1

**CERTIFICATIONS PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. Section 1350)), each of the undersigned officers of Madrigal Pharmaceuticals, Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 10-K for the year ended December 31, 2016 (the "Form 10-K") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 31, 2017

/s/ Paul A. Friedman, M.D.
Paul A. Friedman, M.D.
Chief Executive Officer and Chairman of the Board
(Principal Executive Officer)

Dated: March 31, 2017

/s/ Marc R. Schneebaum
Marc R. Schneebaum
Senior Vice President and Chief Financial Officer
(Principal Accounting and Financial Officer)

A signed original of this written statement required by Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. Section 1350), has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request. These certifications accompany the Form 10-K, are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of the Company 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.