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, 2014

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

SYNTA PHARMACEUTICALS CORP.
(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.)
45 Hartwell Avenue Lexington, Massachusetts	
(Address of principal executive offices)	**02421** (Zip Code)

Registrant's telephone number, including area code **(781) 274-8200**

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, 2014, the last business day of the registrant's most recently completed second fiscal quarter, was $275,002,606.09.

As of March 6, 2015 the registrant had 109,120,670 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 2015 Annual Meeting of Stockholders.

Item 1. BUSINESS

The Company

Synta Pharmaceuticals Corp. is an innovative, agile biopharmaceutical company focused on research, development and commercialization of novel oncology medicines that have the potential to change the lives of cancer patients. Our lead oncology drug candidate, ganetespib, a novel heat shock protein 90 (Hsp90) inhibitor, is currently being evaluated in several large randomized clinical trials including GALAXY-2, a pivotal Phase 3 trial in non-small cell lung cancer (NSCLC), as well as in breast cancer, ovarian cancer and acute myeloid leukemia (AML). We are also developing several candidates from our proprietary Hsp90 inhibitor Drug Conjugate program (HDC Program), which leverages the preferential accumulation of Hsp90 inhibitors in tumors to selectively deliver a wide array of anti-cancer payloads. Our first clinical candidate from our HDC Program, STA-12-8666, is undergoing testing to enable the filing of an investigational new drug application (IND). Preclinical evaluation of additional HDC candidates is ongoing. We also have an additional clinical-stage oncology candidate: elesclomol, a mitochondrial metabolism inhibitor.

Our Approach

Targeting Hsp90—Single Target, Inhibition of Multiple Oncogenic Pathways

Hsp90 is a chaperone protein required for the structural and functional maturation of numerous client proteins, many of which play critical roles in cell growth, differentiation and survival. Many research groups have shown that cancer cells exploit the Hsp90 chaperone function to protect a variety of mutated and/or overexpressed oncoproteins from degradation. Relative to their normal counterparts, cancer cells are often more reliant on elevated levels of the active Hsp90 complex and as such, appear to be selectively sensitive to Hsp90 inhibitors, including ganetespib.

In contrast to therapies that target a single oncogene driver, such as EGFR or HER2, inhibition of Hsp90 results in the simultaneous disruption of numerous oncogenic signaling pathways that are critical for tumor cell proliferation and survival. The biological effects of ganetespib can be divided into three categories:

- *Deactivation of driver oncogenes.* Certain genetically defined cancers, such as lung cancer with ALK translocations or HER2 overexpressing breast cancer, show a strong dependence on a single Hsp90 client protein. Hsp90 inhibition, by leading to the destabilization of these client proteins, offers an approach to treating these cancers that is distinct from direct inhibition of the oncogene driver by kinase inhibitors or antibodies. Hsp90 clients that drive certain oncogene-addicted cancers include ALK, HER2, mutant BRAF and EGFR, androgen receptor (AR), estrogen receptor (ER), and JAK2.

- *Reduction of tumor spread.* In advanced stage disease, tumors develop properties that allow them to spread throughout the body. These properties include the activation of pathways that regulate new blood vessel formation (angiogenesis) and those that enable cancer cell separation from primary tumors and establishment of new tumor lesions (metastasis). Many Hsp90 client proteins play key roles in these processes. These include HIF-1alpha, VEGFR, PDGFR, and VEGF in angiogenesis; and MET, RAF, AKT, MMPs, HIF-1alpha, and IGF-1R in metastasis. In preclinical models, ganetespib has shown ability to inhibit these proteins and suppress angiogenesis and metastasis.

- *Enhanced activity of targeted agents.* Cancer cells often develop resistance to commonly used anti-cancer treatments such as chemotherapy, targeted agents, and radiation therapy. Many of the resistance mechanisms to chemotherapy or radiation therapy involve cell-cycle checkpoint, DNA repair, and anti-apoptosis pathways, which rely on Hsp90 client proteins including ATR, BCL2, BRCA1/2, CDK1/4, CHK1, survivin, and WEE1. Inhibition of these client proteins by ganetespib provides a rationale to add ganetespib to chemotherapy or radiation treatment in

order to reduce resistance and improve clinical activity. Recently identified resistance mechanisms to targeted agents such as VEGF inhibitors or mTOR inhibitors also rely on Hsp90 client proteins. In preclinical models of cancer, ganetespib has shown synergistic activity with (1) chemotherapies including docetaxel, paclitaxel, pemetrexed, gemcitabine, cytarabine, irinotecan, etoposide, doxorubicin, carboplatin, cisplatin, and vincristine; (2) targeted agents including ALK inhibitors, HER2 inhibitors, mTOR inhibitors, BRAF inhibitors, MEK inhibitors, EGFR inhibitors, and proteasome inhibitors; and (3) radiation therapy.

Ganetespib: Potential Best-in-Class Hsp90 Inhibitor

Preclinical and clinical results have shown that ganetespib is a potent and selective inhibitor of Hsp90, supporting the promise for therapeutic intervention in a broad range of malignancies. Inhibition of Hsp90 by ganetespib leads to the simultaneous degradation of many client proteins and the subsequent death or cell cycle arrest of cancer cells dependent on those proteins. A number of Hsp90 client proteins are also involved in the resistance of cancer cells to other anti-cancer treatments, such as chemotherapy. The ability to reduce cancer-cell drug resistance suggests that the combination of ganetespib with chemotherapies or other anti-cancer agents may result in greater efficacy than those agents administered alone.

We believe that ganetespib has an optimized profile as compared to first generation Hsp90 inhibitors. Some of the key differentiating properties of ganetespib highlighted in results published in *Molecular Cancer Therapeutics* in December 2011 and *Toxicology and Applied Pharmacology* 2012 include:

- *Novel structure.* Ganetespib is a small molecule that is structurally unrelated to first-generation, ansamycin class Hsp90 inhibitors, such as 17-AAG or 17-DMAG.

- *Improved potency.* In preclinical studies, ganetespib has shown 10-100 times greater potency than 17-AAG across a broad range of cancer cell types as well as activity in animal models that are resistant to treatment with 17-AAG.

- *Absence of molecular component believed to cause liver toxicity.* The hepatotoxicity observed with the ansamycin class of Hsp90 inhibitors is thought to be associated with a chemical moiety (benzoquinone group) not found in the ganetespib clinical structure. In preclinical models, no evidence of changes in liver enzymes or histopathology have been observed.

- *Absence of serious ocular toxicity.* In clinical trials certain Hsp90 inhibitors have caused visual disturbances, suggesting retinal dysfunction. In animal models, ganetespib has not been associated with ocular toxicity. As compared to Hsp90 inhibitors which are known to induce visual symptoms in the clinic and marked retinal photoreceptor death, ganetespib does not appear to elicit photoreceptor injury. Ganetespib has also been shown to have a lower retina/plasma exposure ratio and high retinal elimination rate than Hsp90 inhibitors which are associated with ocular toxicity.

The differentiating characteristics of ganetespib seen in preclinical and animal studies have also been observed in the human clinical trials we have conducted to date. Specifically, a favorable safety profile has been consistently observed across clinical trials, involving over 1,350 patients, treated with ganetespib. Ganetespib has not shown the serious liver or common ocular toxicities reported with other Hsp90 inhibitors, or the neurotoxicity, bone marrow toxicities, and alopecia characteristic of many chemotherapies. Additionally, the most common adverse event reported with ganetespib has been transient, mild or moderate diarrhea, which can be prevented or effectively managed with standard supportive care. Ganetespib has also shown promising activity both in combination with chemotherapy and as a monotherapy, in the clinical trials conducted to date.

Hsp90 inhibitor Drug Conjugate (HDC) Program: Leveraging preferential accumulation of Hsp90 inhibitors in tumors to selectively deliver anti-cancer payloads

In September 2013, we announced the launch of a novel, proprietary small molecule cancer drug development program: the HDC Program. This innovative approach to tumor targeted delivery is being developed to capitalize on the prolonged retention of Hsp90 inhibitors in tumors to trap an active agent of interest inside cancer cells. The HDC Program builds on our extensive expertise in the science of Hsp90.

The HDC platform is based on the observation that small molecule inhibitors of Hsp90 are retained in tumors for as much as 20 times longer than in blood or normal tissue. Preclinical experiments have shown that following intravenous administration in animals, ganetespib can persist in tumor cells for over a week, while it is cleared from blood and normal tissues in a matter of hours. Similar results demonstrating this characteristic have been published by others using first-generation Hsp90 inhibitors such as 17-AAG and its derivatives, as well as other classes of Hsp90 inhibitors.

Figure 1: Hsp90 Inhibitor Retention in Tumors, Class Effect

Compounds	Chemical Class	Half-life (mouse xenograft) - hrs			
		Tumor	Plasma	Liver	Other tissues
ganetespib	resorcinol	**58**	3.0	5.6	5.4 (lung)
AT-13387[1]	resorcinol	**65**	4.0	-	3.0 (muscle)
NVP-AUY-922[2]	diaryloxazole	**30**	10.3	7.7	5.5 (lung)
Debio-0932(oral)[3]	imidazopyridine	**20.4**	7.8	2.6	4.0 (brain)
MPC-3100 (oral)[4]	purine	**48**	12.0	-	-
17-DMAG[5]	ansamycin	**~7-8**	0.5-1	-	-

References: (1) Halada, et a;. poster at DMDG, Cambridge, UK September 2009; (2) Jensen, et al. Breast Cancer Res. 2008;10(2):R33; (3) Bao, et al. Clin Cancer Res. 2009 Jun 15;15(12):4046-57; (4) Wettstein et al. EORTC-AACR-NCI 2008, Abstract 150; (5) Eiseman, et al. Cancer Chem. Pharm. 2005 Jan;55(1):21-32.

This property of the Hsp90 inhibitor class is believed to be due to overexpression of an active form of Hsp90 in cancer cells that preferentially binds Hsp90 inhibitors, as compared to normal tissues. Even weak Hsp90 inhibitors that do not engage degradation of Hsp90 client proteins can be retained for days by cancer cells, potentially enabling use of this property purely as a targeting mechanism to deliver an anticancer drug into cancer cells.

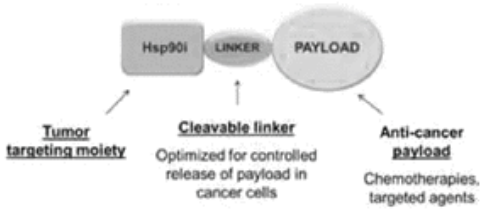
Current oncology therapeutics are generally divided into two categories: cytotoxic agents and molecularly targeted therapies. Cytotoxic agents are often broadly active, but have the disadvantage of high toxicity caused by damage to normal cells, which limits their utility. Drugs that target specific protein drivers of cancer cell growth are generally more tumor selective, yet often lead to tumor resistance via point mutations in their target (*e.g.,* ALK, BRAF, EGFR inhibitors) or activation of alternative signaling pathways (*e.g.,* MEK, ERK or AKT up-regulation).

Most cancer drugs are given systemically and therefore can affect normal tissues and organs and cause toxicity. In recognition of this problem, several therapeutic strategies have been developed to attempt selective delivery of anticancer drugs to tumors. For example, Antibody-Drug Conjugates (ADCs) are used for the delivery of potent anti-cancer payloads to tumors.

Conceptually, HDCs are designed for targeted drug delivery with potentially broader applicability relative to ADCs. Because of its unique properties, we believe that Hsp90 may represent one of the most compelling targets for delivering drug payloads to tumors.

HDCs are drug candidates consisting of an Hsp90 inhibitor (targeting moiety) joined to an anti-cancer agent (payload) via a cleavable chemical linker optimized for controlled release of payload drug inside cancer cells. HDCs are small molecules that do not require cell surface antigens for targeting or active transport (endocytosis) for cellular uptake. Upon cell entry typically via passive diffusion, HDCs can bind intracellular Hsp90 that is present in significant amounts in a wide range of cancers.

Figure 2: The HDC Program: using the preferential retention of Hsp90 inhibitors by tumor cells to selectively deliver anti-cancer payloads.



Upon systemic administration HDCs have the potential to achieve significantly higher concentrations of active anticancer drugs (payloads) in tumors than the concentrations achieved when such anticancer drugs are given in their original, unconjugated form. It is important to note that such high concentrations are sustained over prolonged periods of time, thus significantly increasing the exposure of tumors to the anticancer drug relative to the exposure that can be achieved when such anticancer drugs are given in their original, unconjugated form.

We believe that our HDC platform has the potential to enable the rapid creation of an extensive proprietary pipeline of novel anticancer drugs that we may elect to develop independently or co-develop with selected partners.

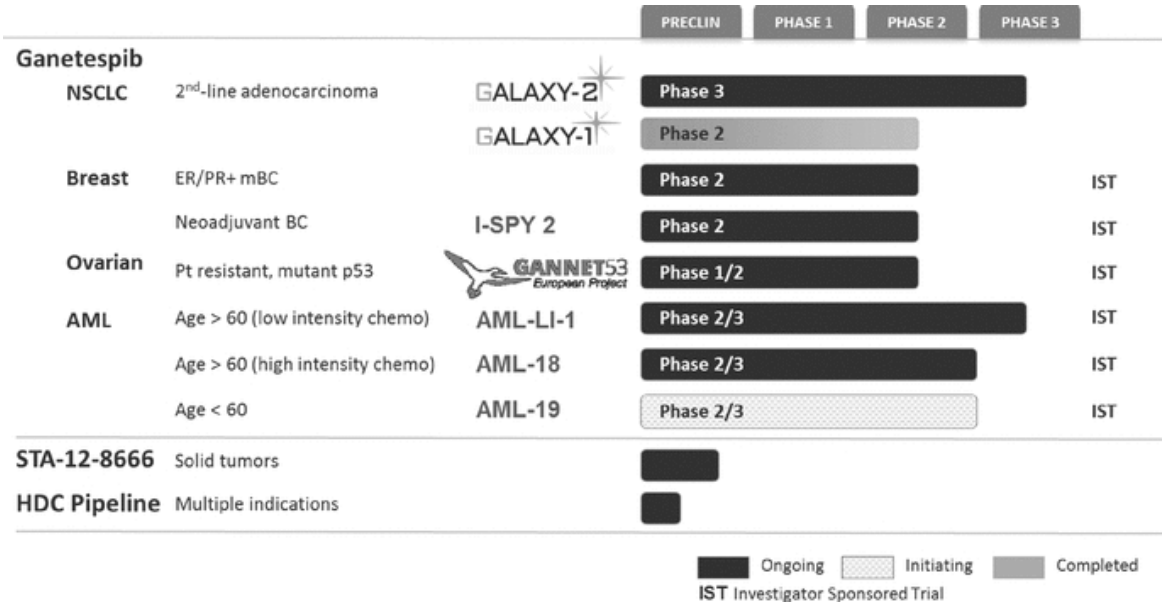
We have developed Hsp90 inhibitor conjugated chemotherapeutics, kinase inhibitors, hormone therapies, immunomodulators, and epigenetic modifiers, creating the potential for next-generation compounds in each of these categories. Examples include Hsp90 inhibitor-conjugated bendamustine, temozolomide, doxorubicin, 5-FU, pemetrexed, gemcitabine, SN-38, topotecan, vorinostat, panobinostat, fulvestrant, abiraterone, lenalidomide, pomalidomide, docetaxel, carboplatin, bortezomib, carfilzomib, flavopiridol, staurosporine, vemurafenib, sunitinib, and sorafenib.

In October 2013, we announced the publication of the first key patent application covering our proprietary HDC technology, which includes composition of matter claims covering HDC compounds, methods for identifying therapeutically effective compounds, and methods of use against a wide range of diseases and conditions. Any resulting patent, if issued, would expire no earlier than 2034.

In the first quarter of 2015, we advanced STA-12-8666, a conjugate of an Hsp90 inhibitor and SN-38, the highly potent active metabolite of the widely used drug irinotecan, into IND enabling studies. We expect to submit an IND for STA-12-8666 by the first quarter of 2016. Preclinical pharmacological studies have shown that SN-38 exposure in tumors (concentration over time) is significantly greater with STA-12-866 compared to irinotecan. Activity of STA-12-8666 has been evaluated preclinically in more than a dozen tumor models. Results from these studies show consistently higher activity than irinotecan at the equivalent doses and at their respective maximum tolerated doses (MTDs). Preclinical and animal toxicity studies conducted to date also suggest an improved tolerability profile for STA-12-8666 as compared to irinotecan. In addition to STA-12-8666, we expect to identify one additional HDC drug candidate to nominate for preclinical development in the first half of 2016.

Our Drug Candidate Pipeline

The following table summarizes the key ongoing trials and current development status for our drug candidates:



Our Recent Achievements

In 2014, we achieved several important clinical milestones across studies and tumor types with our lead drug candidate, ganetespib, and made significant progress with our HDC Program. We have also solidified Synta's leadership with key additions to the executive management team and Board of Directors.

Key achievements in 2014 include:

- We announced final results from the global, randomized, multi-center Phase 2b GALAXY-1 study comparing the combination of ganetespib and docetaxel to docetaxel alone for the second-line treatment of advanced non-small cell adenocarcinoma. The final results from this trial, in particular the encouraging overall survival results and tolerability profile in patients whose time from diagnosis of advanced disease is greater than 6 months (Dx > 6 months), support the selection of this population for the pivotal Phase 3 GALAXY-2 trial.

- We announced results from the ENCHANT-1 trial, a single-arm multi-center Phase 2 proof-of-concept study designed to evaluate ganetespib administered as monotherapy for the treatment of metastatic breast cancer, at the 2014 European Breast Cancer Conference (EBCC). The results demonstrated encouraging single-agent activity in both HER2+ and triple-negative disease. The strength of the scientific rationale and evidence of clinical activity in ENCHANT-1 led to the selection of ganetespib into the third-party sponsored, randomized Phase 2 I-SPY 2 TRIAL (Investigation of Serial Studies to Predict Your Therapeutic Response with Imaging And moLecular Analysis 2) in women with newly diagnosed, early stage breast cancer; an I-SPY 2 trial arm evaluating ganetespib initiated in the fourth quarter of 2014.

- We announced the advancement of ganetespib into the Phase 3 extension of the AML LI-1 trial after meeting pre-specified interim efficacy analysis criteria in July 2014. The third-party sponsored, multicenter randomized Phase 2/3 AML LI-1 (less intensive) trial is evaluating

treatments in newly diagnosed patients with acute myeloid leukemia (AML) or high-risk myelodysplastic syndrome (MDS) over 60 years of age who are not eligible for intensive chemotherapy. Ganetespib was also selected for two additional, randomized Phase 2/3 AML trials by the same external sponsors: AML-18 and AML-19; initiation of the AML-18 trial was announced in Q4 2014.

- We announced that the randomized GANNET53 trial in metastatic, platinum-resistant ovarian cancer, led by an independent consortium of investigators with third party financial support, commenced enrollment in the safety lead-in Phase 1 portion of the study in the third quarter of 2014. GANNET53 is a pan-European randomized trial designed to evaluate the combination of ganetespib and paclitaxel vs. paclitaxel alone in over 200 patients with metastatic, platinum-resistant ovarian cancer, which is commonly associated with p53 mutations.

- We were invited by the U.S. Food and Drug Administration (FDA) to participate in a meeting of Oncologic Drugs Advisory Committee's (ODAC) Pediatric Subcommittee on December 2014 to inform the FDA as to whether there is sufficient interest to warrant the FDA issuing a Pediatric Written Request to Synta. At the meeting, the subcommittee reviewed the SARC 023 study, an open label Phase 1/2 trial of ganetespib in combination with the mTOR inhibitor sirolimus in patients with refractory sarcoma including malignant peripheral nerve sheath tumors (MPNSTs), sponsored by the Sarcoma Alliance for Research through Collaboration (SARC).

- We presented preliminary preclinical data from our HDC Program including our lead candidate, STA-12-8666, at scientific meetings throughout 2014, including poster presentations at the 105th Annual Meeting of the American Association for Cancer Research (AACR) in April and the 26th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics in Barcelona in November; the results demonstrated broad activity across several tumor types and prolonged antitumor effect observed with lead HDC candidates and the feasibility of constructing HDCs using several classes of payloads.

- We strengthened the Company's executive management team and Board of Directors through the appointment of Anne C. Whitaker as President, Chief Executive Officer and Member of our Board of Directors; Paul A. Friedman, M.D., as Director; Chen Schor as Executive Vice President and Chief Operating Officer; and Marc R. Schneebaum as Senior Vice President, Chief Financial Officer.

Our Strategy

We are committed to research, development and commercialization of novel oncology medicines that change cancer patients' lives. In February 2015, we outlined a new corporate strategy aimed at focusing our resources on achieving key value creating milestones in 2015 and 2016. Important elements of our strategy include:

Maximizing the value of our lead development program, ganetespib

- *Develop and seek approval for ganetespib in North America and Europe.* Assuming positive interim results from our ongoing GALAXY-2 trial of ganetespib and pending regulatory feedback, we plan to submit a New Drug Application (NDA) for ganetespib for use in NSCLC in 2016. We also plan to seek regulatory approval in Europe on the same timeframe. Pending positive data from clinical trials with ganetespib in other indications and pending regulatory feedback, we plan to seek regulatory approval or initiate registration trials in such indications.

- *Commercialize ganetespib.* We currently have global development, marketing and commercialization rights for ganetespib. If approved, we intend to commercialize ganetespib in the United States and, at the appropriate time, enter into collaborations for further

development, marketing and commercialization of ganetespib in particular geographies outside the United States.

- *Expand ganetespib development program.* We expect to expand the breadth of the ganetespib development program to include multiple potential registration paths and combination regimens.

- *Pursue a biomarker strategy to further optimize ganetespib potential.* We intend to identify the patient populations most likely to derive benefit from treatment with ganetespib and we anticipate using these findings to optimize future ganetespib clinical development.

Advancing candidates from our HDC Program into the clinic

- *Pursue internal development of select candidates.* We expect to submit an IND for our lead HDC candidate, STA-12-8666, by the first quarter of 2016, and nominate one additional HDC candidate for IND enabling studies in the first half of 2016.

- *Pursue strategic partnerships for our HDC Program.* We plan on exploring potential strategic partnerships for our HDC Program to take advantage of a broader set of opportunities than we could exploit alone, while continuing to increase the scope and breadth of our intellectual property.

Optimizing our drug candidate pipeline and research plans

- *Complement our development portfolio through external partnerships and business development activities.* We will evaluate the merit and fit of in-licensing, co-developing or acquiring new drug candidates and technologies that either support ongoing development efforts with existing candidates or add breadth to our portfolio.

- *Focus internal research plans on key programs.* We are focusing our research efforts solely on generating promising new HDC drug candidates with selected payloads that have broad therapeutic potential and that will lead to further expanding our ganetespib biomarker research effort.

Optimizing the Company's operating model

- *Focus on operational efficiency.* We intend to focus strongly on managing our resources efficiently and strengthening our cash position, such that we have multiple options for continuing to advance our drug candidates either on our own or through partnerships.

Our Therapeutic Focus: Oncology

Oncology Background

Cancers are diseases characterized by abnormal and uncontrolled cell growth and division, which typically leads to tumor formation. Growing tumors can directly disrupt organ function at sites of origin, and can also spread by a process known as metastasis to other organs, such as the brain, bones and liver. The growth of metastatic tumors at these new sites can disrupt the function of other organs. There are many kinds of cancer, but all are characterized by uncontrolled growth of abnormal cells.

The World Health Organization estimates that in 2012 more than 14.1 million people were diagnosed with cancer worldwide, and approximately 8.2 million people died from the disease. The American Cancer Society estimates that approximately 1.7 million people in the United States were diagnosed with cancer in 2014, and approximately 586,000 people will die from the disease.

According to IMS Health, oncology products are the largest therapeutic class of pharmaceuticals in the world with global sales of $67.1 billion in 2013.

Our Oncology Programs

Ganetespib (Hsp90 Inhibitor)

Summary

Ganetespib is a novel, potent, small molecule inhibitor of Hsp90, a molecular chaperone which is required for the proper folding and activation of many cancer-promoting proteins. Inhibition of Hsp90 by ganetespib leads to the simultaneous degradation of many of these client proteins and the subsequent death or cell cycle arrest of cancer cells dependent on those proteins. A number of Hsp90 client proteins are also involved in the resistance of cancer cells to other anti-cancer treatments, such as chemotherapy. The ability to reduce cancer-cell drug resistance suggests that the combination of ganetespib with chemotherapies or other anti-cancer agents may provide greater benefit than those agents administered alone. In preclinical studies, ganetespib has shown potent anti-cancer activity against a broad range of solid and hematologic cancers, both as a monotherapy and in combination with certain widely used anti-cancer agents.

The results observed to date in our GALAXY program suggest a significant potential commercial opportunity for use of ganetespib in patients with advanced non-small cell lung adenocarcinoma. Lung cancer is the leading cause of cancer death worldwide in both men and women, estimated to be responsible for about 1.6 million deaths or approximately 20% of global cancer deaths in 2012. NSCLC is the most common form of lung cancer, making up approximately 85% to 90% of all lung cancers. Adenocarcinoma is the most common subtype of NSCLC.

Ganetespib Mechanism of Action

Hsp90 is required for the structural and functional maturation of numerous client proteins, many of which play critical roles in cell growth, differentiation and survival. Preclinical results have shown that ganetespib is a selective inhibitor of Hsp90. Relative to their normal counterparts, cancer cells are more reliant on the active Hsp90 complex. Recent published work has shown that cancer cells overexpress a modified form of Hsp90 that preferentially binds Hsp90 inhibitors. This preferential binding provides a possible explanation for the observed anticancer activity and lack of severe toxicity of Hsp90 inhibitors.

Ganetespib in lung cancer: The GALAXY program

GALAXY-1 Phase 2b Trial

In 2011, we initiated the GALAXY-1 trial in patients with advanced NSCLC who received one prior treatment for advanced disease, *i.e.,* a second-line treatment setting. GALAXY-1 compared treatment with docetaxel alone, which is approved for second-line treatment, vs. treatment with ganetespib plus docetaxel. The aims of this trial were to:

- evaluate clinical benefit and establish the safety profile of ganetespib in combination with docetaxel relative to docetaxel alone;
- identify the patient populations, by biomarker or other disease characteristics, which may be most responsive to combination treatment; and
- build the clinical and operational experience needed to optimize the design and execution of the pivotal GALAXY-2 Phase 3 trial.

Patients in both arms of GALAXY-1 received a standard regimen of docetaxel 75 mg/m^2 on day 1 of a 21-day treatment cycle. Patients in the combination arm also received ganetespib 150 mg/m^2 on days 1 and 15. Treatment continues until disease progression or until treatment intolerance. To ensure balance of prognostic factors between the two arms, patients were stratified by ECOG performance status, baseline LDH level, smoking status, and time since diagnosis of advanced disease.

Rate of disease progression during or following first line chemotherapy is a common stratification factor in salvage-setting (after first-line treatment) lung cancer clinical trials to ensure balance and evaluate any difference in treatment benefit between refractory and chemosensitive patients. Commonly used measures include time since completion of first line chemotherapy, best response to first line therapy, time since initiation of first line therapy, as well as time since diagnosis of advanced disease. The latter was chosen for GALAXY-1 in order to reduce ambiguity introduced by the recent approvals of maintenance therapy following first line treatment, as well as to avoid possible subjectivity in assessment of tumor response in the first-line setting.

GALAXY-1 was originally designed to enroll 240 second-line advanced NSCLC patients of all histologies in order to evaluate several hypotheses on which patients might be most responsive to combination treatment. Co-primary endpoints were progression-free survival (PFS) in all patients (the ITT population) and overall survival (OS) in patients with elevated baseline level of serum LDH (eLDH). During the course of the trial, the co-primary endpoints were changed to PFS in patients with eLDH and PFS in patients with mutant KRAS (mKRAS). Key secondary endpoints were OS and PFS in the adenocarcinoma patient population.

In early 2012, enrollment of patients with non-adenocarcinoma histologies (which consists primarily of squamous cell carcinomas) was terminated based on possible safety concerns, including risk of bleeding and a trend towards inferior survival. The trial was amended at that time to enroll 240 patients with adenocarcinoma histology only. To ensure the specified number of eLDH and mKRAS patients were included, a total of 385 patients were enrolled in GALAXY-1. Enrollment in GALAXY-1 was completed in May 2013.

The final analysis of GALAXY-1 data was conducted in early May 2014. Publication of the final data from GALAXY-1 is expected in the first half of 2015. A summary of key efficacy data is presented in the tables and figures below:

	Hazard Ratio G+D vs. D	eLDH N=87	mKRAS N=89	Dx > 6 months* N=177	Adenocarcinoma N=253
OS	Unadjusted	**0.88**	**1.18**	**0.71**	**0.87**
		p=0.300	p=0.755	p=0.023	p=0.150
	Adjusted	**0.75**	**1.23**	**0.69**	**0.84**
		p=0.118	p=0.204	p=0.019	p=0.114
PFS	Unadjusted	**1.06**	**0.93**	**0.75**	**0.85**
		p=0.595	p=0.387	p=0.040	p=0.112
	Adjusted	**0.88**	**1.11**	**0.74**	**0.82**
		p=0.295	p=0.338	p=0.042	p=0.078

* The Dx > 6 months population selected for the Phase 3 GALAXY-2 trial are patients who were enrolled into GALAXY 1 study at least 6 months after diagnosis of advanced disease (a stratification factor in the Phase 2b GALAXY-1 trial).

P-values are 1-sided

Hazard ratios were calculated using Cox proportional hazards model

Unadjusted: univariate analysis

Adjusted: pre-specified analysis adjusting for multiple prognostic variables such as gender, smoking status, LDH, ECOG performance status, interval since diagnosis of advanced disease, age, total baseline target lesion size, and geographic region

G+D vs. D		eLDH N=87	mKRAS N=89	Dx > 6 months* N=177	Adenocarcinoma N=253
OS	**Median (months)**	**6.0 vs. 5.1**	**7.6 vs. 6.4**	**11.0 vs. 7.4**	**10.2 vs. 8.4**
	Events	72 (83)%	68 (76)%	132 (75)%	190 (75)%
PFS	**Median (months)**	**2.8 vs. 2.7**	**3.9 vs. 3.0**	**5.3 vs. 3.4**	**4.5 vs. 3.2**
	Events	70 (80)%	73 (82)%	142 (80)%	205 (81)%

* The Dx > 6 months population selected for the Phase 3 GALAXY-2 trial are patients who were enrolled into the GALAXY 1 study at least 6 months after diagnosis of advanced disease (a stratification factor in the Phase 2b GALAXY-1 trial).

Figure 3: OS Kaplan Meier plot for the Dx > 6 months patient population of GALAXY-1 selected for evaluation in the GALAXY-2 Phase 3 trial

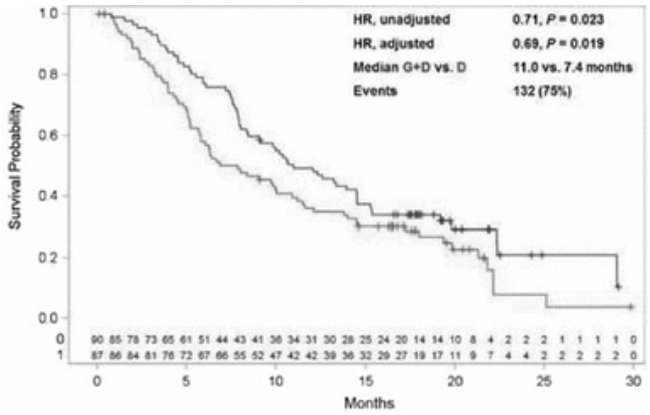
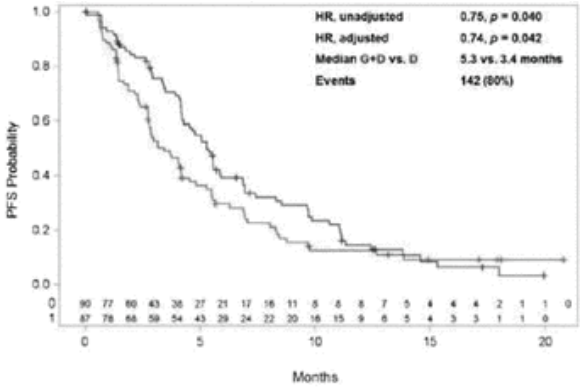


Figure 4: PFS Kaplan Meier plot for the Dx > 6 months patient population of GALAXY-1 selected for evaluation in the GALAXY-2 Phase 3 trial



Safety

The safety profile of adenocarcinoma patients treated with the combination of ganetespib (G) and docetaxel (D) was favorable, consistent with previously reported results. The most common adverse events (AEs), all grades, were neutropenia (46% vs. 45%), diarrhea (50% vs. 17%) and fatigue (35% vs. 24%), for G+D vs. D, respectively. Diarrhea was effectively prevented or managed with standard supportive care; the incidence of grade 3 or 4 diarrhea was 4% (G+D) vs. 0% (D). Fatigue was predominantly grade 1 and grade 2; grade 3 or 4 fatigue was 6% (G+D) vs. 4% (D). The most common grade 3 or 4 AEs were neutropenia (41% vs. 42%), leukopenia (10% vs 6%) and febrile neutropenia (9% vs. 5%). Only one case of visual impairment was reported in this study, which was mild (Grade 1) and transient. The safety profile of patients in the Dx > 6 months population was comparable to the profile in the adenocarcinoma population.

GALAXY-2 Phase 3 Trial

In early 2013, we initiated the GALAXY-2 trial, a global, randomized, multi-center study comparing the same treatments as in GALAXY-1 in the 2nd-line non-small cell adenocarcinoma patient population, with overall survival as the primary endpoint. Patients are required to have an interval since diagnosis of advanced disease of at least 6 months prior to study entry and have tumors that are negative for both EGFR mutations and ALK translocations.

Patients on both arms receive docetaxel generally for four to six 21-day cycles, according to standard practice at their treatment center. After completion of docetaxel treatment, patients on the ganetespib arm are eligible to continue to receive ganetespib monotherapy as maintenance treatment.

The GALAXY-2 trial is expected to enroll up to 850 patients. Assuming a median overall survival of 7 months in the control arm and 9.3 months in the combination arm (a hazard ratio of 0.75) and a two-sided overall Type I error rate of 0.05, GALAXY-2 has a 92% or higher power to detect a statistically significant treatment difference at the final analysis. The primary endpoint analysis will be based on an evaluation of OS in the intent-to-treat population, and a pre-specified analysis of OS in ALK- and EGFR-negative patients will be conducted as a supportive analysis. Two event-driven interim analyses of the overall survival primary endpoint of GALAXY-2 have been pre-specified. The first and second interim analyses will be performed after approximately 60% and 80% of the OS events required for final analysis have occurred, respectively.

As of March 11, 2015, we have enrolled 500 patients into the GALAXY-2 study. We expect that the first GALAXY-2 interim OS analysis will be conducted in the second half of 2015. Based on current projections and statistical assumptions, we expect that the second interim OS analysis and the final OS analysis will be conducted in 2016. Assuming positive interim results from the ongoing GALAXY-2 trial of ganetespib and pending regulatory feedback, we plan to seek regulatory approval of ganetespib in North America and Europe for NSCLC in 2016.

Ganetespib in breast cancer

ENCHANT-1 Trial

In December 2013, we presented data from the ENCHANT-1 clinical trial, a multi-center Phase 2 proof-of-concept study, at a poster session at the 2013 San Antonio Breast Cancer Symposium in San Antonio, Texas. ENCHANT-1, a Simon two stage clinical trial, is evaluating the activity and safety of ganetespib monotherapy in HER2+ or triple-negative breast cancer (TNBC), or hormone receptor positive breast cancer. At disease progression, patients have the option to continue ganetespib in combination with weekly paclitaxel. The pre-specified activity criteria to allow expansion into the second stage of the trial were met.

Updated interim results from the ENCHANT-1 trial were presented in an oral presentation at the European Breast Cancer Conference (EBCC) in March 2014. These results have confirmed early signals of activity of ganetespib in breast cancer patients. The strength of the scientific rationale and evidence of clinical activity have led to the selection of ganetespib into the I-SPY 2 program (described further below). In this randomized Phase 2 trial, safety and efficacy of ganetespib will be evaluated in combination with standard chemotherapy initially in patients with triple-negative breast cancer, and if positive, results from this trial will provide a robust proof of concept for ganetespib in this indication. In light of the inclusion of ganetespib in the I-SPY2 program, we decided to close the ENCHANT-1 trial in 2014 and direct our resources in breast cancer towards the I-SPY 2 trial.

Clinical trial of ganetespib and fulvestrant in patients with hormone receptor positive metastatic breast cancer

This randomized Phase 2 trial is evaluating safety and activity of the fulvestrant and ganetespib combination in patients with hormone receptor positive metastatic breast cancer who are experiencing progression after initial treatment with hormonal therapy. At present, patient recruitment is ongoing. The trial is sponsored by Dana Farber Cancer Institute in Boston.

Clinical trial of ganetespib in combination with paclitaxel and trastuzumab in HER2 positive metastatic breast cancer

Preliminary results from this Phase 1 trial, conducted by physicians at New York University Langone Medical Center and Memorial Sloan Kettering Cancer Center, were presented at the 2014 San Antonio Breast Cancer Symposium in December. The trial was designed to evaluate the safety and preliminary activity of the triplet combination of ganetespib, paclitaxel and Herceptin in HER2 positive patients with metastatic breast cancer refractory to other HER2 inhibitors.

As of December 2014, this Phase 1 trial enrolled six heavily pretreated patients who received prior to entering the trial a median of 3.5 anti-HER2 treatments in the metastatic setting (range 3-4), including trastuzumab, pertuzumab, and ado-trastuzumab emtansine (T-DM1).

Of the five patients evaluable for efficacy, partial tumor response was observed in one patient who remains on study, and four patients achieved stable disease ranging in duration from 11 to 29 weeks. Median Progression Free Survival was 19.4 weeks and the observed Clinical Benefit Rate (proportion of patients achieving objective response or stable disease greater than 24 weeks) was 60%.

I-SPY 2 Trial

Ganetespib has been selected for study in the I-SPY 2 TRIAL (**I**nvestigation of **S**erial Studies to **P**redict **Y**our **T**herapeutic **R**esponse with **I**maging **A**nd mo**L**ecular Analysis 2). I-SPY 2 is a standing Phase 2 randomized, controlled, multicenter trial for women with newly diagnosed, locally advanced breast cancer (Stage 2 or higher) that is designed to test whether adding investigational drugs to standard chemotherapy is better than standard chemotherapy alone in the neo-adjuvant setting (prior to surgery).

I-SPY 2 employs a unique adaptive trial design to match experimental therapies with patients. Genetic or biological markers ("biomarkers") from individual patients' tumors are used to screen promising new treatments, identifying which treatments are most effective in specific patient subgroups. Regimens that have a high Bayesian predictive probability of showing superiority in a 300 patient Phase 3 confirmatory trial in at least one of 10 predefined signatures may "graduate" from I-SPY 2. A regimen can graduate early and at any time after having 60 patients assigned to it, and exits the trial after a maximum of 120 patients. This high efficacy bar and rapid turn around time allows the trial to match the most promising drug with the right patient in the most expeditious fashion.

I-SPY 2 was initiated as a pre-competitive consortium that brings together the FDA, National Cancer Institute (NCI), pharmaceutical companies, leading academic medical centers, and patient advocacy groups under its umbrella. I-SPY 2 is sponsored by QuantumLeap Healthcare Collaborative (QLHC), a non-profit 501(c)(3) foundation dedicated to accelerating healthcare solutions. QLHC shares a unique partnership with the Foundation for the National Institutes of Health Biomarkers Consortium, who manages intellectual property that emerges from the trial. The trial was developed by principal investigators, Laura J. Esserman, M.D., M.B.A., Professor of Surgery and Radiology and Director of the Carol Frank Buck Breast Care Center at UCSF Helen Diller Family Comprehensive Cancer Center in San Francisco, and Donald A. Berry, Ph.D., Professor in the Department of Biostatistics at The University of Texas MD Anderson Cancer Center, and founder of Berry Consultants.

Enrollment in the ganetespib arm of I-SPY 2 began in October 2014. Ganetespib is initially available to patients with HER2 negative disease, with the intent to expand its eligibility to all biomarker subtypes after safety testing with trastuzumab is completed.

Ganetespib in acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS)

AML is a rapidly progressing hematologic cancer characterized by uncontrolled proliferation of immature blast cells in the bone marrow. The American Cancer Society estimates that there were approximately 18,860 new cases of AML in 2014 and approximately 10,460 people died from AML in 2014. MDS is a hematopoietic stem cell neoplasm characterized by disordered and ineffective hematopoiesis which results in irreversible decline in the number and quality of blood-forming cells. In most cases, progressive bone marrow failure results in neutropenia and thrombocytopenia, and in about one third of patients the disease progresses into AML, usually within a few years.

AML is a biologically heterogeneous disease, and therefore represents a major challenge in the advancement of treatment. Treatment choice and outcome are substantially decided by age, yet current long term remission rates remain poor, with only 40% of younger patients (age less than 60 years) and less than 10% of older patients (age equal to or greater than 60 years) achieving complete remissions. AML patients with relapsed or refractory disease and newly diagnosed AML patients over 60 years of age with poor prognostic risk factors typically die within one year, resulting in an acute need for new treatment options for these patients.

Starting in 2011, the Leukemia & Lymphoma Research Fund and Cancer Research UK sought to fund and initiate three large, multicenter, randomized trials to evaluate different investigational treatments, alone or in combination with chemotherapy, in patients with first-line AML and high risk MDS. These trials are being conducted under the sponsorship of Cardiff University, UK, and under the auspices of the UK NCRI Haematological Oncology Study Group, with investigators in Denmark, France, New Zealand, and the United Kingdom. Ganetespib, in combination with chemotherapy, has been selected for investigation in all three of these studies, which have initiated, or are expected to initiate by the first half of 2015:

- The AML-LI (Less Intensive)-1 Phase 2/3 trial is ongoing, and is evaluating the combination of ganetespib with low dose cytarabine (Ara-C) vs. low dose Ara-C alone in patients who are not eligible for intensive chemotherapy and are traditionally not included in most trials. In July 2014, we announced advancement of ganetespib into the Phase 3 extension of this trial, following an interim analysis of results from 50 patients who received the ganetespib-cytarabine combination in the Phase 2 portion of the trial. The primary efficacy outcome in Phase 2 was rate of complete response. Pursuant to the protocol, the Phase 3 extension will include an interim futility analysis and enroll approximately 200 patients in each of the ganetespib-cytarabine and the cytarabine alone arms, for a total of approximately 400 patients. The primary efficacy endpoint for the Phase 3 extension is overall survival.

- The AML-18 trial, which has initiated and is expected to begin enrolling patients in the first quarter of 2015, will evaluate ganetespib with standard DA (daunorubicin and Ara-C) in patients over 60 years old who can tolerate intensive chemotherapy vs. treatment with standard DA alone. Up to 300 patients are expected to be enrolled in the ganetespib arm. Results from a pilot study conducted in the UK in 2012 under the auspices of the Cardiff Experimental Cancer Medicine Centre confirmed the feasibility and safety of combining ganetespib with intensive chemotherapy in older patients with AML.

- The AML-19 trial, which is expected to begin enrolling patients in the first half of 2015, will evaluate ganetespib in combination with conventional chemotherapy vs chemotherapy alone in younger patients with AML. The trial is expected to enroll more than 500 patients in the ganetespib arm and will be conducted by the UK NCRI Group, a network of over 100 institutions. Patients will receive ganetespib sequentially to standard intensive therapy, followed by ganetespib maintenance treatment. The objective is to identify if ganetespib reduces the risk of relapse in the overall population or in key subgroups, and as a result, improves overall survival, the primary endpoint.

The selection of ganetespib for these studies was supported by preclinical results generated by us and academic collaborators, including Alan K. Burnett formerly of Cardiff University, and Sanjay Bansal of the UT Health Science Center at San Antonio. Results from these studies show that ganetespib inhibits a number of cancer-promoting factors believed to contribute to the proliferation of leukemic cells and renders them more vulnerable to treatment with chemotherapy.

Ganetespib in ovarian cancer

GANNET53 Trial

According to the World Health Organization, approximately 239,000 new cases of ovarian cancer are diagnosed worldwide each year. Ovarian cancer is among the most deadly of the gynecologic cancers, causing approximately 152,000 deaths annually, including approximately 42,700 deaths in Europe and 15,400 deaths in the United States.

GANNET53, a Seventh Framework Programme (FP7) research project funded by the European Commission, is a pan-European randomized trial designed to evaluate the combination of ganetespib and paclitaxel vs. paclitaxel alone in over 200 patients with metastatic, predominantly p53 mutant, platinum-resistant ovarian cancer. Preclinical models have shown that mutant p53 is critical to the growth and proliferation of these cancers. Many mutations render p53 unable to fold appropriately, leaving the protein highly dependent on Hsp90 for stability. Inhibition of Hsp90 destroys the complex between Hsp90 and mutant p53, leading to the degradation of the protein and cancer cell death. This anti-cancer activity is substantially stronger in cells with mutant p53 than in cells with non-mutated p53, suggesting potential as a predictive biomarker for Hsp90 inhibitors such as ganetespib.

Hsp90 inhibition has also been shown to sensitize mutant p53 cancer cells to treatment with chemotherapies, as has been seen in preclinical studies evaluating ganetespib in other tumor types, supporting the planned trial design evaluating the combination of ganetespib and paclitaxel vs. paclitaxel alone.

Enrollment of the safety lead-in Phase 1 portion of GANNET53 in centers in Austria, Belgium, France, and Germany began in July 2014 and is now complete. Investigators plan to present results from the Phase 1 portion at a medical meeting in 2015. Initiation of the randomized Phase 2 portion of the trial is anticipated in the first half of 2015.

A Phase I/II trial of paclitaxel in combination with ganetespib in patients with platinum-resistant ovarian cancer

This trial is designed to evaluate the safety and preliminary activity of the combination of ganetespib with weekly paclitaxel in patients with recurrent, platinum-resistant ovarian, fallopian tube or primary peritoneal cancer. The trial is sponsored by Fox Chase Cancer Center in Philadelphia, and initiated in the first half of 2014.

Ganetespib in Sarcoma

In November 2014, we announced an invitation from the FDA to participate in a meeting of the Oncologic Drugs Advisory Committee's (ODAC) Pediatric Subcommittee on December 11, 2014. The purpose of the meeting was to inform the FDA as to whether there is sufficient interest in the pediatric sarcoma investigator community to warrant the FDA issuing a Pediatric Written Request to Synta. If the FDA issues a Pediatric Written Request and we fulfill its requirements, an additional six months of exclusivity in the US will be granted to ganetespib.

SARC 023, sponsored by the Sarcoma Alliance for Research through Collaboration (SARC), is an open label Phase 1/2 trial of ganetespib in combination with the mTOR inhibitor sirolimus in patients with refractory sarcoma, including malignant peripheral nerve sheath tumors (MPNSTs). The Pediatric Subcommittee of ODAC reviewed the design of SARC 023, as well as pre-clinical data demonstrating the scientific rationale for studying this combination in a clinical trial. The Phase 1 portion of the study, which is currently ongoing, is designed to assess the safety, tolerability, and maximum tolerated/recommended dose of the combination.

Ganetespib in additional oncology indications

In addition to the trials noted above, a number of ganetespib trials sponsored by third parties, including cooperative groups, foundations, and individual investigators, are ongoing or are expected to initiate in 2015, including:

- a trial evaluating both ganetespib monotherapy and the combination of ganetespib and bortezomib in multiple myeloma, which began enrolling patients in 2012, and is supported by a grant of up to $1 million by the Multiple Myeloma Research Foundation;
- a trial evaluating ganetespib in combination with pemetrexed and cisplatin in patients with malignant pleural mesothelioma, being sponsored by University College London and Cancer Research UK, which began enrolling patients in 2013; and
- a trial evaluating the combination of ganetespib with capecitabine and radiation in patients with locally advanced rectal cancer being sponsored by Emory University, which began enrolling patients in 2012.

HDC Program: STA-12-8666 (SN-38 HDC)

Our lead drug candidate from our HDC Program is STA-12-8666, a conjugate of an Hsp90 inhibitor bound to SN-38, the highly potent active metabolite of the widely used chemotherapy irinotecan. Several factors led to the choice of SN-38 as an HDC payload:

- SN-38 has a well-established pharmacological profile;
- in humans, the metabolic conversion of irinotecan to active SN-38 is a highly complex and relatively inefficient process, subject to a high degree of inter-individual variability and low conversion rates that combine to restrict active drug bioavailability;

- SN-38 is one of the most potent payloads which has been widely used in novel drug delivery technology development; and

- SN-38 is relatively small with a flat chemical structure, which may facilitate passive diffusion

These issues of variability, bioavailability and solubility have previously stimulated considerable interest in utilizing irinotecan and/or SN-38 in other delivery formulations intended to improve drug pharmacokinetics and therapeutic activity. With STA-12-8666, our team has sought to leverage the preferential accumulation of Hsp90 inhibitors in tumors to selectively deliver SN-38 and address these issues.

Preclinical results generated to date for STA-12-8666 illustrate the differentiated profile of STA-12-8666 as compared to irinotecan. Highlights of these results include:

- *Favorable biodistribution and activity profile.* STA-12-8666 demonstrates prolonged SN-38 activity following a single dose. In addition, STA-12-8666 and its components, including SN-38, have been shown to preferentially persist in tumors as compared to irinotecan. Detectable amounts of SN-38 in tumors are observed with STA-12-8666 close to 1 micromolar 5 days following administration, whereas levels of SN-38 declined rapidly below quantifiable limits by 72 hours with irinotecan administration in MDA-MB231 tumor bearing mice.

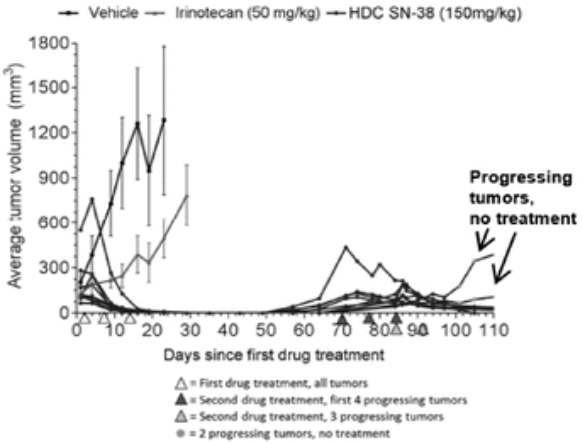
- *Efficacy in a broad range of tumors.* STA-12-8666 has been tested in more than a dozen tumor models where it has been shown to be superior to irinotecan at the equivalent doses and at their respective maximum tolerated doses (MTDs). In addition, STA-12-8666 has also been shown to be superior to the combination of irinotecan and a potent Hsp90 inhibitor in a model of small cell lung cancer (SCLC) at MTD

- *Durable efficacy in aggressive tumor models.* STA-12-8666 has been shown to induce durable complete responses in *in vivo* models of melanoma, NSCLC, and other solid tumors

- *Improved tolerability.* In animal toxicology studies conducted to date, STA-12-8666 has also shown an improved tolerability profile as compared to irinotecan

Importantly, STA-12-8666 has also demonstrated sustained efficacy in chemo-resistant preclinical models of difficult to treat solid tumors. Of note, STA-12-8666 has demonstrated significant activity in patient derived xenograft (PDX) models of pancreatic cancer and SCLC. In results obtained in collaboration with investigators at Fox Chase Cancer Center, STA-12-8666 demonstrated durable antitumor activity in a resistant pancreatic patient derived xenograft (PDX) preclinical model.

Figure 5: Durable antitumor activity of STA-12-8666 in chemo-resistant pancreatic Patient Derived Xenografts (PDX).



Interestingly, tumors which progressed >1 month following last treatment rapidly respond to a second course of treatment, suggesting limited resistance to STA-12-8666; tumors which progressed received no additional STA-12-8666 treatment.

Taken together, we believe that the results obtained to date with STA-12-8666 have demonstrated its potential to be a viable clinical candidate and provide initial proof of concept in our HDC Program. In the first quarter of 2015, we advanced STA-12-8666 into IND enabling studies targeting an IND submission by the first quarter of 2016. We expect to identify one additional HDC drug candidate to nominate for preclinical development in the first half of 2016 and hope to initiate IND-enabling studies in 2016.

Elesclomol (Mitochondria-Targeting Agent)

Elesclomol is a first-in-class investigational drug candidate that triggers programmed cell death (apoptosis) in cancer cells through a novel mechanism: disrupting cancer cell energy metabolism. Preclinical experiments and findings in three randomized clinical trials have shown that lactate dehydrogenase (LDH), a key enzyme in cellular energy metabolism, is an important predictor of elesclomol treatment outcome.

We are evaluating the use of elesclomol in combination with paclitaxel in ovarian cancer. In March 2011, the Gynecological Oncology Group (GOG) initiated a Phase 2 clinical trial of elesclomol in combination with paclitaxel for the treatment of persistent or recurrent ovarian, fallopian tube or primary peritoneal cancer for patients with total baseline serum LDH level less than 0.8 times the upper limit of normal (ULN). The GOG is a non-profit organization with the purpose of promoting excellence in the quality and integrity of clinical and basic scientific research in the field of gynecologic malignancies. The National Cancer Institute is providing financial support of up to approximately $300,000 for the trial through its Cancer Therapy Evaluation Program. The ovarian cancer trial met the pre-specified efficacy requirement to advance to stage 2, indicating potential activity in this difficult-to-treat patient population with limited treatment options. Enrollment of stage 2 of this study is nearing completion.

Our Inflammatory Disease Programs: CRACM and IL-12/23 Inhibitors

In 2014, we performed a comprehensive review of the Company's drug candidate portfolio, development programs and research plans in order to optimize resource allocation. As a result of this review, we made a strategic decision to divest our interest in our calcium release-activated calcium channel (CRACM) inhibitor program and our IL-12/23 inhibitor program by entering into a series of agreements with third parties. We are no longer funding or performing research and development activities in these programs, but retain ownership of the key underlying intellectual property assets.

CRACM Ion Channel Inhibitors

In May 2014, we entered into a license arrangement for our CRACM program, including two lead candidates and the associated intellectual property portfolio, with PRCL Research Inc. (PRCL), a company funded by TVM Life Science Venture VII and the Fonds de Solidarité des Travailleurs du Québec, based in Montreal, Canada. PRCL plans to develop one of the two lead candidates licensed from us to proof-of-concept. We were granted a minority interest in PRCL in exchange for our contribution of know-how and intellectual property and we will also hold a seat on PRCL's Board of Directors. We will not be required to provide any research funding or capital contributions to PRCL. We will be reimbursed by PRCL for intellectual property management costs in connection with the contributed intellectual property and may conduct preclinical research activities which would be reimbursed by PRCL. If and when proof-of-concept is reached with either drug candidate, Eli Lilly and Company, which is an investor in TVM, will help manage the development program through one of its divisions and will have an option to acquire PRCL or its assets at the then fair value.

IL-12/23 Inhibitors

In November 2014, we entered into a license agreement with a third party to further develop our IL-12/23 inhibitors. We will no longer be performing research activities on these candidates and, as part of the agreement, will receive payments based on achievement of certain milestones and royalties upon commercialization.

Manufacturing

Our drug candidates and preclinical compounds are small molecules that can be readily synthesized by processes that we have developed. Utilizing our medicinal chemistry and process development capabilities, we have developed manufacturing processes to produce the active pharmaceutical ingredient (API), for our drug candidates. We also have the internal capability to synthesize small molecule compounds in quantities sufficient for use in our preclinical studies, including proof-of-concept studies in animal models, early pharmacokinetic assays, initial toxicology studies, and formulation development. We currently contract with third parties that we believe are in compliance with the FDA's current Good Manufacturing Practice regulations (cGMPs) for the synthesis of API and drug product (DP) used in our clinical trials and we rely on third-party manufacturers for the supply of our drug candidates in bulk quantities and for the production of suitable dosage forms.

The starting materials and reagents required for synthesizing our drug candidates and preclinical compounds are commercially available from multiple sources. We have established a quality control and quality assurance program, including a set of standard operating procedures, analytical methods, and specifications, designed to ensure that our drug candidates are manufactured in accordance with the cGMPs, and other applicable domestic and foreign regulations. We have selected manufacturers that we believe comply with cGMP and other applicable regulatory requirements. We do not currently expect to manufacture cGMP material internally for our clinical trials nor undertake the commercial scale manufacture of our drug candidates after approval. We are currently discussing with our current

suppliers and other third-party manufacturers the long-term supply and manufacture of these and other drug candidates we may develop.

Ganetespib Manufacturing

We believe that the manufacturing processes for ganetespib API and DP are conventional and fully scalable. We also believe that the various steps of these processes can be accomplished by many possible third-party contract manufacturing organizations (CMOs). We currently use a single CMO for manufacturing ganetespib API but we have a backup CMO that has previously manufactured ganetespib API on our behalf. We currently use a single CMO for manufacturing ganetespib DP that has specific experience in manufacturing oncology products and has flexible scale manufacturing capabilities. We have screened other CMOs for potential back up for both ganetespib API and DP if needed in the future, and we believe that the manufacturing processes can be effectively transferred to one of the already screened CMOs. We believe that the agreements we have entered into to date with these CMOs are sufficient for our current requirements.

Sales and Marketing

We have worldwide commercialization rights for all of our development programs. However, we currently have no sales, marketing or distribution capabilities in order to commercialize any approved drug candidates. We intend to develop these capabilities internally as needed and through collaboration with third parties. See "Risks Related to Our Dependence on Third Parties—If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our drug candidates, we may be unable to generate product revenue." under "Risk Factors" below in Part I, Item 1A of this Annual Report on Form 10-K.

Competition

The development and commercialization of new drugs is highly competitive. We will face competition with respect to all drug candidates we may develop or commercialize in the future from pharmaceutical and biotechnology companies worldwide. The key competitive factors affecting the success of any approved product will be its efficacy, safety profile, price, method of administration and level of promotional activity. The efficacy and safety profile of our drug candidates relative to competitors will depend upon the results of our clinical trials and experience with the approved product in the commercial marketplace. For risks associated with competition, see "Risks Related to Our Industry—Our market is subject to intense competition. If we are unable to compete effectively, our drug candidates may be rendered noncompetitive or obsolete." under "Risk Factors" below in Part I, Item 1A of this Annual Report on Form 10-K.

Patents and Proprietary Rights

Our success depends in part on our ability to obtain and maintain proprietary protection for our drug candidates, technology, and know-how, to operate without infringing on the proprietary rights of others, and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing U.S. and foreign patent applications related to our proprietary technology, inventions, and improvements that are important to the development of our business. We also rely on trade secrets, know-how, continuing technological innovation, and in-licensing opportunities to develop and maintain our proprietary position.

As of February 18, 2015, our complete patent portfolio had a total of 867 patents and patent applications filed worldwide, including specific patent filings with claims to the composition-of-matter of, and methods of use for, ganetespib, STA-12-8666 and elesclomol. We own a total of 113 issued U.S. patents and 447 foreign patents.

Our robust Hsp90 inhibitor patent portfolio includes 424 domestic and international patents and patent applications. This portfolio covers ganetespib and structurally related analogs, pharmaceutical compositions comprising these compounds, and methods for treating different cancer types. Any U.S. or foreign patent that issues covering ganetespib will expire no earlier than 2025. The U.S. composition of matter patent claiming ganetespib will expire in 2027. We have also filed numerous U.S. and foreign patent applications covering our proprietary HDC Program, including composition of matter claims for hundreds of compounds synthesized by us to date, methods for identifying therapeutically effective compounds, and methods of use against a wide range of diseases and conditions. Any resulting patent from our HDC Program portfolio will expire no earlier than 2034.

We have also in-licensed certain technology to complement our ongoing clinical and research programs. These licenses generally extend for the term of the related patent and contain customary royalty, termination, and other provisions. We currently have a non-exclusive license to a U.S. patent assigned to Columbia University that could potentially cover a possible aspect of the elesclomol mechanism. This license is not royalty-bearing unless we include specific mechanism language on the label of any approved product, in which case a nominal royalty would be owed.

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, labeling, packaging, promotion, storage, advertising, distribution, marketing and export and import of products such as those we are developing. Our drug candidates must be approved by the FDA through the new drug application, or NDA, process before they may be legally marketed in the United States.

United States Government Regulation

NDA Approval Processes

In the United States, the FDA regulates drugs under the Federal Food, Drug and Cosmetic Act, or the FDCA, and implementing regulations. Failure to comply with the applicable U.S. 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:

- refusal to approve pending applications;
- withdrawal of an approval;
- imposition of a clinical hold;
- warning letters;
- product seizures;
- total or partial suspension of production or distribution; or
- injunctions, fines, civil penalties or criminal prosecution.

Any agency regulatory or judicial enforcement action could have a material adverse effect on us. The process of obtaining regulatory approvals and the subsequent substantial compliance with appropriate federal, state, local, and foreign statutes and regulations require the expenditure of substantial time and financial resources.

The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, formulation studies, animal studies conducted according to Good Laboratory Practices, or GLPs, or other applicable regulations;

- submission 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, or GCPs, to establish the safety and efficacy of the proposed drug for its intended use;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product candidate is produced to assess compliance with current Good Manufacturing Practices, or cGMPs, and to assure that the facilities, methods and controls are adequate to preserve the drugs identity, strength, quality and purity; and
- FDA review and approval of the NDA.

Once a pharmaceutical candidate is identified for development, it enters the preclinical or nonclinical 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. Some nonclinical testing may continue even after the IND is submitted. In addition to including the results of the preclinical studies, the IND will also include a protocol detailing, among other things, the objectives 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 determination. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, specifically places the IND on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin. A clinical hold may occur at any time during the life of an IND, and may affect one or more specific studies or all studies conducted under the IND.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with GCPs. They must be conducted under protocols detailing the objectives of the trial, dosing procedures, research 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 status of the clinical trials must be submitted to the FDA annually. Sponsors also must timely report to FDA serious and unexpected adverse reactions, any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigation brochure, or any findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the drug. An institutional review board, or IRB, at each institution participating in the clinical trial must review and approve the 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 research subject or the subject's 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 drug is initially introduced into healthy human subjects or patients with the disease and tested for safety, dosage tolerance, pharmacokinetics, pharmacodynamics, absorption, distribution metabolism, and elimination. In the case of some products for severe or life-threatening diseases, especially when the product may be inherently too toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- *Phase 2.* Clinical trials are initiated 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 and provide an adequate basis for product labeling.

Phase 1, Phase 2, and Phase 3 testing may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend a clinical trial at any time for a variety of reasons, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. In addition, 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, in accordance with the clinical protocol, or if the drug has been associated with unexpected serious harm to patients.

During the development of a new drug, sponsors are given an opportunity to meet with the FDA at certain points. These points are: prior to submission of an IND, at the end of Phase 1 or Phase 2, and before an NDA 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. If a Phase 3 clinical trial is the subject of discussion at an end of Phase 2 meeting with the FDA, a sponsor may be able to request a Special Protocol Assessment, the purpose of which is to reach agreement with the FDA on the design of the Phase 3 clinical trial protocol design and analysis that will form the primary basis of an efficacy claim. If such an agreement is reached, it will be documented and made part of the administrative record, and it will be binding on the FDA unless public health concerns unrecognized at the time of protocol assessment are evident, and may not be changed except under a few specific circumstances.

According to published guidance on the SPA process, a sponsor that meets the prerequisites may make a specific request for a SPA and provide information regarding the design and size of the proposed clinical trial. The FDA is supposed to evaluate the protocol within 45 days of the request to assess whether the proposed trial is adequate, and that evaluation may result in discussions and a request for additional information. A SPA request must be made before the proposed trial begins, and all open issues must be resolved before the trial begins.

On occasion, the FDA may suggest or the sponsor of a clinical trial may decide to use an independent data monitoring committee, or DMC, to provide advice regarding the continuing safety of trial subjects and the continuing validity and scientific merit of a trial. In 2006, the FDA published a final Guidance for Clinical Trial Sponsors on the Establishment and Operations of Clinical Trial Data Monitoring Committees in which it describes the types of situations in which the use of a DMC is appropriate and suggests how a DMC should be established and operated. DMCs evaluate data that may not be available to the sponsor during the course of the study to perform interim monitoring of clinical trials for safety and/or effectiveness and consider the impact of external information on the trial. They often make recommendations to the sponsor regarding the future conduct of the trial.

Concurrent with clinical trials, companies usually complete additional animal safety 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 accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and the manufacturer must develop methods for testing the quality, purity and potency of the final drugs. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf-life.

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, results of chemical studies and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of user fees, but a waiver of such fees may be obtained under specified circumstances. The FDA reviews all NDAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. It may request additional information rather than accept a NDA for filing. In this event, the NDA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing.

Once the NDA is accepted for filing, the FDA begins an in-depth review. NDAs receive either standard or priority review. A drug representing a significant improvement in treatment, prevention or diagnosis of disease may receive priority review. The FDA may refuse to approve an NDA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data. Even if such data are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. 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 may refer the NDA to an advisory committee for review 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. Before approving an NDA, the FDA will inspect the facility or facilities where the product is manufactured and tested.

The FDA may require, as a condition of approval, restricted distribution and use, enhanced labeling, special packaging or labeling, expedited reporting of certain adverse events, pre-approval of promotional materials, restrictions on direct-to-consumer advertising or commitments to conduct additional research post-approval. The FDA will issue a complete response letter if the agency decides not to approve the NDA in its present form. The complete response letter usually describes all of the specific deficiencies in the NDA identified by the FDA. If a complete response letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application.

Satisfaction of FDA requirements or similar requirements of foreign regulatory authorities can take a considerable amount of time and the actual time required may vary substantially, based upon, among other things, the indication and the type, complexity and novelty of the product. Government regulation may delay or prevent marketing of potential products for a considerable period of time and impose costly requirements upon us. Success in early stage clinical trials does not assure success in later stage clinical trials. Data obtained from clinical activities are not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The FDA may not grant approval on a timely basis, or at all. Even 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 application of the product. Further, even after regulatory approval is obtained, 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. Delays in obtaining, or failures to obtain, regulatory approvals for any drug candidate could substantially harm our business and cause our stock price to drop significantly. In addition, we cannot predict what adverse governmental regulations may arise from future U.S. or foreign governmental action.

Expedited Review and Approval

The FDA has various programs, including Breakthrough Therapy, Fast Track, priority review, and accelerated approval, which are intended to expedite or simplify the process for reviewing drugs, and/or

provide for the approval of a drug on the basis of a surrogate endpoint. Even if a drug qualifies for one or more of these programs, the FDA may later decide that the drug no longer meets the conditions for qualification or that the time period for FDA review or approval will be shortened. Generally, drugs that are eligible for these programs are those for serious or life-threatening conditions, those with the potential to address unmet medical needs and those that offer meaningful benefits over existing treatments. For example, Fast Track is a process designed to facilitate the development and expedite the review of drugs to treat serious or life-threatening diseases or conditions and fill unmet medical needs. Priority review is designed to give drugs that offer major advances in treatment, or that provide a treatment where no adequate therapy exists, an initial review within six months as compared to a standard review time of ten months.

Although Fast Track and priority review do not affect the standards for approval, the FDA will attempt to facilitate early and frequent meetings with a sponsor of a Fast Track designated drug and expedite review of the application for a drug designated for priority review. Accelerated approval, which is described in Subpart H of 21 CFR Part 314, provides for an earlier approval for a new drug that is intended to treat a serious or life-threatening disease or condition and that fills an unmet medical need based on a surrogate endpoint. A surrogate endpoint is a laboratory measurement or physical sign used as an indirect or substitute measurement representing a clinically meaningful outcome. As a condition of approval, the FDA may require that a sponsor of a product candidate receiving accelerated approval perform post-marketing clinical trials.

In the Food and Drug Administration Safety and Innovation Act, or FDASIA, which was signed into law in July 2012, 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 June 2013, the FDA published a draft 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. FDA has already granted this designation to more than 30 new drugs and has already approved several Breakthrough Therapy designated drugs.

Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of FDA approval of the use of our drug candidates, some of our U.S. 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, plus the time between the submission date of an NDA and the approval of that application. 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. In the future, we intend to apply for restorations of patent term for some of our currently owned or licensed patents to add patent life beyond their current expiration date, depending on the expected length of clinical trials and other factors involved in the submission of the relevant NDA.

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application, or ANDA, or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for an NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example, for new indications, dosages, or strengths of an existing drug. This three-year exclusivity covers only the conditions associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA; however, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan drug designation to drugs 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. 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 products for seven years if a competitor obtains approval of the same drug as defined by the FDA or if our drug candidate is determined to be contained within the competitor's product for the same indication or disease.

Pediatric Exclusivity and Pediatric Use

Under the Best Pharmaceuticals for Children Act, or BPCA, certain drugs may obtain an additional six months of exclusivity, if the sponsor submits information requested in writing by the FDA, or a Written Request, relating to the use of the active moiety of the drug in children. The FDA may not issue a Written Request for studies on unapproved or approved indications or where it determines that information relating to the use of a drug in a pediatric population, or part of the pediatric population, may not produce health benefits in that population.

We have not received a Written Request for such pediatric studies, although we may ask the FDA to issue a Written Request for such studies in the future. To receive the six-month pediatric market exclusivity, we would have to receive a Written Request from the FDA, conduct the requested studies in accordance with a written agreement with the FDA or, if there is no written agreement, in

accordance with commonly accepted scientific principles, and submit reports of the studies. A Written Request may include studies for indications that are not currently in the labeling if the FDA determines that such information will benefit the public health. The FDA will accept the reports upon its determination that the studies were conducted in accordance with and are responsive to the original Written Request or commonly accepted scientific principles, as appropriate, and that the reports comply with the FDA's filing requirements.

In addition, the Pediatric Research Equity Act, or PREA, requires a sponsor to conduct pediatric studies for most drugs and biologicals, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original NDAs, biologics license application 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.

As part of the FDASIA, Congress made a few revisions to BPCA and PREA, including making both laws permanent.

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. 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. In addition, the FDA may require testing and surveillance programs to monitor the effect of approved products that have been commercialized, and the FDA has the power to prevent or limit further marketing of a product based on the results of these post-marketing programs.

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;
- notifying the FDA and gaining its approval of specified manufacturing or labeling changes;
- complying with certain electronic records and signature requirements; and
- complying with FDA promotion and advertising requirements.

Drug manufacturers and their subcontractors are required to register their establishments with the FDA and some state agencies, and are subject to periodic unannounced inspections by the FDA and some state agencies for compliance with cGMP and other laws.

We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products. Future FDA and state inspections may identify compliance

issues at the facilities of our contract manufacturers that may disrupt production or distribution, or require substantial resources to correct.

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. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether 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 our products. Whether or not we obtain FDA approval for a product, we must obtain approval by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

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 medicines produced by biotechnology or those medicines intended to treat AIDS, cancer, neurodegenerative disorders, or diabetes and optional for those medicines which are highly innovative, provides for the grant of a single marketing authorization that is valid for all European Union member states. 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.

As in the United States, we may apply for designation of a product as an orphan drug for the treatment of a specific indication in the European Union before the application for marketing authorization is made. Orphan drugs in Europe enjoy economic and marketing benefits, including up to 10 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 our products will depend, in part, on the extent to which the costs of our products will be covered by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly challenging the prices charged for medical products and services. Additionally, the containment of healthcare costs has become a priority of federal and state governments, and the prices of drugs have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures,

could further limit our net revenue and results. Decreases in third-party reimbursement for our drug candidates or a decision by a third-party payor to not cover our drug candidates could reduce physician usage of the product candidate and have a material adverse effect on our sales, results of operation and financial condition.

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, imposed new requirements for the distribution and pricing of prescription drugs for Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities which will provide coverage of outpatient prescription drugs. Part D plans include both stand-alone prescription drug benefit plans and prescription drug coverage as a supplement to Medicare Advantage plans. Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan will likely be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private payors have begun to follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA may result in a similar reduction in payments from non-governmental payors as well.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. A plan for the research will be developed by the Department of Health and Human Services, the Agency for Healthcare Research and Quality and the National Institutes for Health, and periodic reports on the status of the research and related expenditures will be made to Congress. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear how such a result could be avoided and what if any effect the research will have on the sales of our drug candidates, if any such product or the condition that it is intended to treat is the subject of a study. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our drug candidates. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act of 2010 (collectively, the ACA) enacted in March 2010, is expected to have a significant impact on the health care industry. The ACA is expected to expand coverage for the uninsured while at the same time contain overall healthcare costs. With regard to pharmaceutical products, among other things, the ACA is expected to expand and increase industry rebates for drugs covered under Medicaid programs and make changes to the coverage requirements under the Medicare D program. We cannot predict the impact of the ACA on pharmaceutical companies as many of the ACA reforms require the promulgation of detailed regulations implementing the statutory provisions which has not yet occurred. In addition, although the United States Supreme Court upheld the constitutionality of most of the ACA, some states have indicated that they intend to not implement certain sections of the ACA, and some members of the U.S. Congress are still working to repeal the ACA. These challenges add to the uncertainty of the legislative changes enacted as part of the ACA.

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 December 31, 2014, we had 110 full time employees, including a total of 39 employees who hold M.D. or Ph.D. degrees. In 2014, we performed a comprehensive review of our drug candidate portfolio, development programs and research agenda in order to optimize the allocation of our resources. This review led to a rationalization of our portfolio and research activities, demonstrated by the divestiture of our IL-12/23 inhibitor program and our CRAC ion channel inhibitor program in 2014. As part of this effort, we reduced our headcount in 2014 by a total of 20 people and reallocated resources to increase support of the ongoing ganetespib development program and HDC Program.

In February 2015, we announced a new corporate strategy which entailed a change in our operating model to that of a leaner, more agile organization that leverages internal strategic capabilities with the expertise of external capabilities, as needed. As part of this change, we announced a reduction in force of approximately 20%, after taking into account our reduction in headcount in 2014. On a cumulative basis, our headcount has been reduced from 133 at the beginning of 2014 to 90 in February 2015.

Currently, we have 89 employees, 59 of whom are primarily engaged in research and development activities, and 30 are primarily engaged in general and administrative activities. Our employees are not represented by any collective bargaining unit, and we believe our relations with our employees are good.

Company History and Available Information

We commenced operations in July 2001. In September 2002, we acquired Principia Associates, Inc., which had previously acquired Shionogi BioResearch Corp., a U.S.-based drug discovery subsidiary of the Japanese pharmaceutical company, Shionogi & Co., Ltd. In this acquisition, we acquired a unique chemical compound library, an integrated set of drug discovery capabilities, and a pipeline of preclinical and research programs. Since 2002, we have been advancing these programs into later stages of development; discovering and developing additional drug candidates; and expanding our management and scientific teams and capabilities to support more advanced stages of drug development and commercialization.

Our principal executive offices are located at 45 Hartwell Avenue, Lexington, Massachusetts 02421, and our telephone number is (781) 274-8200. Our website address is *www.syntapharma.com*. The information contained on our website is not incorporated by reference into, and does not form any part of, this Annual Report on Form 10-K. We have included our website address as a factual reference and do not intend it to be an active link to our website. Our trademarks include Synta Pharmaceuticals, our corporate logo and the GALAXY trial. Other service marks, trademarks and trade names appearing in this Annual Report on Form 10-K are the property of their respective owners. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and all amendments to those reports, are available free of charge through the Investors section of our website as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the Securities and Exchange Commission, or the SEC. You may also read and copy any document we file at the SEC's Public Reference Room at 100 F Street N.E., Washington, D.C. 20549. Please call 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

Item 1A. RISK FACTORS

If any of the following risks occurs, our business, business prospects, financial condition, results of operations, or cash flows could be materially harmed.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception, and we expect to incur losses for the foreseeable future and may never reach profitability.

Since inception we have incurred significant operating losses and, as of December 31, 2014, we had an accumulated deficit of $637.6 million. We expect to continue to incur significant operating expenses and capital expenditures and anticipate that our expenses and losses may increase substantially in the foreseeable future as we:

- complete the ongoing clinical trials of ganetespib in solid tumors, including the GALAXY-2 and I-SPY 2 trials, and initiate additional clinical trials of ganetespib if supported by trial results;
- complete preclinical development of STA-12-8666, our first HDC drug candidate, and initiate clinical trials of this compound, if supported by the preclinical data;
- advance an HDC drug candidate with a different anti-cancer payload than STA-12-8666 into preclinical development and initiate clinical trials, if supported by preclinical data;
- complete the ongoing clinical trials of elesclomol in ovarian cancer, and initiate additional clinical trials of elesclomol, if supported by trial results;
- discover, develop, and seek regulatory approval for backups of our current drug candidates and other new drug candidates;
- identify additional compounds or drug candidates and acquire rights from third parties to those compounds or drug candidates through licenses, acquisitions or other means; and
- commercialize any approved drug candidates.

We must generate significant revenue to achieve and maintain profitability. Even if we succeed in developing and commercializing one or more of our drug candidates, we may not be able to generate sufficient revenue and we may never be able to achieve or maintain profitability.

If we fail to obtain the funding necessary to support our operations, we will be unable to successfully develop and commercialize our lead drug candidates.

Although we have raised substantial funding to date, we will require additional funding in order to complete clinical development and commercialize our current drug candidates and to conduct the research and development and clinical and regulatory activities necessary to bring any future drug candidates to market. Our future funding requirements will depend on many factors that are currently unknown to us, including:

- the progress and results of our ongoing clinical trials of ganetespib and elesclomol, and any additional clinical trials of those product candidates that we may initiate in the future based on the results of these clinical trials;
- the results of our preclinical studies of STA-12-8666 and any additional Hsp90 inhibitors or other HDC drug candidates that we may develop, and our decision to initiate clinical trials, if supported by the preclinical and other test results;
- uncertainty associated with costs, timing, and outcome of regulatory review of our drug candidates;

- the scope, progress, results, and cost of preclinical development, clinical trials, and regulatory review of any new drug candidates we may discover or acquire;
- the costs of preparing, filing, and prosecuting patent applications and maintaining, enforcing, and defending intellectual property-related claims;
- our ability to establish additional strategic collaborations and licensing or other arrangements on terms favorable to us;
- the costs to satisfy our obligations under potential future collaborations;
- the timing, receipt, and amount of sales or royalties, if any, from ganetespib, elesclomol, STA-12-8666, other drug candidates from our HDC Program, and our other potential products; and
- whether we are able to receive regulatory approval for and commercialize ganetespib or any of our other drug candidates.

There can be no assurance that additional funds will be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available on a timely basis, we may be required to:

- terminate, significantly modify or delay our research and development programs;
- reduce our planned commercialization efforts; or
- obtain funds through collaborators that may require us to relinquish rights to our technologies or drug candidates that we might otherwise seek to develop or commercialize independently.

We have not yet generated any product revenue and may never do so. We expect our continuing operations to use cash over the next several years and such cash use may increase significantly from year to year. While we are engaged in multiple preliminary partnership discussions for each of our currently unpartnered programs, including ganetespib and our HDC platform, which could result in one or more new partnership agreements that may include upfront payments and cost-sharing provisions, there is no guarantee we will be successful in entering into any such partnership agreements on commercially reasonable terms, if at all, or that we will receive any other revenue through these partnership efforts in the future. We expect our $97.7 million in cash resources as of December 31, 2014 will be sufficient to fund operations at least through the end of 2015. This estimate assumes no additional funding from new partnership agreements, equity financings or further sales under our at-the-market-issuance sales agreement, or ATM, with MLV & Co. LLC, or MLV. The timing and nature of certain activities contemplated for 2015 will be conducted subject to the availability of sufficient financial resources. We have an effective shelf registration statement on Form S-3, under which we currently have up to $171.6 million in securities available for issuance, including up to $27.0 million in shares of common stock that we have reserved and that may be offered and sold under the sales agreement that we entered into with MLV in July 2014.

However, our operating plans may change as a result of many factors currently unknown to us, and we may need additional funds sooner than planned. For instance, in February 2015, we shifted our corporate strategy to focus our resources on achieving key value creating milestones. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Our operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.

We commenced operations in July 2001. Our operations to date have been limited to organizing and staffing our company, acquiring, developing, and securing our technology, and undertaking

preclinical studies and clinical trials of our drug candidates. We have not yet demonstrated an ability to obtain regulatory approval, formulate and manufacture a commercial-scale product, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or had previously discovered, developed, and/or commercialized an approved product.

Raising additional capital may cause dilution to existing stockholders, restrict our operations or require us to relinquish rights.

We may seek the additional capital necessary to fund our operations through public or private equity offerings, collaboration agreements, debt financings, or licensing arrangements. We have an effective shelf registration statement on Form S-3, under which we currently have up to $171.6 million in securities available for issuance, including up to $27.0 million in shares of common stock that we have reserved and that may be offered and sold under our at-the-market issuance sales agreement with MLV. To the extent that we raise additional capital through the sale of equity or convertible debt securities, existing stockholders' ownership interests will be diluted and the terms may include liquidation or other preferences that adversely affect their rights as a stockholder. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions such as incurring additional debt, making capital expenditures, or declaring dividends. For example, the terms of our loan and security agreement with General Electric Capital Corporation subject us to certain negative covenants including a prohibition on declaring or paying dividends. If we raise additional funds through collaboration or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or drug candidates, or grant licenses on terms that are not favorable to us.

Our existing loan and security agreements contain affirmative and negative covenants that may restrict our business and financing activities. If we fail to comply with covenants in our loan and security agreements, we may be required to repay our indebtedness thereunder, which may have an adverse effect on our liquidity.

On September 30, 2010, we entered into a $15 million loan and security agreement with General Electric Capital Corporation, or GECC, and one other lender, which we refer to herein as the GECC Term Loan. In March 2013, we amended the GECC Term Loan, obtaining $12.9 million in additional loan funding and, as a result, increasing the principal balance to $22.5 million at March 31, 2013. The GECC Term Loan is secured by substantially all of our assets, except our intellectual property. We have, however, granted GECC a springing security interest in our intellectual property in the event that we are not in compliance with certain cash burn covenants set forth in the agreement. In addition, the GECC Term Loan contains restrictive covenants, including the requirement for us to receive prior written consent of GECC to enter into loans, other than up to $4.0 million of equipment financing, restrictions on the declaration or payment of dividends, restrictions on acquisitions, and customary default provisions that include material adverse events, as defined therein. Our failure to comply with these covenants may result in the declaration of an event of default that, if not cured or waived, may result in the acceleration of the maturity of indebtedness outstanding under the GECC Term Loan, which would require us to pay all amounts outstanding. If an event of default occurs, we may not be able to cure it within any applicable cure period, if at all. If the maturity of our indebtedness is accelerated, we may not have sufficient funds available for repayment or we may not have the ability to borrow or obtain sufficient funds to replace the accelerated indebtedness on terms acceptable to us or at all.

In March 2011, we entered into a $2 million loan and security agreement with Oxford Finance Corporation, or Oxford, which we refer to as the Oxford Term Loan. In December 2012, we entered into a loan modification agreement under which we may draw down up to an additional $0.6 million in equipment financing until June 30, 2013, which has been fully utilized. The Oxford Term Loan is

secured by certain laboratory and office equipment, furniture and fixtures. In connection with the Oxford Term Loan, Oxford and GECC entered into a Lien Subordination Agreement, whereby GECC granted Oxford a first priority perfected security interest in the loan collateral. The Oxford Term Loan contains restrictive covenants, including the requirement for us to receive the prior written consent of Oxford to enter into acquisitions in which we incur more than $2.0 million of related indebtedness, and customary default provisions that include material adverse events, as defined therein.

Risks Related to the Development and Regulatory Approval of Our Drug Candidates

Our success is largely dependent on the success of ganetespib, elesclomol, STA-12-8666 and our other drug candidates, and we cannot be certain that we will be able to obtain regulatory approval for or successfully commercialize any of these drug candidates.

We anticipate that our success will depend largely on the receipt of regulatory approval and successful commercialization of our drug candidates: ganetespib, elesclomol, STA-12-8666 and any other HDC drug candidates we may develop. The future success of our drug candidates will depend on several factors, including the following:

- our ability to recruit appropriate patients into our clinical trials and to complete the necessary preclinical studies and clinical trials to support regulatory approval;
- our ability to provide acceptable evidence of their safety and efficacy;
- receipt of marketing approval from the U.S. Food and Drug Administration, or FDA, and any similar foreign regulatory authorities;
- obtaining and maintaining commercial manufacturing arrangements with third-party manufacturers or establishing commercial-scale manufacturing capabilities;
- in the case of elesclomol, a further understanding of the role of LDH levels and other potential markers of treatment outcome, and the outcome of our ongoing and contemplated clinical trials of elesclomol that we may initiate;
- establishing an internal sales force or collaborating with pharmaceutical companies or contract sales organizations to market and sell any approved drug;
- approval or use of competitive products in the indications for which we will market our drug candidates;
- validation of the molecular targets or mechanisms of action of our drug candidates by us or by third parties;
- approval of reimbursement in foreign countries with centralized health care; and
- acceptance of any approved drug in the medical community and by patients and third-party payors.

Many of these factors are beyond our control. Accordingly, there can be no assurance that we will ever be able to generate revenues through the sale of an approved product or through strategic collaborations based on our products.

If we do not obtain the required regulatory approvals, we will be unable to market and sell our drug candidates.

Our drug candidates are subject to extensive governmental regulations relating to development, clinical trials, manufacturing, and commercialization. Performance of rigorous preclinical testing and clinical trials and an extensive regulatory review and approval process are required to be successfully completed in the United States and in many foreign jurisdictions before a new drug can be sold. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain, and subject

to unanticipated delays. The time required to obtain approval by the FDA is unpredictable but typically exceeds five years following the commencement of clinical trials, depending upon the complexity of the drug candidate and the indication.

We have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA. In connection with the clinical trials of our drug candidates, we face risks that:

- the drug candidate may not prove to be safe and effective;
- the dosing of the drug candidate in a particular clinical trial may not be optimal;
- patients may die or suffer other adverse effects for reasons that may or may not be related to the drug candidate being tested;
- the results may not confirm the positive results of earlier clinical trials or preclinical studies; and
- the results may not meet the level of statistical significance or clinical benefit-to-risk ratio required by the FDA or other regulatory agencies for marketing approval.

Of the large number of drugs in development, only a small percentage result 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 a commercial product, any such approval may be subject to limitations on the indicated uses for which we may market the product.

In clinical studies with elesclomol, we have been using a new formulation. However, we have limited prior clinical experience with this formulation and cannot ensure that no new toxicities will be observed in current or future clinical trials with elesclomol.

Although the FDA has given us permission to resume clinical development of elesclomol following specific protocols that exclude patients with elevated LDH levels, we are using a different formulation of elesclomol than we used in our prior completed elesclomol clinical trials. The prior formulation utilized the free acid form of elesclomol, which needed to be dissolved in an organic solvent prior to administration. The types of combination therapies that were possible with the free acid formulation of elesclomol, and the amount of elesclomol that could be delivered safely in this formulation, were limited because of the additional toxicities caused by presence of the organic solvent. Accordingly, we have developed a water-soluble, lyophilized sodium salt form of elesclomol, or elesclomol sodium, that does not need to be dissolved in an organic solvent and therefore has the potential to be used more easily with other oncology products or as a stand alone agent without need for an organic solvent. We are using this formulation in current clinical trials of elesclomol and intend to continue using this formulation for future studies and for commercialization, if elesclomol is approved. Although we have shown comparable pharmacokinetics of the new formulation of lyophilized elesclomol sodium in animals, we can provide no guarantees that the sodium salt formulation will be commercially suitable, that efficacy will be established or that new toxicities or other adverse effects will not be identified in the clinical trials that we conduct with this formulation. In addition, we have noted a relatively high pH in the final elesclomol infusion solution. Although there have been no reported concerns in the ongoing clinical trials using this solution, we cannot guarantee that there will be no complications related to the high pH of this solution in the future.

If we are unable to successfully reformulate and scale up ganetespib, it may limit the commercial potential of this drug candidate, even if approved.

The current formulation and administration procedures for ganetespib may be inconvenient or unacceptable to certain patients due to the method of administration and frequency of dosing. These factors may lead to lower than expected enrollment rates in our clinical trials and, if approved, may limit the commercial potential of ganetespib. In addition, to date, we have only produced ganetespib

active pharmaceutical ingredient, or API, and drug product, or DP, on a relatively small scale. Our current plan is to increase the API and DP manufacturing scale by several fold relative to the current scale in the upcoming process validation batches and in future commercial batches. Although we believe that the current processes for producing ganetespib API and DP formulation are fully scalable, these products may prove to be unexpectedly challenging to manufacture on a larger, commercial scale, which may add to the cost of manufacture. While we have identified an improved formulation of ganetespib that we believe may broaden its commercial potential and decrease manufacturing risk, this new formulation is being tested in limited clinical trials. While we believe that bioequivalence between the improved and the first generation formulation has been demonstrated, we will continue to monitor the performance of the new formulation in the ongoing clinical studies. If the improved formulation is not commercially acceptable and we are unable to develop a commercially acceptable formulation using our own know-how or technology, we may need to rely on third party proprietary formulation technology. Such third party formulation development may require significant time and expense. We cannot assure you that our efforts to reformulate ganetespib will be successful. If we are unable to reformulate ganetespib, ganetespib may have more limited potential target indications and market size if it is approved.

While we believe that elesclomol's mechanism of action may have applicability to a broad range of solid tumor cancers, most of our clinical trials of elesclomol to date have shown negative or inconclusive results and there can be no assurances that future clinical trials of elesclomol will yield positive results.

Based on our understanding of the mechanism of action and the preclinical activity we have seen with elesclomol, we believe that elesclomol may have applicability to a broad range of cancers. However, other than our Phase 2b clinical trial in metastatic melanoma, the results of our clinical trials of elesclomol have been negative or inconclusive. We have completed Phase 2 clinical trials of elesclomol in sarcoma and non-small cell lung cancer. The results of the soft tissue sarcoma clinical trial did not definitively establish evidence of clinical activity. In the non-small cell lung cancer clinical trial, no improvement was observed in time-to-progression between combination treatment with elesclomol and a standard first-line combination therapy. In February 2009, we announced that we were suspending the SYMMETRY trial, our global, pivotal Phase 3 clinical trial of elesclomol for the treatment of metastatic melanoma. In subsequent analyses, although we identified a population of patients (those who did not have elevated levels of LDH) for which the primary endpoint of progression-free survival, or PFS, was achieved and the safety profile was acceptable, the SYMMETRY trial did not achieve the primary endpoint of the study and therefore will not support approval of elesclomol in metastatic melanoma. We have been analyzing data from these trials to assess the future development of elesclomol in melanoma and other cancer types and the FDA has given us approval to resume clinical development of elesclomol following specific protocols that exclude patients with elevated LDH levels. Although a Phase 2 trial of elesclomol in ovarian cancer is ongoing, there can be no assurance that elesclomol will prove effective in and be approved for treating this or other forms of cancer.

Because our lead drug candidates are still in clinical development, there is a high risk of failure, and we may never succeed in developing marketable products or generating product revenue.

We have no drug candidates that have received regulatory approval for commercial sale. We do not expect to have any commercial products on the market in the foreseeable future, if at all. We are exploring human diseases at the cellular level and attempting to develop drug candidates that intervene with cellular processes. Drug development is an uncertain process that involves trial and error, and we may fail at numerous stages along the way. Success in preclinical studies of a drug candidate may not be predictive of similar results in humans during clinical trials, and successful results from early or small clinical trials of a drug candidate may not be replicated in later and larger clinical trials. For example, although our Phase 2b clinical trial of elesclomol for the treatment of metastatic melanoma

achieved the primary endpoint of increasing PFS, the SYMMETRY trial did not achieve the primary endpoint of PFS and therefore will not support approval of elesclomol in metastatic melanoma. Accordingly, the results from preclinical studies and the completed and ongoing clinical trials for our drug candidates may not be predictive of the results we may obtain in later stage clinical trials.

If clinical trials for our drug candidates are prolonged, delayed or suspended, we may be unable to commercialize our drug 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 other ongoing and planned clinical trials and negatively impact our ability to obtain regulatory approval for, and to market and sell, a particular drug candidate, including our clinical drug candidates, ganetespib and elesclomol, and our drug candidates that are still in preclinical studies, including STA-12-8666 and any other HDC drug candidates that we may develop:

- conditions imposed on us by the FDA or any foreign regulatory authority regarding the scope or design of our clinical trials;
- delays in obtaining, or our inability to obtain, required approvals from institutional review boards or other reviewing entities at clinical sites selected for participation in our clinical trials;
- insufficient supply or deficient quality of our drug candidates or other materials necessary to conduct our clinical trials;
- delays in obtaining regulatory agreement for the conduct of our clinical trials;
- slower or lower than anticipated enrollment and retention rate of subjects in clinical trials;
- negative or inconclusive results from clinical trials, or results that are inconsistent with earlier results, that necessitate additional clinical trials (for example, due to patient-to-patient pharmacokinetic variability, or due to changes in patient management and outcomes);
- serious and unexpected drug-related side effects experienced by patients in clinical trials; or
- failure of our third-party contractors to comply with regulatory requirements or otherwise meet their contractual obligations to us.

Commercialization of our drug candidates may be delayed by the imposition of additional conditions on our clinical trials by the FDA or any foreign regulatory authority or the requirement of additional supportive studies by the FDA or any foreign regulatory authority. In addition, clinical trials require sufficient patient enrollment, which is a function of many factors, including the size of the target patient population, the nature of the trial protocol, the proximity of patients to clinical sites, the availability of effective treatments for the relevant disease, the conduct of other clinical trials that compete for the same patients as our clinical trials, and the eligibility criteria for our clinical trials. Our failure to enroll patients in our clinical trials could delay the completion of the clinical trial beyond our expectations. In addition, the FDA could require us to conduct clinical trials with a larger number of subjects than we have projected for any of our drug candidates. We may not be able to enroll a sufficient number of patients in a timely or cost-effective manner. Furthermore, enrolled patients may drop out of our clinical trials, which could impair the validity or statistical power of the clinical trials.

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 our clinical trials will result in increased development costs for our drug candidates. 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 drug candidates could be limited. If approved, we may not receive a package insert for any of our products that are competitive and differentiated, which may change our strategies with respect to how and when we commercialize any of our products.

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.

Our drug 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 drug 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 commercial products, manufacturers, or manufacturing processes 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;
- import bans;
- suspension or withdrawal of regulatory approvals;
- total or partial suspension of production; and
- refusal to approve pending applications for marketing approval of new drug candidates or supplements to approved applications.

If side effects or toxicities increase or are identified during the time our drug candidates are in development or after they are approved and on the market, we may be required to perform lengthy additional clinical trials, change the labeling or limit the scope of indication of any such products, or withdraw any such products from the market, any of which would hinder or preclude our ability to generate revenues.

We have observed significant toxicities in preclinical animal studies of our clinical drug candidate, ganetespib. In clinical trials to date, we have not observed the serious liver and common ocular toxicities observed with first generation Hsp90 inhibitors.

We have observed a prolongation of the QTc interval in a Thorough QTc clinical study of ganetespib in healthy volunteers. This type of change in ECG tracings has been reported for a number of development-stage and approved oncology drugs, as well as drugs for other indications. The independent review also noted that the maximum mean change in QTcF (ΔΔQTcF) from baseline of 21.5ms observed in the Thorough QTc clinical study places ganetespib in a zone of clinical ambiguity; it is not clear that this finding confers a substantial increased risk of *torsades de pointes*, a severe form of arrhythmia, in patients who are being treated with ganetespib for cancer. An independent review of the ganetespib clinical safety database in 2013 did not indicate an increased frequency or severity of cardiovascular adverse events in patients treated with ganetespib. We note that none of the 580 patients treated with ganetespib reviewed as part of this analysis had an adverse event of *torsades de pointes* reported. In addition, the independent review noted that the Thorough QTc study was conducted at a dose 33% higher than being evaluated in our ongoing combination studies; there was only one patient out of 45 that showed a QTc>450ms and no patients with a QTc>480ms; the number of outliers with change in QTc>30ms was low, only two subjects out of 45 (versus one subject in the placebo group, n=48); and there were no subjects with change in QTc>60ms. We have however developed, agreed upon with the FDA, and implemented an enhanced ECG monitoring plan in company-sponsored ganetespib clinical studies, including the GALAXY-2 trial, for monitoring patient safety and for further characterization of this ECG change. With enhanced ECG monitoring, we may find that the QTc prolongation effect of ganetespib treatment is more pronounced than we have observed to date. We may also find that the use of ganetespib in a larger number of patients may reveal an increase in the incidence or severity of cardiovascular adverse events. Although we do not believe that the QTc findings will have a material adverse effect on the development, including development timelines, or commercialization of ganetespib, we can give no assurances that it will not. If ganetespib is shown to cause an increased risk of cardiac events, the FDA might require a warning on the drug label, enhanced ECG monitoring requirements during the treatment with ganetespib or restricted use in patients with compromised cardiac function.

If these or other serious toxicities occur at or below a clinical dose of ganetespib required to show efficacy, we may not be able to demonstrate that ganetespib is safe and effective. Even if we are successful in obtaining regulatory approval for one or more of our drug candidates, as the drug is used in a larger patient population, if the incidence of side effects or toxicities increases or if other unacceptable effects are identified:

- regulatory authorities may withdraw their approvals;
- we may be required to reformulate any such products, conduct additional clinical trials, make changes in labeling of any such products, or implement changes to or obtain new approvals of our or our contractors' manufacturing facilities;
- we may experience a significant drop in the sales of the affected products;
- our reputation in the marketplace may suffer; and
- we may become the target of lawsuits, including class action suits.

Any of these events could harm or prevent sales of the affected products or could substantially increase the costs and expenses of commercializing and marketing any such products.

While we choose to test our drug candidates in specific clinical indications based in part on our understanding of their mechanisms of action, our understanding may be incorrect or incomplete and, therefore, our drugs may not be effective against the diseases tested in our clinical trials.

Our rationale for selecting the particular therapeutic indications for each of our drug candidates is based in part on our understanding of the mechanism of action of these drug candidates. However, our understanding of the drug candidate's mechanism of action may be incomplete or incorrect, or the mechanism may not be clinically relevant to the diseases treated. In such cases, our drug candidates may prove to be ineffective in the clinical trials for treating those diseases.

We deal with hazardous materials and must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our activities involve the controlled storage, use, and disposal of hazardous materials, including cytotoxic agents, genotoxic agents, infectious agents, corrosive, explosive and flammable chemicals, and various radioactive compounds. We are subject to federal, state, and local laws and regulations governing the use, manufacture, storage, handling, and disposal of these hazardous materials. Although we believe that our safety procedures for the handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials.

In the event of an accident, state or federal authorities may curtail our use of these materials, and we could be liable for any civil damages that result, which may exceed our financial resources and may seriously harm our business. We currently maintain insurance covering hazardous waste cleanup costs in an amount of up to $250,000 per site. Because we believe that our laboratory and materials handling policies and practices sufficiently mitigate the likelihood of materials liability or third-party claims, we currently carry no insurance covering such claims. While we believe that the amount of insurance we carry is sufficient for typical risks regarding our handling of these materials, it may not be sufficient to cover pollution conditions or other extraordinary or unanticipated events. Additionally, an accident could damage, or force us to shut down, our operations.

Risks Related to Our Dependence on Third Parties

We rely on third parties to conduct our clinical trials and nonclinical safety assessment studies, and those third parties may not perform satisfactorily, including failing to meet established timelines for the completion of such clinical trials and studies.

We do not have the ability to independently conduct clinical trials and certain nonclinical safety assessment studies, particularly those studies conducted under Good Laboratory Practices, or GLP, for our drug candidates, and we rely on third parties such as contract research organizations, or CROs, medical institutions, and clinical investigators in the case of clinical trials, and CROs in the case of nonclinical safety assessment studies, to perform these functions. Our reliance on these third parties for clinical development activities reduces our control over these activities. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. To date, our CROs and other similar entities with which we are working have performed well; however, if these third parties do not successfully carry out their contractual duties, meet expected timelines, or comply with applicable regulatory requirements, we may be delayed in obtaining regulatory approvals for our drug candidates and may be delayed in our efforts to successfully commercialize our drug candidates for targeted diseases.

We have no manufacturing capacity and depend on third-party manufacturers to produce our clinical trial drug supplies.

We do not currently operate manufacturing facilities or testing facilities for clinical or commercial production of ganetespib or elesclomol, or any of our preclinical drug candidates. We have limited experience in drug manufacturing, and we lack the resources and the capabilities to manufacture any of our drug candidates on a clinical or commercial scale. As a result, we currently rely on third-party manufacturers to manufacture, test, supply, store, and distribute drug supplies for our clinical trials. Any performance failure on the part of our existing or future manufacturers could interrupt on-going clinical trials, delay clinical development or regulatory approval of our drug candidates or commercialization of any approved products, producing additional losses and depriving us of potential product revenue.

Our drug candidates require precise, high quality manufacturing. Failure by our contract manufacturers to achieve and maintain high manufacturing standards could result in patient injury or death, product recalls or withdrawals, delays or failures in testing or delivery, cost overruns, or other problems that could seriously hurt our business. Contract manufacturers may encounter difficulties involving production yields, quality control, and quality assurance. These manufacturers are subject to ongoing periodic unannounced inspection by the FDA and corresponding state and foreign agencies to ensure strict compliance with current Good Manufacturing Practice regulations, or cGMPs, and other applicable U.S. and foreign government regulations and standards. We periodically audit our contract manufacturers responsible for supplying our clinical drug materials and have put quality agreements in place that we believe are appropriate for our materials. However, we do not have direct control over third party manufacturers' compliance with cGMPs and other standards and therefore, cannot provide assurance regarding such compliance.

If for some reason our contract manufacturers cannot perform as agreed, we may be unable to replace such third-party manufacturers in a timely manner and the production of our drug candidates would be interrupted, resulting in delays in clinical trials and additional costs. Switching manufacturers may be difficult because the number of potential manufacturers is limited and the FDA must approve any replacement manufacturer after our drug candidates are approved. Such approval would require new testing and compliance inspections. In addition, a new manufacturer would have to be educated in, or develop substantially equivalent processes for, production of our drug candidates after receipt of FDA approval. It may be difficult or impossible for us to find a replacement manufacturer on acceptable terms quickly, or at all.

We contract with single manufacturers for the production of elesclomol and ganetespib API and DP for clinical trials and the failure of these manufacturers to supply sufficient quantities of material on a timely basis could have a material adverse effect on our business.

We use single manufacturers for the supply of elesclomol and ganetespib: in each case, one for the synthesis of API and another for production of DP. The manufacturing processes for ganetespib API and DP are conventional and fully-scalable. We believe that the various steps of these processes can be accomplished by many possible third-party contract manufacturing organizations, or CMOs. We currently use multiple CMOs to manufacture the starting materials and reagents that we use to manufacture ganetespib, however we use a single CMO in the manufacturing of ganetespib API. We have screened other CMOs as potential backup manufacturers of API, and we believe that the manufacturing process for ganetespib API can effectively be transferred to one of these CMOs upon successful execution of technology transfer, process qualification, validation of test methods and compliance site inspections. We currently use a single CMO for manufacturing ganetespib DP that has specific experience in manufacturing oncology products and that has flexible scale manufacturing capabilities. We have screened other CMOs as additional potential backups, and we believe that the manufacturing process for ganetespib API and DP can effectively be transferred to one of these CMOs

upon successful execution of technology transfer, process qualification, validation of test methods and compliance site inspections. We believe that the agreements we have entered into to date with our CMOs for ganetespib production are sufficient for our current requirements.

The manufacturing process for elesclomol API is conventional and fully- scalable. We believe that the various steps of this process can be accomplished by many possible third-party CMOs. We currently use a single CMO in the manufacturing of elesclomol API but we have a backup CMO that has previously manufactured elesclomol API on our behalf. The elesclomol sodium DP is lyophilized and manufactured under aseptic conditions. We believe that the process for manufacturing the elesclomol sodium DP is routine and can be performed by various different CMOs. We have entered into a contract with a CMO with specific experience in manufacturing oncology products and that has flexible scale manufacturing capabilities. We believe that the agreements to produce the elesclomol sodium DP that we have entered into to date would be sufficient for our anticipated requirements.

If any of these CMOs failed to perform under their contracts, we believe that we could readily transfer the manufacturing methods to other CMOs. However, there may be a significant time delay before we could secure the necessary materials and such a delay could have an adverse effect on our ability to conduct our clinical trials. In addition, we have not entered into any agreement with our CMOs for the supply of ganetespib or elesclomol on a commercial scale. There can be no assurance that we will be able to enter into such an agreement on favorable terms, if at all.

We anticipate that we will continue to rely on third-party manufacturers if we are successful in obtaining marketing approval from the FDA and other regulatory agencies for any of our drug candidates.

To date, our drug candidates have been manufactured in relatively small quantities for preclinical testing and clinical trials by third-party manufacturers. If the FDA or other regulatory agencies approve any of our drug candidates for commercial sale, we expect that we would continue to rely, at least initially, on third-party manufacturers to produce commercial quantities of such approved drug candidates. These manufacturers may not be able to successfully increase the manufacturing capacity for any of our approved drug candidates in a timely or economic manner, or at all. Significant scale-up of manufacturing and increased production may require additional validation studies, which the FDA or other regulatory authorities must review and approve. If our third-party manufacturers are unable to successfully increase the manufacturing capacity for a drug candidate, or we are unable to establish our own manufacturing capabilities, the commercial launch of any approved products may be delayed or there may be a shortage in supply.

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our drug candidates, we may be unable to generate product revenue.

We do not currently have an organization for the sales, marketing, and distribution of pharmaceutical products. In order to commercialize and market any of our products that may be approved by the FDA, we must build our sales, marketing, managerial, and other non-technical capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing, and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and we may not become profitable.

If we do not establish collaborations, we may have to alter our development plans.

Our drug development programs and potential commercialization of our drug candidates will require substantial additional cash to fund expenses. We own all rights to our two lead drug candidates, ganetespib and elesclomol, and are fully responsible for the associated development costs. Our strategy continues to include the potential of selectively collaborating with leading pharmaceutical and biotechnology companies to assist us in furthering development and potential commercialization of

some of our drug candidates and research programs. We may enter into one or more of such collaborations in the future, especially for target indications in which the potential collaborator has particular therapeutic expertise or that involve a large, primary care market that must be served by large sales and marketing organizations or for markets outside of North America. We face significant competition in seeking appropriate collaborators and these collaborations are complex and time-consuming to negotiate and document. We may not be able to negotiate collaborations on acceptable terms, or at all. Even if we successfully enter into a collaboration, we cannot provide assurance that our partner will perform its contractual obligations or will not terminate the agreement. If that were to occur, we may have to curtail the development of a particular drug candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of our sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms, or at all. If we do not have sufficient funds, we will not be able to bring our drug candidates to market and generate product revenue.

Risks Related to Our Intellectual Property

If our patent position does not adequately protect our drug candidates or any future products, others could compete against us more directly, which would harm our business.

Our success depends in part on our ability to obtain and maintain proprietary protection for our drug candidates, technology, and know-how, to operate without infringing on the proprietary rights of others, and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing U.S. and foreign patent applications related to our proprietary technology, inventions, and improvements that are important to the development of our business. We also rely on trade secrets, know-how, continuing technological innovation, and in-licensing opportunities, as appropriate, to develop and maintain our proprietary position.

We have also in-licensed various technologies to complement our ongoing clinical and research programs. These licenses generally extend for the term of the related patent and contain customary royalty, termination, and other provisions. We currently have a non-exclusive license to a U.S. patent assigned to Columbia University that could potentially cover a possible aspect of the elesclomol mechanism. This license is not royalty-bearing unless we include specific mechanism language on the label of any approved product, in which case a nominal royalty would be owed.

Our commercial success will depend in part on our ability to obtain additional patents and protect our existing patent position as well as our ability to maintain adequate protection of other intellectual property for our technologies, drug candidates, and any future products in the United States and other countries. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to achieve profitability. The laws of some foreign countries do not protect our proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems in protecting our proprietary rights in these countries.

The patent positions of biotechnology and pharmaceutical companies, including our patent position, involve complex legal and factual questions, and, therefore, validity and enforceability cannot be predicted with certainty. Patents may be challenged, deemed unenforceable, invalidated, or circumvented. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies, drug candidates, and any future products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

In addition, although we do not believe that any of the patents or patent applications that we currently license are material to our business, we may in the future license intellectual property that is material to us. In such cases, we may be dependent upon the licensors to obtain, maintain and enforce patent protection for the licensed intellectual property. These licensors may not successfully prosecute patent applications or may fail to maintain issued patents. The licensors may also determine not to pursue litigation against other companies that infringe the patents, or may pursue such litigation less aggressively than we would. If any of the foregoing occurs, and the terms of any such future license do not allow us to assume control of patent prosecution, maintenance and enforcement, any competitive advantage we may have due to the license may be diminished or eliminated.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- we or our licensors were the first to make the inventions covered by each of our pending patent applications;
- we or our licensors were the first to file patent applications for these inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our or our licensors' pending patent applications will result in issued patents;
- any of our or our licensors' patents will be valid or enforceable;
- any patents issued to us or our licensors and collaborators will provide a basis for commercially viable products, will provide us with any competitive advantages or will not be challenged by third parties;
- we will develop additional proprietary technologies or drug candidates that are patentable; or
- the patents of others will not have an adverse effect on our business.

Although third parties may challenge our rights to, or the scope or validity of our patents, to date we have not received any communications from third parties challenging our patents or patent applications covering our drug candidates.

We typically file for patent protection first on the composition-of-matter of our drug candidates and also claim their activities and methods for their production and use to the extent known at that time. As we learn more about the mechanisms of action and new methods of manufacture and use of these drug candidates, we generally file additional patent applications for these new inventions. Although our patents may prevent others from making, using, or selling similar products, they do not ensure that we will not infringe the patent rights of third parties. For example, because we sometimes identify the mechanism of action or molecular target of a given drug candidate after identifying its composition-of-matter and therapeutic use, we may not be aware until the mechanism or target is further elucidated that a third party has an issued or pending patent claiming biological activities or targets that may cover our drug candidate. If such a patent exists or is granted in the future, we cannot provide assurances that a license will be available on commercially reasonable terms, or at all.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary technologies, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers, and other advisors to protect our trade secrets and other proprietary information. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and

proprietary information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

Litigation or other proceedings or third-party claims of intellectual property infringement would require us to spend time and money and could prevent us from developing or commercializing our drug candidates.

Our commercial success will depend in part on not infringing upon the patents and proprietary rights of other parties and enforcing our own patents and proprietary rights against others. Certain of our research and development programs are in highly competitive fields in which numerous third parties have issued patents and patent applications with claims closely related to the subject matter of our programs. We are not currently aware of any litigation or other proceedings or claims by third parties that our drug candidates, technologies or methods infringe their intellectual property.

However, while it is our practice to conduct freedom to operate searches and analyses, we cannot guarantee that we have identified every patent or patent application that may be relevant to the research, development or commercialization of our drug candidates. In the case of patent applications, we assess the likelihood of claims in pending, third party patent applications being allowed which may interfere with our freedom to operate relative to our drug candidates. We cannot provide assurances that our assessments in this regard will be correct and that patent claims covering our drug candidates that were assessed a low likelihood of issuance by us will not issue to a third party in the future. Moreover, there can be no assurance that third parties will not assert against us patents that we believe are not infringed by us or are invalid. For example, we are aware of an opposed European patent and a related Japanese patent that claim generic chemical structures, pharmaceutical formulations and methods of treatment relating to compounds similar to ganetespib. The claims of these patents may be relevant to the commercialization of our drug candidate, ganetespib. However, based on our analysis of these patents, we do not believe that the manufacture, use, importation or sale of ganetespib would infringe any valid claim of these patents. However, we cannot guarantee that these patents would not be asserted against us and, if asserted, that a court would find these patents to be invalid or not infringed.

In the event of a successful infringement action against us with respect to any third party patent rights, we may be required to:

- pay substantial damages;
- stop developing, commercializing, and selling the infringing drug candidates or approved products;
- stop utilizing the infringing technologies and methods in our drug candidates or approved products;
- develop non-infringing products, technologies, and methods; and
- obtain one or more licenses from other parties, which could result in our paying substantial royalties or our granting of cross licenses to our technologies.

We may not be able to obtain licenses from other parties at a reasonable cost, or at all. If we are not able to obtain necessary licenses at a reasonable cost, or at all, we could encounter substantial delays in product introductions while we attempt to develop alternative technologies, methods, and products, which we may not be able to accomplish.

We may be subject to claims that we have wrongfully hired an employee from a competitor or that we or our employees have wrongfully used or disclosed alleged confidential information or trade secrets of their former employers.

As is commonplace in our industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although no claims against us are currently pending, we have previously been subject to a claim by an alleged competitor that a prospective employee we sought to hire was bound by an ongoing non-competition obligation which prevented us from hiring this employee. We may be subject in the future to claims that our employees or prospective employees are subject to a continuing obligation to their former employers (such as non-competition or non-solicitation obligations) or claims that our employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Risks Related to the Commercialization of Our Drug Candidates

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

Even if any of our current drug candidates or any other drug candidates we may develop or acquire in the future obtain regulatory approval, they may not gain market acceptance among physicians, healthcare payors, patients, and the medical community. Physicians may elect not to recommend these drugs 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;
- availability of reimbursement from government health programs and other third-party payors;
- convenience and ease of administration;
- prevalence and severity of adverse side effects;
- restrictions on the drug label;
- other potential advantages of alternative treatment methods; and
- ineffective marketing and distribution support of our products.

If any approved drugs fail to achieve market acceptance, we may not be able to generate significant revenue and our business would suffer.

If the government and third-party payors fail to provide coverage and adequate reimbursement rates for our future products, if any, our revenue and prospects for profitability will be harmed.

In both domestic and foreign markets, our sales of any future products will depend in part upon the availability of reimbursement from third-party payors. Such third-party payors include government health programs such as Medicare, commercial health insurers, and managed care organizations. These third-party payors are increasingly attempting to contain healthcare costs by demanding price discounts or rebates and limiting both coverage and the amounts that they will pay for new drugs, and, as a result, they may not cover or provide adequate payment for our drugs. We might need to conduct post-marketing studies in order to demonstrate the cost-effectiveness of any future products to such payors' satisfaction. Such studies might require us to commit a significant amount of financial and other

resources. Our future products might not ultimately be considered cost-effective. Adequate third-party reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development.

U.S. and foreign governments continue to propose and pass legislation designed to reduce the cost of healthcare. For example, in some foreign markets, the government controls the pricing of prescription drugs. In the United States, we expect that there will continue to be federal and state proposals to implement similar governmental controls. In addition, Medicare and increasing emphasis on managed care in the United States will continue to put pressure on pharmaceutical product pricing. Cost control initiatives could decrease the price that we would receive for any products in the future, which would limit our revenue and profitability. Accordingly, legislation and regulations affecting the pricing of pharmaceuticals might change before our drug candidates are approved for marketing. Adoption of such legislation could further limit reimbursement for pharmaceuticals.

For example, the Medicare Prescription Drug Improvement and Modernization Act of 2003, or MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drugs prescribed for the elderly and disabled and introduced new reimbursement methodologies. Although we do not know what the full impact of the new reimbursement methodologies will have on the prices of new drugs, we expect that there will be added pressure to contain and reduce costs. These cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved products, not only from Medicare, but also from private payors which often follow Medicare's policies, and could seriously harm our business.

Changes in healthcare policy could increase our costs, decrease our revenues and impact sales of and reimbursement for any approved products.

The American Recovery and Reinvestment Act of 2009 provides funding for the federal government to compare the effectiveness of different treatments for the same illness. Although the results of the comparative effectiveness studies are not intended to mandate coverage policies for public or private payors, it is not clear how such a result could be avoided and what if any effect the research will have on the sales of our drug candidates, if any such product or the condition that it is intended to treat is the subject of a study. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our drug candidates. If third-party payors do not consider our products to be cost-effective compared to other available therapies, they may not cover our products after approval as a benefit under their plans or, if they do, the level of payment may not be sufficient to allow us to sell our products on a profitable basis.

In March 2010, the President signed the Patient Protection and Affordable Care Act as amended by the Health Care and Education Affordability Reconciliation Act of 2010 (collectively, the ACA). The ACA is expected to have a significant impact on the health care industry. The ACA is expected to expand coverage for the uninsured while at the same time contain overall healthcare costs. With regard to pharmaceutical products, among other things, the ACA is expected to expand and increase industry rebates for drugs covered under Medicaid programs and make changes to the coverage requirements under the Medicare D program. We cannot predict the impact of the ACA on pharmaceutical companies as many of the ACA reforms require the promulgation of detailed regulations implementing the statutory provisions which has not yet occurred

The ACA contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse measures, all of which will impact existing government healthcare programs and will result in the development of new programs. While the United States Supreme Court upheld the constitutionality of most elements of the ACA in June

2012, other legal challenges are still pending final adjudication in several jurisdictions. In addition, Congress continues to propose legislative initiatives, including possible repeal of the ACA. At this time, it remains unclear whether there will be any changes made to the ACA, whether to certain provisions or its entirety. We cannot assure you that the ACA, as currently enacted or as amended in the future, will not adversely affect our business and financial results and we cannot predict how future federal or state legislative or administrative changes relating to healthcare reform will affect our business.

Other legislative changes have been proposed and adopted since the ACA was enacted. For example, the Budget Control Act of 2011, among other things, created the Joint Select Committee on Deficit Reduction to recommend proposals for spending reductions to Congress. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, which triggered the legislation's automatic reduction to several government programs, including aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA. The ATRA, among other things, also reduced Medicare payments to several providers, including hospitals and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. We cannot predict whether any additional legislative changes will affect our business.

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.

If a successful product liability claim or series of claims is brought against us for uninsured liabilities or is in excess of insured liabilities, we could be forced to pay substantial damage awards.

The use of any of our drug candidates in clinical trials, and the sale of any approved products, might expose us to product liability claims. We currently maintain product liability insurance, and we monitor the amount of coverage we maintain as the size and design of our clinical trials evolve and adjust the amount of coverage we maintain accordingly. However, there can be no assurance that such insurance coverage will fully protect us against some or all of the claims to which we might become subject. We might not be able to maintain adequate insurance coverage at a reasonable cost or in sufficient amounts or scope to protect us against potential losses. In the event a claim is brought against us, we might be required to pay legal and other expenses to defend the claim, as well as uncovered damages awards resulting from a claim brought successfully against us. Furthermore, whether or not we are ultimately successful in defending any such claims, we might be required to direct financial and managerial resources to such defense and adverse publicity could result, all of which could harm our business.

We may be subject to federal and state laws prohibiting "kickbacks" and false or fraudulent claims, and federal and state physician payment disclosure laws which, if violated, could subject us to substantial penalties. Additionally, any challenge to or investigation into our practices under these laws could cause adverse publicity and be costly to respond to, and thus could harm our business.

A federal law commonly known as the federal anti-kickback law, and similar state laws, that prohibit the payment of any remuneration that is intended to induce physicians or others either to refer patients or to acquire or arrange for or recommend the acquisition of health care products or services

that are payable by Medicare, Medicaid and other federal health care programs will apply to us when our drug candidates are approved. Other federal and state laws generally prohibit individuals or entities from knowingly presenting, or causing to be presented, claims for payment to federal health care programs such as Medicare and Medicaid or other third-party payors that are false or fraudulent, or for items or services that were not provided as claimed.

As part of the federal health care reform law, Congress enacted the Physician Payments Sunshine Act which will require applicable pharmaceutical and medical device manufacturers to monitor and report payments, gifts and other remuneration made to physicians and other health care professional and health care organizations. A number of states have enacted similar laws. Some state statutes, such as the one in Massachusetts, impose an outright ban on gifts to physicians. These laws are often referred to as "gift ban" or "aggregate spend" laws, and they carry substantial fines if they are violated.

In the event that we are found to have violated these laws or decide to settle a claim that we have done so, our business may be materially adversely affected as a result of any payments required to be made, restrictions on our future operations or actions required to be taken, damage to our business reputation or adverse publicity in connection with such a finding or settlement or other adverse effects relating thereto. Additionally, even an unsuccessful challenge or investigation into our practices could cause adverse publicity, and be costly to respond to, and thus could harm our business and results of operations.

Risks Related to Our Industry

We may not be able to keep up with the rapid technological change in the biotechnology and pharmaceutical industries, which could make any future approved products obsolete and reduce our revenue.

Biotechnology and related pharmaceutical technologies have undergone and continue to be subject to rapid and significant change. Our future will depend in large part on our ability to maintain a competitive position with respect to these technologies. Our competitors may render our technologies obsolete by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and proprietary technologies. In addition, any future products that we develop, including our clinical drug candidates, may become obsolete before we recover expenses incurred in developing those products, which may require that we raise additional funds to continue our operations.

Our market is subject to intense competition. If we are unable to compete effectively, our drug candidates may be rendered noncompetitive or obsolete.

We are engaged in segments of the pharmaceutical industry that are highly competitive and rapidly changing. Many large pharmaceutical and biotechnology companies, academic institutions, governmental agencies, and other public and private research organizations are pursuing the development of novel drugs that target cancer. We face, and expect to continue to face, intense and increasing competition as new products enter the market and advanced technologies become available. In addition to currently approved drugs, there are a significant number of drugs that are currently under development and may become available in the future for the treatment of cancer. We would expect our drug candidates to compete with marketed drugs and potentially with drug candidates currently under development. Many of our competitors have:

- significantly greater financial, technical and human resources than we have and may be better equipped to discover, develop, manufacture and commercialize drug candidates;
- more extensive experience in preclinical testing and clinical trials, obtaining regulatory approvals and manufacturing and marketing pharmaceutical products;

- drug candidates that have been approved or are in late-stage clinical development; and/or

- collaborative arrangements in our target markets with leading companies and research institutions.

Competitive products may render our products obsolete or noncompetitive before we can recover the expenses of developing and commercializing our drug candidates. Furthermore, the development of new treatment methods and/or the widespread adoption or increased utilization of any vaccine for the diseases we are targeting could render our drug candidates noncompetitive, obsolete or uneconomical. If we successfully develop and obtain approval for our drug candidates, we will face competition based on the safety and effectiveness of our drug candidates, the timing of their entry into the market in relation to competitive products in development, the availability and cost of supply, marketing and sales capabilities, reimbursement coverage, price, patent position and other factors. If we successfully develop drug candidates but those drug candidates do not achieve and maintain market acceptance, our business will not be successful.

In particular, we believe that our products face the following sources of significant competition:

Ganetespib. If approved, ganetespib may compete against the currently approved therapies for the treatment of various cancer types and other cancer treatments currently under development. In particular, ganetespib may compete with other agents under development that inhibit Hsp90, includingKW-2478, being developed by Kyowa Hakko Kirin, AT13387, being developed by Otsuka Pharmaceutical Co., Debio0932, being developed by Curis, DS-2248, being developed by Daiichi Sankyo, SNX-5422, being developed by Esanex, PU-H71, being developed by Samus Therapeutics and TAS-116, being developed by Taiho Pharmaceutical Co., among others.

Elesclomol. If approved, elesclomol may compete with the currently approved therapies for the treatment of cancers, and other cancer treatments currently under development. In particular, elesclomol may compete with other agents including but not limited to: a) agents whose mechanisms may involve the induction of oxidative stress including arsenic trioxide and hydroxyurea, among others; b) other mitochondria targeting agents and approaches for the selective delivery of anticancer agents to tumor cell mitochondria; and c) other modulators of cancer metabolism.

STA-12-8666 and Other Hsp90-inhibitor Drug Conjugate Therapies. If approved, STA-12-8666, may compete with the currently approved therapies for the treatment of cancers, and other cancer treatments under development. In particular, STA-12-8666 may compete with irinotecan and other novel formulations or approaches including ADCs intended to improve the activity of irinotecan or its active metabolite SN-38. These include: Etirinotecan pegol, being developed by Nektar Therapeutics, MM-398, being developed by Merrimack Pharmaceuticals, CRLX101 being developed by Cerulean Pharma, NK012, being developed by Nippon Kayaku Co., HA-irinotecan being developed by Alchemia, IMMU-130 and IMMU-132, being developed by Immunomedics, BEL-0222, being developed by Belrose Pharma, PEG-SN-38 conjugate, being developed by Prolynx LLC, and IT-141, being developed by Intezyne, among others. In general, therapies from the HDC Program, if approved, may compete with approved products and agents in development stemming from approaches that are designed to preferentially increase tumor exposure to an anticancer agent.. These may include approved products and/or products that arise from various liposomal and nanoparticle delivery approaches and antibody drug conjugate (ADC) platforms, among others.

Our ability to compete successfully will depend largely on our ability to leverage our experience in drug discovery, development and commercialization to:

- discover and develop on a timely-basis medicines that are superior to other products in the market;

- attract high-quality scientific, product development, and commercial personnel;

- obtain patent and/or proprietary protection for our medicines and technologies;
- obtain required regulatory approvals;
- selectively commercialize certain drug candidates in indications treated by specialist physicians; and
- selectively partner with pharmaceutical companies in the development and commercialization of certain drug candidates.

Risks Related to Employee Matters and Managing Growth

We may be unsuccessful in retaining certain key personnel.

The competition for qualified personnel in the biotechnology field is intense and we must retain and motivate highly qualified scientific personnel. We are highly dependent on Anne C. Whitaker, our President and Chief Executive Officer, and certain other officers, employees and members of our executive and scientific teams. All of the agreements with these individuals provide that employment is at-will and may be terminated by the employee at any time and without notice. The loss of the services of any of these persons might impede the achievement of our research, development, and commercialization objectives. Recruiting and retaining qualified scientific personnel and possibly sales and marketing personnel will also be critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific personnel from universities and research institutions. We do not maintain "key person" insurance on any of our employees. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

If we make strategic acquisitions, we will incur a variety of costs and might never realize the anticipated benefits.

We have very limited experience in independently identifying acquisition candidates and integrating the operations of truly independent acquisition candidates with our company. Currently we are not a party to any acquisition agreements, nor do we have any understanding or commitment with respect to any such acquisition. If appropriate opportunities become available, however, we might attempt to acquire approved products, additional drug candidates, or businesses that we believe are a strategic fit with our business. If we pursue any transaction of that sort, the process of negotiating the acquisition and integrating an acquired product, drug candidate, or business might result in operating difficulties and expenditures and might require significant management attention that would otherwise be available for ongoing development of our business, whether or not any such transaction is ever consummated. Moreover, we might never realize the anticipated benefits of any acquisition. Future acquisitions could result in potentially dilutive issuances of equity securities, the incurrence of debt, contingent liabilities, or impairment expenses related to goodwill, and impairment or amortization expenses related to other intangible assets, which could harm our financial condition.

Risks Related to Our Common Stock

Our stock price has been and is likely to continue to be volatile and the market price of our common stock may drop.

Prior to our February 2007 initial public offering, there was not a public market for our common stock. There is a limited history on which to gauge the volatility of our stock price; however, since our

common stock began trading on The NASDAQ Global Market in February 2007, our stock price has fluctuated from a low of $1.20 to a high of $11.88. Furthermore, the stock market has experienced significant volatility, particularly with respect to pharmaceutical, biotechnology, and other life sciences company stocks. The volatility of pharmaceutical, biotechnology, and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our common stock to fluctuate include:

- results of our ongoing and contemplated clinical trials of ganetespib, and results from any other future clinical trials of ganetespib;
- results of our ongoing and contemplated clinical trials of elesclomol, and results from any other future clinical trials of elesclomol;
- results of clinical trials conducted by others on drugs that would compete with our drug candidates;
- failure or delays in advancing STA-12-8666 or any other HDC drug candidates that we may develop, or other drug candidates that we may discover or acquire in the future, into clinical trials;
- results of clinical trials conducted by other pharmaceutical, biotechnology, and life sciences companies on drugs that would compete with our drug candidates;
- failure or discontinuation of any of our research programs;
- potential for merger or acquisition;
- key personnel changes;
- issues in manufacturing our drug candidates or approved products;
- regulatory developments or enforcement in the United States and foreign countries;
- developments or disputes concerning patents or other proprietary rights;
- introduction of technological innovations or new commercial products by us or our competitors;
- failure to secure adequate capital to fund our operations, or the issuance of equity securities at prices below fair market price;
- changes in estimates or recommendations by securities analysts, if any cover our common stock;
- public concern over our drug candidates or any approved products;
- litigation;
- future sales of our common stock and debt financing, including any dilutive issuances of our equity securities;
- general market conditions;
- changes in the structure of healthcare payment systems;
- failure of any of our drug candidates, if approved, to achieve commercial success;
- economic and other external factors or other disasters or crises;
- period-to-period fluctuations in our financial results; and
- overall fluctuations in U.S. equity markets.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of

common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

Insiders have substantial control over us which could delay or prevent a change in corporate control or result in the entrenchment of management and/or the board of directors.

Our directors and executive officers, together with their affiliates and related persons, beneficially own, in the aggregate, approximately 32.8% of our outstanding common stock. These stockholders, if acting together, may have the ability to determine the outcome of matters submitted to our stockholders for approval, including the election and removal of directors and any merger, consolidation, or sale of all or substantially all of our assets. In addition, these persons, acting together, may have the ability to control the management and affairs of our company. Accordingly, this concentration of ownership may harm the market price of our common stock by:

- delaying, deferring, or preventing a change in control;
- entrenching our management and/or the board of directors;
- impeding a merger, consolidation, takeover, or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

Provisions of our charter, bylaws, and Delaware law may make an acquisition of us or a change in our management more difficult.

Certain provisions of our restated certificate of incorporation and restated bylaws could discourage, delay, or prevent a merger, acquisition, or other change in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions also could limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. Stockholders who wish to participate in these transactions may not have the opportunity to do so. Furthermore, these provisions could prevent or frustrate attempts by our stockholders to replace or remove our management. These provisions:

- allow the authorized number of directors to be changed only by resolution of our board of directors;
- establish a classified board of directors, providing that not all members of the board of directors be elected at one time;
- authorize our board of directors to issue without stockholder approval blank check preferred stock that, if issued, could operate as a "poison pill" to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit stockholder action by written consent;
- establish advance notice requirements for stockholder nominations to our board of directors or for stockholder proposals that can be acted on at stockholder meetings;
- limit who may call stockholder meetings; and

- require the approval of the holders of 80% of the outstanding shares of our capital stock entitled to vote in order to amend certain provisions of our restated certificate of incorporation and restated bylaws.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which may, unless certain criteria are met, prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a prescribed period of time.

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

We currently intend to retain our future earnings, if any, to fund the development and growth of our business. In addition, we are currently prohibited from making a dividend payment under the terms of our loan and security agreement with GECC. As a result, capital appreciation, if any, of our common stock will be the sole source of gain on an investment in our common stock for the foreseeable future.

Item 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

Item 2. PROPERTIES

Our operations are based primarily in Lexington, Massachusetts, which is located approximately 10 miles west of Boston, Massachusetts. We currently lease a total of 76,580 square feet of office and laboratory space, including 61,580 square feet in Lexington and15,000 square feet in the neighboring town of Bedford, Massachusetts. We lease the following properties:

Location	Approximate Square Feet	Use	Lease Expiration Date
45 Hartwell Avenue Lexington, Massachusetts	34,520	Office and Laboratory	November 2016
125 Hartwell Avenue Lexington, Massachusetts	27,060	Office and Laboratory	November 2016
45 - 47 Wiggins Avenue Bedford, Massachusetts	15,000	Office and Laboratory	October 2016

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 PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is traded on The NASDAQ Global Market under the symbol "SNTA." The following table sets forth the high and low sales prices of our common stock as quoted on The NASDAQ Global Market for the periods indicated.

2013:	High	Low
First Quarter	$ 11.88	$ 7.77
Second Quarter	10.74	3.76
Third Quarter	7.85	4.81
Fourth Quarter	7.10	3.70

2014:	High	Low
First Quarter	$ 7.22	$ 4.07
Second Quarter	4.60	3.91
Third Quarter	4.97	2.94
Fourth Quarter	3.44	2.54

Stockholders

As of March 6, 2015, there were approximately 51 stockholders of record of the 109,120,670 outstanding shares of our common stock.

Dividends

We have never paid or declared any cash dividends on our common stock and we are currently prohibited from making any dividend payment under the terms of our Loan and Security Agreement with General Electric Capital Corporation. 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

On December 8, 2014, we issued options to purchase common stock and restricted common stock to both Chen Schor, our Executive Vice President and Chief Operating Officer, and Marc Schneebaum, our Senior Vice President and Chief Financial Officer, as new hire inducement grants pursuant to NASDAQ Listing Rule 5635(c)(4) and Section 4(a)(2) of the Securities Act. Mr. Schor's inducement grant consisted of 150,000 shares of restricted common stock and an option to purchase up to 450,000 shares of common stock. Mr. Schneebaum's inducement grant consisted of 75,000 shares of restricted common stock and an option to purchase up to 225,000 shares of common stock. The options will be exercisable at a price of $2.85 per share (the closing price on December 8, 2014) and will vest as to 25% of the shares on December 8, 2015, and as to an additional 6.25% of the shares on the last day of each successive three-month period thereafter, provided that the executive remains employed by us on the vesting date. The restricted stock will vest as to 50% of the shares on December 8, 2016, and as to the remaining 50% of the shares on December 8, 2017, provided that the executive remains employed by us on the vesting date.

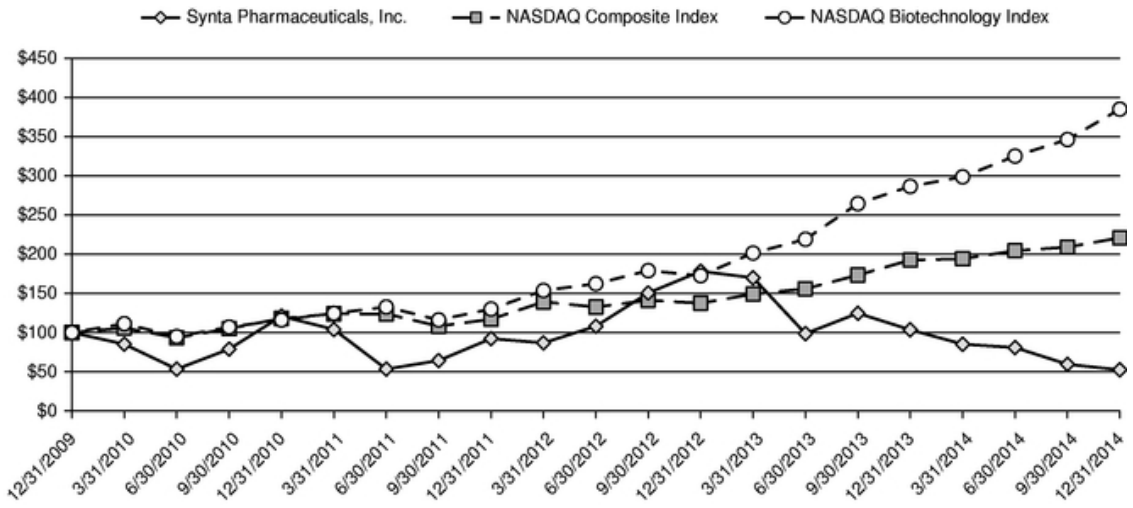
Issuer Purchases of Equity Securities

None.

Stock Performance Graph

The following graph compares the cumulative total stockholder return on our common stock from December 31, 2009 to December 31, 2014 with the cumulative total return of (i) the NASDAQ Composite Index and (ii) the NASDAQ Biotechnology Index. This graph assumes the investment of $100.00 on December 31, 2009 in our common stock, the NASDAQ Composite Index and the NASDAQ Biotechnology Index, and assumes any dividends are reinvested. We have not paid any dividends on our common stock, and we do not include dividends in the representation of our performance. The stock price performance on the graph below does not necessarily indicate future price performance.

COMPARISON OF CUMULATIVE TOTAL RETURN
SYNTA PHARMACEUTICALS CORP., NASDAQ COMPOSITE INDEX
AND NASDAQ BIOTECHNOLOGY INDEX



ASSUMES $100 INVESTED ON DEC. 31, 2009
ASSUMES DIVIDEND REINVESTED
FISCAL YEAR ENDING DEC. 31, 2014

The information in this section shall not be deemed "soliciting material" or to be "filed" with the Securities and Exchange Commission, and is not to be incorporated by reference in any filing of Synta Pharmaceuticals Corp. 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 and irrespective of any general incorporation language in those filings.

Item 6. SELECTED FINANCIAL DATA

The following table sets forth our selected consolidated financial data and has been derived from our audited consolidated financial statements. Consolidated balance sheets as of December 31, 2014 and 2013, as well as consolidated statements of operations for the years ended December 31, 2014, 2013 and 2012, and the reports thereon are included elsewhere in this Annual Report on Form 10-K. The information below should be read in conjunction with our audited consolidated financial

statements (and notes thereon) and "Management's Discussion and Analysis of Financial Condition and Results of Operations," included below in Item 7.

	Years ended December 31,				
	2014	2013	2012	2011	2010
	(all amounts in thousands except per share data)				
Consolidated Statement of Operations Data:					
Revenues:					
License and milestone revenue(1)	$ —	$ —	$ —	$ 6,731	$ 4,572
Cost sharing reimbursements, net(1)	—	—	—	—	9,253
Grant revenue	—	—	147	853	978
Total revenues	—	—	147	7,584	14,803
Operating expenses:					
Research and development	68,205	71,860	49,412	41,464	40,252
General and administrative	15,746	15,699	11,676	11,552	11,449
Total operating expenses	83,951	87,559	61,088	53,016	51,701
Loss from operations	(83,951)	(87,559)	(60,941)	(45,432)	(36,898)
Other expense, net	(2,210)	(2,633)	(1,849)	(1,948)	(569)
Net loss	$ (86,161)	$ (90,192)	$ (62,790)	$ (47,380)	$ (37,467)
Net loss per common share:					
Basic and diluted net loss per common share	$ (0.87)	$ (1.27)	$ (1.06)	$ (1.00)	$ (0.93)
Basic and diluted weighted average number common shares outstanding	98,489	70,977	59,411	47,198	40,365

(1) In December 2008, we entered into an agreement with Hoffman-La Roche (Roche) for our CRACM inhibitor program ("the Roche Agreement"). Roche provided written notification of termination in November 2011, resulting in accelerated recognition of $2.1 million of previously deferred revenue in the fourth quarter of 2011.

	As of December 31,				
	2014	2013	2012	2011	2010
	(all amounts in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 97,690	$ 91,476	$ 100,599	$ 39,725	$ 50,973
Working capital	68,457	60,034	77,899	25,138	34,784
Total assets	100,675	95,203	103,017	42,324	54,067
Capital lease obligations, net of current portion	43	85	1	14	26
Term loans, net of current portion	4,607	13,820	4,464	12,388	11,667
Common stock and additional paid-in capital	702,705	600,486	536,284	413,201	374,532
Accumulated deficit	(637,573)	(551,412)	(461,220)	(398,430)	(351,050)
Total stockholders' equity	65,136	49,091	75,066	14,774	23,479

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read together with the consolidated financial statements, related notes and other financial information included elsewhere in this Annual Report on Form 10-K.

Overview

Synta Pharmaceuticals Corp. is an innovative, agile biopharmaceutical company focused on research, development and commercialization of novel oncology medicines that have the potential to change the lives of cancer patients. Our lead oncology drug candidate, ganetespib, a novel heat shock protein 90 (Hsp90) inhibitor, is currently being evaluated in several large randomized clinical trials including GALAXY-2, a pivotal Phase 3 trial in non-small cell lung cancer (NSCLC), as well as breast cancer, ovarian and acute myeloid leukemia (AML). We are also developing several candidates from our proprietary Hsp90 inhibitor Drug Conjugate program (HDC Program), which leverages the preferential accumulation of Hsp90 inhibitors in tumors to selectively deliver a wide array of anti-cancer payloads. Our first clinical candidate from our HDC Program, STA-12-8666, is undergoing testing to enable the filing of an investigational new drug application (IND). Preclinical evaluation of additional HDC candidates is ongoing. We also have an additional clinical-stage oncology candidate: elesclomol, a mitochondrial metabolism inhibitor.

We were incorporated in March 2000 and commenced operations in July 2001. Since that time, we have been principally engaged in the discovery and development of novel drug candidates. As of December 31, 2014, we have raised an aggregate of approximately $819.2 million in cash proceeds to fund operations, including $616.2 million in net proceeds from private and public offerings of our equity, $30.5 million in gross proceeds from term loans and $167.2 million in non-refundable payments from partnering activities under prior collaborations, as well as $5.3 million from the exercise of common stock warrants and options. We have also generated funds from government grants, equipment lease financings and investment income. We are engaged in preliminary partnership discussions for a number of our programs, which may provide us with additional financial resources if consummated.

During the year ended December 31, 2014, we sold an aggregate of 21,692,753 shares of our common stock for an aggregate of approximately $89.0 million in net proceeds pursuant to at-the-market issuance sales agreements with MLV & Co. LLC (MLV). See "—Liquidity and Capital Resources—At-The-Market Issuance Sales Agreements with MLV."

In April 2014, we sold 1,250,000 shares of our common stock for approximately $5.0 million in net proceeds in a registered direct offering to an affiliate of a director who is our largest stockholder.

We have devoted substantially all of our capital resources to the research and development of our drug candidates. Since our inception, we have had no revenues from product sales. As of December 31, 2014, we had an accumulated deficit of $637.6 million. We expect to incur significant operating losses for the foreseeable future as we advance our drug candidates from discovery through preclinical development and clinical trials, and seek regulatory approval and eventual commercialization. We will need to generate significant revenues from product sales to achieve future profitability and may never do so.

Financial Operations Overview

Revenue

We have not yet generated any product revenue and may never do so. Our revenues to date have been generated primarily through our former collaboration and license agreements. The terms of these agreements included payment to us of upfront license fees, milestone payments, research and development cost sharing and royalties. We will seek to generate revenue from product sales and from

future collaborative or strategic relationships. In the future, we expect any revenue we generate will fluctuate from quarter-to-quarter as a result of the timing and amount of payments received and expenses incurred under future collaborations or strategic relationships, if consummated, and the amount and timing of payments we receive upon the sale of our drug candidates, to the extent any are successfully commercialized.

Research and Development

Research and development expense consists of costs incurred in connection with developing and advancing our drug discovery technology and identifying and developing our drug candidates. We charge all research and development expenses to operations as incurred.

Our research and development expense consists of:

- internal costs associated with research, preclinical and clinical activities;
- payments to third party contract research organizations, investigative sites and consultants in connection with our preclinical and clinical development programs;
- costs associated with drug formulation and supply of drugs for clinical trials;
- personnel related expenses, including salaries, bonuses, stock-based compensation, benefits and travel; and
- overhead expenses, including rent and maintenance of our facilities, and laboratory and other supplies.

We do not know if we will be successful in developing any of our drug candidates. We believe that accurately projecting total program-specific expenses through commercialization is not possible at this time. The timing and amount of these expenses will depend upon the costs associated with current and potential future clinical trials of our drug candidates, and any expansion of our research and development organization, regulatory requirements, advancement of our preclinical programs and product manufacturing costs, many of which cannot be determined with accuracy at this time based on the stage of development of our drug candidates. This is due to the numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of unanticipated events arising during clinical development, including with respect to:

- the number of clinical sites included in the trial;
- the length of time required to enroll suitable subjects;
- the number of subjects that ultimately participate in the trials; and
- the efficacy and safety results of our clinical trials and the number of additional required clinical trials.

Our expenditures are subject to additional uncertainties, including the terms and timing of regulatory approvals. In addition, we may obtain unexpected or unfavorable results from our clinical trials. We may elect to discontinue, delay or modify clinical trials of some drug candidates or focus on others. A change in the outcome of any of the foregoing variables in the development of a drug candidate could mean a significant change in the costs and timing associated with the development of that drug candidate. For example, if the FDA or other regulatory authority were to require us to conduct clinical trials beyond those that we currently anticipate, or if we experience significant delays in any of our clinical trials, we would be required to expend significant additional financial resources and time on the completion of clinical development. Additionally, future commercial and regulatory factors beyond our control will evolve and therefore impact our clinical development programs and plans over time.

We anticipate that overall research and development costs may increase as we continue to advance our ganetespib program through the GALAXY-2 trial, our Phase 3 trial in second-line advanced NSCLC, towards commercialization, conduct a full year of the I-SPY 2 breast cancer trial, and advance STA-12-8666, the lead drug candidate from our HDC Platform, into clinical development.

Beyond our current lead drug candidates, we anticipate that we will select drug candidates and research projects for further development on an ongoing basis in response to their preclinical and clinical success, as well as commercial potential.

General and Administrative

General and administrative expense consists primarily of salaries, bonuses and related expenses for personnel in executive, finance, business and commercial development, investor and medical community relations, human resources and administrative functions. Other costs include stock-based compensation costs, directors' and officers' liability insurance premiums, legal costs of pursuing patent protection of our intellectual property, fees for general legal, accounting, public-company requirements and compliance, and other professional services, as well as overhead-related costs not otherwise included in research and development. We anticipate that general and administrative expense may increase in 2015 depending upon the rate at which we expand our pre-commercialization activities related to ganetespib.

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 the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported periods. We are required to make estimates and judgments with respect to contract research accruals, the recoverability of long-lived assets, measurement of stock-based compensation and the periods of performance under collaboration and license agreements. 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 values of assets and liabilities that are not readily apparent from other sources and the reported amounts of revenues and expenses. Actual results may differ from these estimates under different assumptions or conditions.

Revenue Recognition

Collaboration and License Agreements

Our principal source of revenue to date has been our former collaboration and license agreements, which included upfront license payments, development milestones, reimbursement of research and development costs, potential profit sharing payments, commercial and sales-based milestones and royalties. The accounting for collaboration and license agreements requires subjective analysis and requires management to make estimates and assumptions about whether deliverables within multiple-element arrangements are separable from the other aspects of the contractual arrangement into separate units of accounting and to determine the arrangement consideration to be allocated to each unit of accounting.

For multiple-element arrangements entered into or materially modified after January 1, 2011, we follow the provisions of Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) No. 2009-13—*Multiple-deliverable Revenue Arrangements* (ASU No. 2009-13). ASU No. 2009-13 amended certain provisions of Accounting Standards Codification (ASC) Topic 605—*Revenue Recognition* . This standard addresses the determination of the unit(s) of accounting for multiple-element arrangements and how an arrangement's consideration should be allocated to each unit of accounting.

Pursuant to this standard, each required deliverable is evaluated to determine if it qualifies as a separate unit of accounting. For us this determination includes an assessment as to whether the deliverable has "stand-alone value" to the customer separate from the undelivered elements. The arrangement's consideration is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. The estimated selling price of each deliverable is determined using the following hierarchy of values: (i) vendor-specific objective evidence of fair value, (ii) third-party evidence of selling price, or (iii) our best estimate of the selling price (BESP). The BESP reflects our best estimate of what the selling price would be if the deliverable was regularly sold by us on a stand-alone basis. We expect, in general, to use BESP for allocating consideration to each deliverable in future collaboration agreements. In general, the consideration allocated to each unit of accounting is then recognized as the related goods or services are delivered limited to the consideration not contingent upon future deliverables. We did not recognize any revenue related to collaboration and license agreements during the years ended December 31, 2014, 2013 and 2012.

We account for development milestones under collaboration and license agreements pursuant to ASU No. 2010-17 *Milestone Method of Revenue Recognition* (ASU No. 2010-17). ASU No. 2010-17 codified a method of revenue recognition that has been common practice. Under this method, contingent consideration from research and development activities that is earned upon the achievement of a substantive milestone is recognized in its entirety in the period in which the milestone is achieved. At the inception of each arrangement that includes milestone payments, we evaluate whether each milestone is substantive. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. We evaluate factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. We do not have any ongoing collaboration and license agreements under which milestones may be achieved.

Royalty revenues are based upon a percentage of net sales. Royalties from the sales of products will be recorded on the accrual basis when results are reliably measurable, collectability is reasonably assured and all other revenue recognition criteria are met. Commercial and sales-based milestones, which are based upon the achievement of certain agreed-upon sales thresholds, will be recognized in the period in which the respective sales threshold is achieved and collectability is reasonably assured. We do not have any ongoing collaboration and license agreements under which royalties or commercial and sales-based milestones may be achieved.

Accrued Expenses and Accrued Contract Research Liabilities

As part of the process of preparing our financial statements, we are required to estimate accrued expenses. This process involves identifying services which have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for such service as of each balance sheet date in our financial statements. Given our current business, the primary area of uncertainty concerning accruals which could have a material effect on our operating results is with respect to service fees paid to contract manufacturers in conjunction with the production of clinical drug supplies and to contract research organizations in connection with our preclinical studies and clinical trials. In connection with all of the foregoing service fees, our estimates are most affected by our understanding of the status and timing of services provided. The majority of our service providers, including contract research organizations, invoice us in arrears for services performed. In the event that we do not identify some costs which have begun to be incurred, or we under or over estimate the level

of services performed or the costs of such services in a given period, our reported expenses for such period would be understated or overstated. We currently reflect the over or under accrual of expenses directly in our operations in the period the amount was determined.

Our arrangements with contract research organizations in connection with clinical trials often provide for payment prior to commencing the project or based upon predetermined milestones throughout the period during which services are expected to be performed. We recognize expense relating to these arrangements based on the various services provided over the estimated time to completion. The date on which services commence, the level of services performed on or before a given date, and the cost of such services are often determined based on subjective judgments. We make these judgments based upon the facts and circumstances known to us based on the terms of the contract and our ongoing monitoring of service performance. During the years ended December 31, 2014, 2013 and 2012, we had arrangements with multiple contract research organizations whereby these organizations commit to performing services for us over multiple reporting periods. We currently recognize and plan to continue to recognize the expenses associated with these arrangements based on our expectation of the timing of the performance of components under these arrangements by these organizations. Generally, these components consist of the costs of setting up the trial, monitoring the trial, closing the trial and preparing the resulting data. Costs related to patient enrollment in clinical trials are accrued as patients are enrolled in the trial.

With respect to financial reporting periods presented in this Annual Report on Form 10-K, and based on our receipt of invoices from our third party providers, the timing of our actual costs incurred have not differed materially from our estimated timing of such costs. In light of the foregoing, we do not believe our practices for estimating future expenses and making judgments concerning the accrual of expenses are reasonably likely to change in the future. There were no changes in our estimates and accruals for contract service fees that had a material effect on our results of operations for the years ended December 31, 2014, 2013 and 2012, respectively.

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 it is the most appropriate valuation method for our option grants. The Black-Scholes model requires inputs for risk-free interest rate, dividend yield, volatility and expected lives of the options. Expected volatility is based upon the weighted average historical volatility data of our common stock. The risk-free rate for periods within the expected life of the option is based on the U.S. Treasury yield curve in effect at the time of the grant. The expected lives for options granted represent the period of time that options granted are expected to be outstanding. We use the simplified method for determining the expected lives of options. We estimate the forfeiture rate based on historical data. This analysis is re-evaluated at least annually and the forfeiture rate is adjusted as necessary.

For awards with graded vesting, we recognize compensation costs based on the grant date fair value of the award on a straight-line basis over the requisite service period, which is generally the vesting period.

Our net loss included compensation costs in the amount of $7.4 million, $6.0 million and $3.3 million for the years ended December 31, 2014, 2013 and 2012, respectively, and no income tax benefit related to our stock-based compensation arrangements for employee and non-employee awards. As of December 31, 2014, the total amount of unrecognized stock-based compensation expense was $16.0 million, which will be recognized over a weighted average period of 2.9 years.

Consolidated Results of Operations

Years Ended December 31, 2014, 2013 and 2012

Revenue

	Years Ended December 31,			2014 / 2013 Comparison		2013 / 2012 Comparison	
	2014	2013	2012	$	%	$	%
	(dollars in millions)						
Grant revenue	$ —	$ —	$ 0.1	$ —	—%	(0.1)	(100)%
Total revenues	$ —	$ —	$ 0.1	$ —	—%	$ (0.1)	(100)%

Grant revenue

We did not have any grant revenue in 2014 and 2013. Grant revenue decreased by $0.1 million in 2013 as compared to 2012. In March 2011, we received a grant from the Department of Defense, DoD, in the approximate amount of $1 million, for the development of STA-9584 in advanced prostate cancer. We conducted work on this study during the grant period from April 2011 through March 2012. Reimbursements were based on actual costs agreed upon in the proposal (salary, fringe benefits, overhead, and direct costs such as materials and subcontractors). We recognized $0, $0 and $0.1 million of grant revenue under this grant in 2014, 2013 and 2012, respectively.

Research and Development Expense

	Years Ended December 31,			2014 / 2013 Comparison		2013 / 2012 Comparison	
	2014	2013	2012	$	%	$	%
	(dollars in millions)						
Clinical-stage drug candidates							
Ganetespib	$ 56.8	$ 64.5	$ 45.1	$ (7.7)	(12)%	$ 19.4	43%
Elesclomol	0.5	0.1	0.7	0.4	400%	(0.6)	(86)%
Total clinical-stage drug candidates	57.3	64.6	45.8	(7.3)	(11)%	18.8	41%
CRACM	0.3	0.9	3.2	(0.6)	(67)%	(2.3)	(72)%
STA-9584	—	—	0.2	—	—%	(0.2)	(100)%
Other early stage programs	10.6	6.4	0.2	4.2	66%	6.2	3100%
Total research and development	$ 68.2	$ 71.9	$ 49.4	$ (3.7)	(5)%	$ 22.5	46%

Ganetespib

In 2014 as compared to 2013, costs incurred under our ganetespib program decreased by $7.7 million, including decreases of $3.6 million in personnel-related costs, related research supplies, operational overhead and stock compensation, and $4.1 million in net decreases in external costs. Internal costs decreased principally due to available resources being allocated to our HDC program. External costs overall decreased by $4.1 million due to $10.4 million in net increases resulting from the advancement of patient enrollment in the GALAXY-2 trial that commenced enrollment in April 2013 and the initiation of the I-SPY-2 breast cancer trial in October 2014 that were offset by $14.5 million in net decreases principally related to the wind-down of the GALAXY-1 trial, the ENCHANT-1 trial and other company-sponsored trials, as well as costs incurred in 2013 for the conduct of NDA-enabling clinical pharmacology studies and registrational and validation drug manufacturing that were not incurred in 2014. We anticipate that costs under the ganetespib program may increase as we continue

to advance the program through the GALAXY-2 trial, our Phase 3 trial in second-line advanced NSCLC, towards commercialization and conduct a full year of the I-SPY 2 breast cancer trial.

In 2013 as compared to 2012, costs incurred under our ganetespib program increased by $19.4 million, including increases of $1.0 million for personnel-related costs, related research supplies, operational overhead and stock compensation, and $18.4 million for external costs. These increases were principally due to the conduct of start-up activities and patient- related costs that began following the commencement of enrollment in April 2013 in connection with the GALAXY-2 trial, our Phase 3 trial in second- line advanced NSCLC, and the clinical conduct in connection with the ENCHANT-1 trial, our Phase 2 trial in first-line HER2+ breast cancer and TNBC, that was initiated in 2012. In addition, we completed clinical pharmacology studies and incurred net increases related to supporting drug supply and other non-clinical activities in 2013.

Elesclomol

In 2014 as compared to 2013, costs incurred under our elesclomol program increased by $0.4 million, principally due to increases of $0.1 million in personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.3 million in external costs. These increases were principally related to the pace of the ongoing clinical trial in ovarian cancer. We anticipate that future costs under our elesclomol program will remain at low levels as the ongoing clinical trial in ovarian cancer being conducted by the Gynecological Oncology Group (GOG) nears completion.

In 2013 as compared to 2012, costs incurred under our elesclomol program decreased by $0.6 million, including decreases of $0.4 million for personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.2 million for external costs.

CRACM

In 2014 as compared to 2013, costs incurred under our CRACM program decreased by $0.6 million, principally due to decreases of $0.4 million in personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.2 million in external costs. These decreases were the result of a lower investment in the CRACM program as we sought a corporate partner. In May 2014, we entered into a license arrangement with PRCL under which we may conduct preclinical research activities in the future that would be reimbursed by PRCL.

In 2013 as compared to 2012, costs incurred under our CRACM program decreased by $2.3 million, including decreases of $1.6 million for personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.7 million for external costs. These decreases were the result of a continued lower investment in the CRACM program.

STA-9584

In 2013 as compared to 2012, costs incurred under our STA-9584 program decreased by $0.2 million, including decreases of $0.1 million for personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.1 million for external costs.

Early-stage programs

In 2014 as compared to 2013, costs incurred under our early stage programs increased by $4.2 million, including increases of $4.1 million in personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.1 million in external costs. These increases were principally the result of our investment in the HDC program that was announced in September 2013.

We anticipate that costs under the HDC program may increase in 2015 as we advance STA-12-8666, our lead drug candidate into clinical development.

In 2013 as compared to 2012, costs incurred under our early stage programs increased by $6.2 million, including increases of $5.7 million for personnel-related costs, related research supplies, operational overhead and stock compensation, and $0.5 million for external costs. These increases were principally the result of our investment in the HDC program that was announced in September 2013.

General and Administrative Expense

	Years Ended December 31,			2014 / 2013 Comparison		2013 / 2012 Comparison	
	2014	2013	2012	$	%	$	%
	(dollars in millions)						
General and administrative	$ 15.7	$ 15.7	$ 11.7	$ —	—%	$ 4.0	34%

In 2014 as compared to 2013, general and administrative expenses remained at a constant level, including $1.1 million in net decreases in external professional fees principally related to lower patent prosecution costs, offset by an increase of $1.1 million in personnel-related costs, related overhead and stock compensation. In March 2014, our former President and Chief Executive Officer, who was a member of the Board of Directors, resigned and we entered into a separation agreement with him. In the first quarter of 2014, we recognized approximately $2.0 million in costs in connection with this separation agreement, including approximately $1.0 million in cash compensation to be paid over two years and approximately $1.0 million in non-cash stock compensation expense related to the accelerated vesting and extended vesting period of certain of his stock options. In August 2014, we announced the hiring of a new President, Chief Executive Officer and member of the Board of Directors and entered into an employment contract with her. In the third quarter of 2014, we recognized approximately $0.4 million in related upfront cash compensation for a sign-on bonus and relocation allowance. These increases were offset principally by executive compensation that was incurred in 2013 that was not incurred in 2014. We anticipate that general and administrative expense may increase in 2015 depending upon the rate at which we expand our pre-commercialization activities related to ganetespib.

In 2013 as compared to 2012, general and administrative expenses increased by $4.0 million, including increases of $2.0 million for personnel-related costs, related overhead and stock compensation, and $2.0 million for net increases in external professional fees

Interest Expense, net

	Years Ended December 31,			2014 / 2013 Comparison		2013/ 2012 Comparison	
	2014	2013	2012	$	%	$	%
	(dollars in millions)						
Interest expense, net	$ 2.2	$ 2.6	$ 1.8	$ (0.4)	(15)%	$ 0.8	44%

In 2014 as compared to 2013, interest expense decreased due to the start of principal payments in January 2014 under the GECC Term Loan and the maturity in April 2014 of the original three-year $2.0 million loan under the Oxford Term Loan. We anticipate that interest expense will decrease in 2015 as we continue to make principal payments under the GECC Term Loan.

In 2013 as compared to 2012, interest expense increased as a result of the approximate $13.5 million in aggregate additional funding that was obtained in March 2013 and June 2013 in connection with the GECC and Oxford Term Loans, respectively.

Liquidity and Capital Resources

Cash Flows

The following table provides information regarding our cash position, cash flows and capital expenditures for the years ended December 31, 2014, 2013 and 2012.

	Year Ended December 31,		
	2014	2013	2012
	(dollars in millions)		
Cash, cash equivalents and marketable securities	$ 97.7	$ 91.5	$ 100.6
Working capital	68.5	60.0	77.9
Cash flows (used in) provided by:			
Operating activities	(78.9)	(77.4)	(54.1)
Investing activities	(8.8)	(24.7)	(9.9)
Financing activities	85.3	69.0	115.5
Capital expenditures (included in investing activities)	(0.1)	(0.8)	(0.5)

Our operating activities used cash of $78.9 million, $77.4 million and $54.1 million in 2014, 2013 and 2012, respectively. The use of cash in these periods principally resulted from our losses from operations, as adjusted for non-cash charges for depreciation and stock-based compensation, and changes in our working capital accounts.

In 2014, our investing activities used cash of $8.8 million, including the purchases of marketable securities in the amount of $93.8 million and purchases of property and equipment in the amount of $0.1 million, offset by maturities of marketable securities in our investment portfolio in the amount of $85.1 million. In 2013, our investing activities used cash of $24.7 million, including the purchases of marketable securities of $114.2 million and purchases of property and equipment of $0.8 million, offset by maturities of marketable securities in our investment portfolio in the amount of $90.3 million. In 2012, our investing activities used cash of $9.9 million, including the purchases of marketable securities of $50.0 million and purchases of property and equipment of $0.5 million, offset by maturities of marketable securities in our investment portfolio of $40.6 million.

Our financing activities provided cash of $85.3 million, $69.0 million and 115.5 million in 2014, 2013 and 2012, respectively. In 2014, we raised approximately $94.8 million in net cash proceeds, including $89.0 million in net proceeds from sales of our common stock under at-the-market issuance sales agreements with MLV, $5.0 million in a registered direct offering to an affiliate of a director who is our largest stockholder and $0.8 million from the exercise of common stock options. In 2013, we raised approximately $71.7 million in net cash proceeds, including $57.1 million in net proceeds from the sale of 16,100,000 shares of our common stock in a public offering in November 2013, $13.5 million in gross proceeds from additional funding under the GECC Term Loan and Oxford Term Loan and $1.1 million from the exercise of common stock options. In 2012, we raised approximately $119.7 million in net cash proceeds, including $33.0 million in net proceeds from the sale of 8,050,000 shares of our common stock in a public offering in January 2012 and February 2012, $25.8 million in net proceeds from the sale of 3,976,702 shares of our common stock in a registered direct offering in July 2012, $59.8 million in net proceeds from the sale of 7,000,000 shares of our common stock in a registered direct offering in December 2012 and $1.1 million from the exercise of common stock options. We repaid $9.5 million, $2.6 million and $4.2 million in principal payments in 2014, 2013 and 2012, respectively, in connection with the GECC Term Loan and the Oxford Term Loan. In January 2014, we began making 30 equal monthly payments of principal under the GECC Term Loan. During the period from July 2012 through March 2013, we made 9 equal monthly payments of principal under the GECC Term Loan. For the periods from April 2013 through December 2013 and prior to July 2012 we made interest-only payments.

Contractual Obligations and Commitments

The following tables summarize our contractual obligations at December 31, 2014 and the effects such obligations are expected to have on our liquidity and cash flows in future periods (in millions).

Contractual Obligations (as of December 31, 2014)	Total	2015	2016 through 2017	2018 through 2019	More than 5 years
Operating and capital lease obligations	$ 4.3	$ 2.3	$ 2.0	$ —	$ —
GECC and Oxford Term Loans(1)	15.7	10.2	5.5	—	—
Research and development contracts(2)(3)	56.7	45.5	11.2	—	—
Total	$ 76.7	$ 58.0	$ 18.7	$ —	$ —

(1) Includes scheduled interest payments and an exit fee of $788,000 due at the time of the final payment of the outstanding principal under the GECC Term Loan.

(2) Research and development contracts principally include contracts for human clinical studies, animal studies and clinical manufacturing. In the event a study or manufacturing contract is terminated prior to the planned completion by mutual agreement between the contractor and us, the amount paid under such contracts may be less than the amounts presented.

(3) Includes contracts entered into after December 31, 2014.

Amounts not included in the table of Contractual Obligations and Commitments

In July 2011, we entered into a co-development agreement with one of our clinical research organizations, or CRO, for the conduct of certain company-sponsored clinical trials. Under the co-development agreement, this CRO was performing clinical research services under a reduced fee structure in exchange for a share of licensing payments and commercial revenues, if any, up to a specified maximum payment, which is defined as a multiple of the fee reduction realized. The maximum amount of the service fee discount was realized in the year ended December 31, 2013.

In accordance with the termination provisions of the Roche Agreement, all rights to the CRACM licensed compounds under the agreement were returned to us. In May 2014, we entered into a license arrangement with PRCL Research, Inc for two lead candidates and the associated intellectual property portfolio. We may pay Roche a low single-digit royalty on any potential future sales of the licensed products.

In accordance with the termination provisions of the GSK Agreement, all rights to the elesclomol program were returned to us. We may continue to develop elesclomol alone or with another partner and may pay GSK a low single-digit royalty on any potential future sales of elesclomol.

Under various license and other agreements, we may be obligated to pay up to an aggregate of $4.5 million if specified development and commercialization milestones are met, as follows (in millions).

Milestone	Amount
Development-based milestones related to the conduct of clinical trials	$ 0.3
Development-based milestones related to regulatory submission and approval	2.2
Commercialization-based milestones	2.0
Total	$ 4.5

Registered Direct Offering

In April 2014, we sold 1,250,000 shares of our common stock at a purchase price of $4.01 per share in a registered direct offering to an affiliate of a director who is our largest stockholder. These shares were sold directly without a placement agent, underwriter, broker or dealer. The net proceeds to us were approximately $5.0 million after deducting offering expenses payable by us.

At-The-Market Issuance Sales Agreements with MLV

We entered into at-the-market issuance sales agreements (May 2012, May 2014 and July 2014 Sales Agreements) with MLV & Co. LLC (MLV), pursuant to which we may issue and sell shares of our common stock from time to time, at our option, through MLV as our sales agent. Sales of common stock through MLV 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, (the Securities Act), including by means of ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by us and MLV. Subject to the terms and conditions of the Sales Agreements, MLV will use commercially reasonable efforts to sell the common stock based upon our instructions (including any price, time or size limits or other customary parameters or conditions we may impose). We are not obligated to make any sales of our common stock under the Sales Agreements. Any shares sold will be sold pursuant to an effective shelf registration statement on Form S-3. We will pay MLV a commission of up to 3% of the gross proceeds. The May 2012 and May 2014 Sales Agreements were terminated by us upon the sale of substantially all stock authorized for sale under each such agreement. The July 2014 Sales Agreement may be terminated by us at any time.

In March and April 2014, we sold an aggregate of 6,588,875 shares of common stock pursuant to the May 2012 Sales Agreement for an aggregate of approximately $28.0 million in gross proceeds at an average selling price of $4.25 per share. Net proceeds to us were approximately $27.3 million after deducting commissions and other transactions costs.

From May 2014 through July 2014, we sold an aggregate of 9,424,193 shares of common stock pursuant to the May 2014 Sales Agreement for an aggregate of approximately $40.0 million in gross proceeds at an average selling price of $4.24 per share. Net proceeds to us were approximately $39.2 million after deducting commissions and other transactions costs.

In July 2014, we reserved up to $50 million under our shelf registration statement for issuance under the July 2014 Sales Agreement. In the third quarter of 2014, we sold an aggregate of 5,679,685 shares of common stock pursuant to the July 2014 Sales Agreement for an aggregate of approximately $23.0 million in gross proceeds at an average selling price of $4.05 per share. Net proceeds to us were approximately $22.5 million after deducting commissions and other transactions costs. As of December 31, 2014, approximately $27.0 million remained reserved under our shelf registration statement and applicable prospectus supplement for possible future issuance under the July 2014 Sales Agreement.

Public Offering

In November 2013, we raised approximately $60.4 million in gross proceeds from the sale of an aggregate 16,100,000 shares of our common stock in a public offering at a public offering price of $3.75 per share, including 14,000,000 shares in the initial offering and 2,100,000 shares upon the full exercise of the underwriters' option to purchase additional shares. Certain of our directors and their affiliates, including its largest stockholder, purchased an aggregate of 5,183,333 shares in this offering. The net offering proceeds to us were approximately $57.1 million after deducting underwriters' discounts, fees and commissions, and other offering expenses payable by us.

Registered Direct Offerings

In December 2012, we entered into common stock purchase agreements with investors and certain directors, including our largest stockholder, pursuant to which we sold 7,000,000 shares of its common stock in a registered direct offering at a purchase price of $8.60 per share. These shares were sold directly to these investors and directors without a placement agent, underwriter, broker or dealer. The net proceeds to us were approximately $59.8 million after deducting estimated offering expenses payable by us.

In July 2012, twe entered into subscription agreements with certain directors, including our largest stockholder, pursuant to which we sold 3,976,702 shares of our common stock in a registered direct offering at a purchase price of $6.49 per share. These shares were sold directly to these directors without a placement agent, underwriter, broker or dealer. The net proceeds to us were approximately $25.8 million after deducting estimated offering expenses payable by us.

Public Offering

In January 2012 and February 2012, we raised approximately $35.4 million in gross proceeds from the sale of an aggregate 8,050,000 shares of our common stock in a public offering at $4.40 per share, including 7,000,000 shares in the initial closing in January 2012 and 1,050,000 shares in a second closing in February 2012 upon the full exercise of the over-allotment option granted to the underwriters. One of our directors, who is our largest stockholder, purchased 1,136,363 shares in this offering. The net offering proceeds to us were approximately $33.0 million after deducting underwriters' discounts, fees and commissions, and other offering expenses payable by us.

Term Loans

General Electric Capital Corporation (GECC)

In March 2013, we amended our loan and security agreement entered into in September 2010 with GECC and one other lender, or the GECC Term Loan, and obtained $12.9 million in additional loan funding and, as a result, increased the principal balance to $22.5 million at March 31, 2013. Interest on the borrowings under the GECC Term Loan remains at the annual rate of 9.75%. We made interest-only payments for the period from April 2013 through December 2013. In January 2014, we began making 30 equal monthly payments of principal under the GECC Term Loan. During the period from July 2012 through March 2013, we made 9 equal monthly payments of principal under the GECC Term Loan. For the periods from April 2013 through December 2013 and prior to July 2012 we made interest-only payments. We are obligated to pay an exit fee of $788,000 at the time of the final principal payment. (See Note 9 of the accompanying condensed consolidated financial statements.)

Oxford Finance Corporation (Oxford)

In March 2011, we entered into a loan and security agreement with Oxford and received $2.0 million in loan funding, and in December 2012, we entered into a loan modification agreement, as amended, under which we could elect to draw down up to an additional $0.6 million in equipment financing until June 30, 2013, which we collectively refer to herein as the Oxford Term Loan. As of June 30, 2013, the Company had fully utilized the $0.6 million in additional equipment financing. Interest on the borrowings under the Oxford Term Loan accrues at an annual rate of 13.35%. In May 2011, we began making 36 equal monthly payments of principal plus accrued interest on the initial $2.0 million outstanding balance that was fully paid in April 2014. We continue to make equal monthly payments of principal plus accrued interest on the $0.6 million in additional equipment financing. (See Note 9 of the accompanying condensed consolidated financial statements.)

Liquidity

Funding Requirements

We expect to continue to incur significant operating expenses and capital expenditures and anticipate that our expenses and losses may increase substantially in the foreseeable future as we:

- complete the ongoing clinical trials of ganetespib in solid tumors, including the GALAXY-2 and I-SPY 2 trials, and initiate additional clinical trials of ganetespib if supported by trial results;
- complete preclinical development of STA-12-8666, our first HDC drug candidate, and initiate clinical trials of this compound, if supported by the preclinical data;
- advance an HDC drug candidate with a different anti-cancer payload than STA-12-8666 into preclinical development and initiate clinical trials, if supported by preclinical data;
- complete the ongoing clinical trial of elesclomol in ovarian cancer, and initiate additional clinical trials of elesclomol, if supported by trial results;
- discover, develop, and seek regulatory approval for backups of our current drug candidates and other new drug candidates;
- identify additional compounds or drug candidates and acquire rights from third parties to those compounds or drug candidates through licenses, acquisitions or other means; and
- commercialize any approved drug candidates.

Our funding requirements will depend on a number of factors, including:

- the progress and results of our ongoing clinical trials of ganetespib and elesclomol, and any additional clinical trials we may initiate in the future based on the results of these clinical trials;
- the results of our preclinical studies of STA-12-8666 and any additional Hsp90 inhibitors or other HDC drug candidates that we may develop, and our decision to initiate clinical trials, if supported by the preclinical and other test results;
- uncertainty associated with costs, timing, and outcome of regulatory review of our drug candidates;
- the scope, progress, results, and cost of preclinical development, clinical trials, and regulatory review of any new drug candidates we may discover or acquire;
- the costs of preparing, filing, and prosecuting patent applications and maintaining, enforcing, and defending intellectual property-related claims;
- our ability to establish additional strategic collaborations and licensing or other arrangements on terms favorable to us;
- the costs to satisfy our obligations under potential future collaborations;
- the timing, receipt, and amount of sales or royalties, if any, from ganetespib, elesclomol, STA-12-8666, other drug candidates from our HDC program and our other potential products; and
- whether we are able to receive regulatory approval for and commercialize ganetespib or any of our other drug candidates.

As of December 31, 2014, we had $97.7 million in cash, cash equivalents and marketable securities, an increase of $6.2 million from $91.5 million as of December 31, 2013. This increase principally reflects an aggregate of $94.0 million raised in net cash proceeds from sales of our common stock in April 2014 through September 2014 under the at-the-market issuance sales agreements with MLV and in a registered direct offering to an affiliate of a director who is our largest stockholder and

$0.8 million from the exercise of common stock options, offset by cash used in operations and term loan principal payments as discussed under "Cash Flows" above.

We have not yet generated any product revenue and may never do so. We expect our continuing operations to use cash over the next several years and such cash use may increase significantly from year to year. While we are engaged in multiple preliminary partnership discussions for each of our currently unpartnered programs, including ganetespib and the HDC platform, which could result in one or more new partnership agreements that may include upfront payments and cost-sharing provisions, there is no guarantee we will be successful in entering into any such partnership agreements on commercially reasonable terms, if at all, or that we will receive any other revenue through these partnership efforts in the future.

We expect our $97.7 million in cash resources as of December 31, 2014 will be sufficient to fund operations at least through the end of 2015. This estimate assumes no additional funding from new partnership agreements, equity financings or further sales under our ATM. The timing and nature of certain activities contemplated for 2015 will be conducted subject to the availability of sufficient financial resources. We have an effective shelf registration statement on Form S-3 (File No. 333-187242), under which we currently have up to $171.6 million in securities available for future issuance, which includes up to $27.0 million in remaining shares of common stock that we have reserved and that may be offered and sold under the July 2014 Sales Agreement with MLV.

We may require significant additional funds earlier than we currently expect in order to conduct additional clinical trials and conduct additional preclinical and discovery activities. Because of the numerous risks and uncertainties associated with the development and commercialization of our drug candidates, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials.

To the extent our capital resources are insufficient to meet our future operating and capital requirements, we will need to finance our future cash needs through public or private equity offerings, collaboration agreements, debt financings or licensing arrangements. However, 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. For example, if we raise additional funds by issuing equity securities or by selling convertible debt securities, further dilution to our existing stockholders may result. If we raise funds through collaboration agreements or licensing arrangements, we may be required to relinquish rights to our technologies or drug candidates, or grant licenses on terms that are not favorable to us.

If adequate funds are not available, we may be required to terminate, significantly modify or delay our research and development programs, reduce our planned commercialization efforts, or obtain funds through collaborators that may require us to relinquish rights to our technologies or drug candidates that we might otherwise seek to develop or commercialize independently. Conversely, we may elect to raise additional funds even before we need them if the conditions for raising capital are favorable due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements or relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

Tax Loss Carryforwards

For tax years through 2014 we performed analyses to determine if there were changes in ownership, as defined by Section 382 of the Internal Revenue Code that would limit our ability to

utilize certain net operating loss and tax credit carryforwards. We determined that we experienced an ownership change, as defined by Section 382, in connection with its acquisition of Principia Associates, Inc. on September 20, 2002, but did not experience a change in ownership upon the effectiveness of our IPO, or any other equity offerings to date. As a result, the utilization of our federal tax net operating loss carryforwards generated prior to the ownership change is limited. As of December 31, 2014, we have net operating loss carryforwards for U.S. federal tax purposes of approximately $529.7 million, after excluding net operating losses that have expired unused as a result of Section 382 limitations, with the remainder expiring in varying amounts through 2034 unless utilized. As of December 31, 2014, we have state net operating loss carryforwards of approximately $275.4 million, which will expire through 2034 unless utilized. The net operating loss carryforwards include approximately $1.4 million of deductions related to the exercise of common stock options. This amount represents an excess tax benefit and has not been included in the gross deferred tax asset reflected for net operating losses. The utilization of these net operating loss carryforwards may be further limited if we experience future ownership changes as defined in Section 382 of the Internal Revenue Code.

Certain Factors That May Affect Future Results of Operations

The Securities and Exchange Commission encourages companies to disclose forward- looking information so that investors can better understand a company's future prospects and make informed investment decisions. This Annual Report on Form 10-K contains such "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995.

Words such as "may," "anticipate," "estimate," "expects," "projects," "intends," "plans," "believes" and words and terms of similar substance used in connection with any discussion of future operating or financial performance, identify forward-looking statements. All forward-looking statements are management's present expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those described in the forward-looking statements. These risks include, but are not limited to those set forth under the heading "Risk Factors" contained in Item 1A of this Annual Report on Form 10-K.

In light of these assumptions, risks and uncertainties, the results and events discussed in the forward-looking statements contained in this Annual Report on Form 10-K or in any document incorporated by reference might not occur. Stockholders are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward- looking statements attributable to Synta or to any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Sensitivity. As of December 31, 2014, we had cash, cash equivalents and marketable securities of $97.7 million consisting of cash deposited in a highly rated financial institution in the United States and in a short-term U.S. Treasury money market fund, as well as high-grade corporate bonds and commercial paper. The primary objective of our investment activities is to preserve our capital for the purpose of funding operations and we do not enter into investments for trading or speculative purposes. We believe that we do not have material exposure to high-risk investments such as mortgage-backed securities, auction rate securities or other special investment vehicles within our money-market fund investments. We believe that we do not have any material exposure to changes in fair value as a result of changes in interest rates. Declines in interest rates, however, would reduce future investment income.

Capital Market Risk. We currently have no product revenues and depend on funds raised through other sources. One possible source of funding is through further equity offerings. Our ability to raise funds in this manner depends upon capital market forces affecting our stock price.

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

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

1. 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(c) and 15d-15(c) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Annual Report on Form 10-K. Based on the evaluation of our disclosure controls and procedures as of December 31, 2014, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

2. Internal Control Over Financial Reporting

(a) Management's Annual Report on Internal Control Over Financial Reporting

Management's Annual 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 Securities Exchange Act of 1934, as amended. Our internal control system was designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. 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, 2014. 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 framework). Based on our assessment we believe that, as of December 31, 2014, our internal control over financial reporting is effective at a reasonable assurance level based on those criteria.

Our independent registered public accounting firm has issued its report on the effectiveness of our internal control over financial reporting. This report appears below.

(b) Attestation Report of the Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Synta Pharmaceuticals Corp.

We have audited Synta Pharmaceuticals Corp.'s internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Synta Pharmaceuticals Corp.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We 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 effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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

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

In our opinion, Synta Pharmaceuticals Corp. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Synta Pharmaceuticals Corp. as of December 31, 2014 and 2013 and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2014 and our report dated March 12, 2015 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 12, 2015

(c) Changes in Internal Controls Over Financial Reporting

There were no changes in our internal control over financial reporting, identified in connection with the evaluation of such internal control that occurred during the fourth quarter of our last fiscal year that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. OTHER INFORMATION

Not applicable.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Management and Corporate Governance," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Code of Conduct and Ethics" in our Proxy Statement for the 2015 Annual Meeting of Stockholders.

We have adopted a code of conduct and ethics that applies to all of our directors, officers and employees. This code is publicly available on our website at *www.syntapharma.com*. Amendments to the code of conduct and ethics or any grant of a waiver from a provision of the code requiring disclosure under applicable Securities and Exchange Commission and The NASDAQ Stock Market rules will be disclosed in a Current Report on Form 8-K.

Item 11. EXECUTIVE COMPENSATION

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Compensation Discussion and Analysis," "Executive Officer and Director Compensation," "Management and Corporate Governance—Committees of the Board of Directors and Meetings" and "Compensation Committee Report" in our Proxy Statement for the 2015 Annual Meeting of Stockholders.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in our Proxy Statement for the 2015 Annual Meeting of Stockholders.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The response to this item is incorporated by reference from the discussion responsive thereto under the captions "Certain Relationships and Related Person Transactions," "Management and Corporate Governance—The Board of Directors" and "Management and Corporate Governance—Director Independence" in our Proxy Statement for the 2015 Annual Meeting of Stockholders.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The response to this item is incorporated by reference from the discussion responsive thereto under the proposal captioned "Independent Registered Public Accounting Firm" in our Proxy Statement for the 2015 Annual Meeting of Stockholders.

PART IV

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

Item 15(a) The following documents are filed as part of 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 not been included because they are not applicable or the information is included in the financial statements or notes thereto.

Item 15(a)(3) Exhibits

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
3.1	Restated Certificate of Incorporation of the Registrant.		S-1/A (Exhibit 3.2)	1/23/07	333-138894
3.1.1	Certificate of Amendment to the Restated Certificate of Incorporation of Synta Pharmaceuticals Corp.		8-K (Exhibit 3.1)	6/17/13	001-33277
3.2	Restated Bylaws of the Registrant.		S-1/A (Exhibit 3.4)	1/23/07	333-138894
4.1	Form of Common Stock Certificate.		S-1/A (Exhibit 4.1)	2/5/07	333-138894
4.2.1	Amended and Restated Investor Rights Agreement, dated December 13, 2002, by and among the Registrant and certain stockholders of the Registrant.		S-1/A (Exhibit 4.2.1)	12/1/06	333-138894
4.2.2	First Amendment, dated January 11, 2005, to the Amended and Restated Investor Rights Agreement, dated December 13, 2002, by and among the Registrant and certain stockholders of the Registrant.		S-1/A (Exhibit 4.2.2)	12/1/06	333-138894
4.2.3	Second Amendment, dated January 31, 2007, to the Amended and Restated Investor Rights Agreement, dated December 13, 2002, by and among the Registrant and certain stockholders of the Registrant.		S-1/A (Exhibit 4.2.3)	2/5/07	333-138894

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
4.2.4	Third Amendment, dated November 30, 2011, to the Amended and Restated Investor Rights Agreement, dated December 13, 2002, by and among the Registrant and certain stockholders of the Registrant.		8-K (Exhibit 10.1)	12/1/11	001-33277
Lease Agreements					
10.1	Duffy Hartwell Limited Partnership Commercial Lease, dated November 4, 1996, by and between Duffy Hartwell Limited Partnership and Shionogi BioResearch Corp., as amended by First Amendment to Commercial Lease, dated August 30, 2006.		S-1/A (Exhibit 10.5)	12/1/06	333-138894
10.1.1	Second Amendment, dated May 27, 2008, to Commercial Lease by and between Duffy Hartwell LLC, as successor in interest to Duffy Hartwell Limited Partnership, and the Registrant, as successor in interest to Shionogi BioResearch Corp., dated November 4, 1996, as amended.		10-Q (Exhibit 10.1)	8/7/08	001-33277
10.1.2	Third Amendment, dated April 19, 2011, to Commercial Lease by and between Duffy Hartwell LLC, as successor in interest to Duffy Hartwell Limited Partnership, and the Registrant, as successor in interest to Shionogi BioResearch Corp., dated November 4, 1996, as amended.		8-K (Exhibit 10.1)	4/22/11	001-33277
10.2	Lease Agreement, dated as of June 9, 2011, by and between the Registrant and 125 Hartwell Trust.		10-Q (Exhibit 10.3)	8/4/11	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.3	Pinnacle Properties Management, Inc. Standard Form Commercial Lease, dated May 31, 1999, by and between 6-8 Preston Court, L.L.C. and Asiana Pharmaceuticals Corporation, as amended by Amendment to Lease #1, dated July 31, 2000, Amendment to Lease #2, dated November 26, 2001, and Amendment to Lease #3, dated December 2003, and as assigned to the Registrant by Assignment and Assumption of Lease and Landlord's Consent, dated May 25, 2005, and Subordination, Non-Disturbance and Attornment Agreement, dated May 25, 2005.		S-1/A (Exhibit 10.8)	12/1/06	333-138894
10.4	Lease Agreement, dated December 14, 2006, by and between ARE-MA Region No. 24, LLC and the Registrant.		S-1/A (Exhibit 10.27)	1/4/07	333-138894
10.4.1	First Amendment, dated as of June 23, 2011, to Lease Agreement, dated December 14, 2006, by and between ARE-MA Region No. 24, LLC and the Registrant.		10-Q (Exhibit 10.4)	8/4/11	001-33277
Credit Facilities, Loan and Equity Agreements					
10.5	Common Stock Purchase Agreement, dated October 4, 2010, by and between the Registrant and Azimuth Opportunity Ltd.		8-K (Exhibit 10.1)	10/5/10	001-33277
10.5.1	Amendment No. 1, dated August 19, 2011, to Common Stock Purchase Agreement, dated October 4, 2010, by and between Synta Pharmaceuticals Corp. and Azimuth Opportunity Ltd.		8-K (Exhibit 10.1)	8/19/11	001-33277
10.6	Loan and Security Agreement, dated as of September 30, 2010, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		8-K (Exhibit 10.1.1)	10/5/10	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.6.1	First Amendment, dated as of November 9, 2010, to Loan and Security Agreement, dated as of September 30, 2010, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-K (Exhibit 10.11)	3/11/11	001-33277
10.6.2	Second Amendment, dated as of March 3, 2011, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-Q (Exhibit 10.2)	5/5/11	001-33277
10.6.3	Third Amendment, dated as of July 1, 2011, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-Q (Exhibit 10.5)	8/4/11	001-33277
10.6.4	Fourth Amendment, dated as of January 23, 2012, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-K (Exhibit 10.6.4)	2/22/11	001-33277
10.6.5	Fifth Amendment, dated as of July 30, 2012, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-Q (Exhibit 10.2)	8/2/12	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.6.6	Sixth Amendment, dated as of December 6, 2012, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among the Registrant, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		10-K (Exhibit 10.6.6)	3/14/13	001-33277
10.6.7	Seventh Amendment, dated as of December 14, 2012, to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among Synta Pharmaceuticals Corp., Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		8-K (Exhibit 10.1)	12/20/12	001-33277
10.6.8	Eighth Amendment to Loan and Security Agreement dated as of March 28, 2013 by and among the Company, Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		8-K (Exhibit 10.1.1)	4/1/13	001-33277
10.6.9	Ninth Amendment, dated as of November 25, 2013 to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among Synta Pharmaceuticals Corp., Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		8-K (Exhibit 10.1)	12/2/13	001-33277
10.6.10	Tenth Amendment, dated as of July 17, 2014 to Loan and Security Agreement, dated as of September 30, 2010, as amended, by and among Synta Pharmaceuticals Corp., Synta Securities Corp., General Electric Capital Corporation, and MidCap Funding III, LLC.		8-K (Exhibit 10.2)	7/18/14	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.7	Amended and Restated Promissory Note issued by the Registrant to General Electric Capital Corporation.		8-K (Exhibit 10.1.2)	4/1/13	001-33277
10.8	Promissory Note issued by the Registrant to MidCap Funding III, LLC.		8-K (Exhibit 10.1.3)	10/5/10	001/33277
10.8.1	Amended and Restated Promissory Note issued by the Registrant to MidCap Funding III, LLC.		8-K (Exhibit 10.1.3)	4/1/13	001-33277
10.9	Guaranty, dated as of September 30, 2010, by and among Synta Securities Corp. and General Electric Capital Corporation.		8-K (Exhibit 10.1.4)	10/5/10	001-33277
10.10	Pledge Agreement, dated as of September 30, 2010, by and among the Registrant, Synta Securities Corp., and General Electric Capital Corporation.		8-K (Exhibit 10.1.5)	10/5/10	001-33277
10.11	Form of Subscription Agreement, dated July 25, 2012, by and between the Registrant and each of the Purchasers participating in the Registrant's July Registered Direct Offering.		8-K (Exhibit 10.1)	7/26/12	001-33277
10.12	Form of Common Stock Purchase Agreement, dated December 12, 2012, by and each of the Purchasers participating in the Registrant's December Registered Direct Offering.		8-K (Exhibit 10.1)	12/13/12	001-33277
10.13	Letter Agreement, dated May 7, 2014, by and between the Registrant and MLV & Co. LLC, terminating the At the Market Issuance Sales Agreement dated as of May 2, 2012.		10-Q (Exhibit 10.4)	5/8/14	001-33277
10.14	Subscription Agreement, dated April 11, 2014, by and between the Registrant and KFO Holdings LLC.		8-K (Exhibit 10.1)	4/14/14	001-33277
10.15	New At-the-Market Issuance Sales Agreement, dated May 7, 2014, by and between the Registrant and MLV & Co. LLC.		10-Q (Exhibit 10.3)	5/8/14	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
10.16	At the Market Issuance Sales Agreement, dated July 18, 2014, by and between the Registrant and MLV & Co. LLC.		8-K (Exhibit 10.1)	7/18/14	001-33277
	Agreements with Respect to Collaborations, Licenses, Research and Development				
†10.17	Collaborative Development, Commercialization and License Agreement, dated October 8, 2007, by and between the Registrant and GlaxoSmithKline.		10-K (Exhibit 10.24)	3/20/08	001-33277
†10.17.1	Amendment No. 1, dated June 27, 2008, to Collaborative Development, Commercialization and License Agreement, dated October 8, 2007, by and between the Registrant and GlaxoSmithKline.		10-Q (Exhibit 10.4)	8/7/08	001-33277
	Equity Compensation Plans				
*10.18	2001 Stock Plan.		S-1/A (Exhibit 10.1)	12/1/06	333-138894
*10.19	Amended and Restated 2006 Stock Plan.		8-K (Exhibit 10.1)	6/21/10	001-33277
*10.20	Form of incentive stock option agreement under 2006 Stock Plan.		S-1/A (Exhibit 10.2(a))	1/23/07	333-138894
*10.21	Form of nonqualified stock option agreement under 2006 Stock Plan.		S-1/A (Exhibit 10.2(b))	1/23/07	333-138894
*10.22	Form of restricted stock agreement under 2006 Stock Plan.		S-1/A (Exhibit 10.2(c))	1/23/07	333-138894
*10.23	Form of nonqualified stock option agreement for directors under 2006 Stock Plan.		S-1/A (Exhibit 10.2(d))	1/23/07	333-138894
*10.24	Form of restricted stock agreement for directors under 2006 Stock Plan.		S-1/A (Exhibit 10.2(e))	1/23/07	333-138894
	Agreements with Executive Officers and Directors				
*10.25	Amended and Restated Director Compensation Policy, effective March 18, 2014.		10-Q (Exhibit 10.2)	5/8/14	001-33277
*10.26	Non-Qualified Stock Option Agreement, dated February 27, 2008, by and between the Registrant and Keith R. Gollust.		10-K (Exhibit 10.4)	3/20/08	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
*10.27	Letter Agreement, dated February 19, 2004, by and between the Registrant and Keith Ehrlich.		S-1/A (Exhibit 10.17)	12/1/06	333-138894
*10.28	Letter Agreement, dated January 14, 2003, by and between the Registrant and Wendy E. Rieder.		S-1/A (Exhibit 10.18)	12/1/06	333-138894
*10.29	Letter Agreement, dated December 9, 2008, by and between the Registrant and Vojo Vukovic.		10-K (Exhibit 10.29)	3/11/10	001-33277
*10.30	Executive Employment Agreement, dated August 1, 2014, between Synta Pharmaceuticals Corp. and Anne C. Whitaker.		8-K (Exhibit 10.1)	8/6/14	001-33277
*10.31	Letter Agreement, dated December 3, 2014, between Synta Pharmaceuticals Corp. and Chen Schor.		8-K (Exhibit 10.1)	12/4/14	001-33277
*10.32	Letter Agreement, dated November 24, 2014, between Synta Pharmaceuticals Corp. and Marc R. Schneebaum		8-K (Exhibit 10.3)	12/4/14	001-33277
*10.33	Separation Agreement between the Company and Dr. Bahcall, dated March 19, 2014.		8-K (Exhibit 10.1)	3/20/14	001-33277
*10.34	Form of Severance and Change in Control Agreement between the Registrant and each of Arthur McMahon and Vojo Vukovic.		10-K (Exhibit 10.30)		*10.30
*10.35	Form of Severance and Change in Control Agreement between the Registrant and each of Keith S. Ehrlich and Wendy E. Rieder.		10-K (Exhibit 10.31)	3/11/10	001-33277
*10.36	Severance and Change of Control Agreement, dated December 3, 2014, between Synta Pharmaceuticals Corp. and Chen Schor.		8-K (Exhibit 10.2)	12/4/14	001-33277
*10.37	Severance and Change of Control Agreement, dated November 24, 2014, between Synta Pharmaceuticals Corp. and Marc R. Schneebaum.		8-K (Exhibit 10.4)	12/4/14	001-33277

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
*10.38	Retention Award from the Registrant to Keith S. Ehrlich, dated April 14, 2009.		10-Q (Exhibit 10.3)	8/4/09	001-33277
10.39	Form of Indemnification Agreement between the Registrant and its directors and executive officers.		S-1/A (Exhibit 10.26)	12/1/06	333-138894
10.40	Subscription Agreement, dated November 10, 2010, by and between the Registrant and Bruce Kovner.		8-K (Exhibit 10.1)	11/12/10	001-33277
10.41	Form of Common Stock Purchase Agreement, dated April 14, 2011, by and among the Registrant and each of the Investors participating in the Registrant's Registered Direct Common Stock Offering.		8-K (Exhibit 10.1)	4/15/11	001-33277
*10.42	Letter Agreement dated December 17, 2013, by and between the Registrant and Steven Bernitz.		10-K (Exhibit 10.36)	3/11/14	001-33277
*10.43	Restricted Stock Agreement (outside of the Amended and Restated 2006 Stock Plan), dated September 2, 2014, between the Registrant and Anne C. Whitaker.		10-Q (Exhibit 10.4)	11/6/14	001-33277
*10.44	Non-Qualified Stock Option Agreement (outside of the Amended and Restated 2006 Stock Plan), dated September 2, 2014, between the Registrant and Anne C. Whitaker.		10-Q (Exhibit 10.5)	11/6/14	001-33277
*10.45	Non-Qualified Stock Option Agreement (outside of the Amended and Restated 2006 Stock Plan), dated December 8, 2014, between the Registrant and Chen Schor.	X			
*10.46	Non-Qualified Stock Option Agreement (outside of the Amended and Restated 2006 Stock Plan), dated December 8, 2014, between the Registrant and Marc Schneebaum.	X			
*10.47	Restricted Stock Agreement (outside of the Amended and Restated 2006 Stock Plan), dated December 8, 2014, between the Registrant and Chen Schor.	X			

Exhibit Number	Exhibit Description	Filed with this Report	Incorporated by Reference herein from Form or Schedule	Filing Date	SEC File / Registration Number
*10.48	Restricted Stock Agreement (outside of the Amended and Restated 2006 Stock Plan), dated December 8, 2014, between the Registrant and Marc Schneebaum.	X			
21.1	List of Subsidiaries.				
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.	X			
31.1	Certification of Principal Executive Officer under Section 302 of the Sarbanes-Oxley Act of 2002.	X			
31.2	Certification of Principal Accounting and Financial Officer under Section 302 of the Sarbanes-Oxley Act of 2002.	X			
32.1	Certification of the Principal Executive Officer and the Principal Accounting and Financial Officer under Section 906 of the Sarbanes-Oxley Act of 2002.	X			
101	The following materials from Synta Pharmaceuticals Corp.'s Annual Report on Form 10-K for the year ended December 31, 2014, formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Loss, (iv) the Consolidated Statements of Stockholders' Equity (Deficit) and Comprehensive Income (Loss), (v) the Consolidated Statements of Cash Flows, and (vi) Notes to Consolidated Financial Statements.	X			

* Management contract, compensatory plan or arrangement.

† 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, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SYNTA PHARMACEUTICALS CORP.

Date: March 12, 2015 By: /s/ ANNE C. WHITAKER

Anne C. Whitaker
President and Chief Executive Officer

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

Signatures	Title	Date
/s/ ANNE C. WHITAKER Anne C. Whitaker	President, Chief Executive Officer and Director (principal executive officer)	March 12, 2015
/s/ MARC R. SCHNEEBAUM Marc R. Schneebaum	Senior Vice President, Chief Financial Officer (principal accounting and financial officer)	March 12, 2015
/s/ KEITH R. GOLLUST Keith R. Gollust	Chairman of the Board	March 12, 2015
/s/ PAUL A. FRIEDMAN, M.D. Paul A. Friedman, M.D.	Director	March 12, 2015
/s/ BRUCE KOVNER Bruce Kovner	Director	March 12, 2015
/s/ DONALD W. KUFE, M.D. Donald W. Kufe, M.D.	Director	March 12, 2015
/s/ WILLIAM REARDON, C.P.A. William Reardon, C.P.A.	Director	March 12, 2015
/s/ ROBERT N. WILSON Robert N. Wilson	Director	March 12, 2015

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

SYNTA PHARMACEUTICALS CORP.

Years ended December 31, 2014, 2013 and 2012

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Synta Pharmaceuticals Corp.

We have audited the accompanying consolidated balance sheets of Synta Pharmaceuticals Corp. (the "Company") as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2014. 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 audits.

We conducted our audits 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Synta Pharmaceuticals Corp. at December 31, 2014 and 2013, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 12, 2015, expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 12, 2015

SYNTA PHARMACEUTICALS CORP.

Consolidated Balance Sheets

(in thousands, except share and per share amounts)

	December 31, 2014	December 31, 2013
Assets		
Current assets:		
Cash and cash equivalents	$ 46,024	$ 48,490
Marketable securities	51,666	42,986
Prepaid expenses and other current assets	1,656	765
Total current assets	99,346	92,241
Property and equipment, net	1,024	1,553
Other assets	305	1,409
Total assets	$ 100,675	$ 95,203
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 3,139	$ 6,589
Accrued contract research costs	12,317	10,407
Other accrued liabilities	6,177	5,718
Current portion of capital lease obligations	42	42
Current portion of term loans	9,214	9,451
Total current liabilities	30,889	32,207
Long-term liabilities:		
Capital lease obligations, net of current portion	43	85
Term loans, net of current portion	4,607	13,820
Total long-term liabilities	4,650	13,905
Total liabilities	35,539	46,112
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred stock, par value $0.0001 per share Authorized: 5,000,000 shares at December 31, 2014 and 2013; no shares issued and outstanding at December 31, 2014 and 2013	—	—
Common stock, par value $0.0001 per share Authorized: 200,000,000 shares at December 31, 2014 and December 31, 2013; 109,120,670 and 85,232,506 shares issued and outstanding at December 31, 2014 and 2013, respectively	11	9
Additional paid-in-capital	702,694	600,477
Accumulated other comprehensive income	4	17
Accumulated deficit	(637,573)	(551,412)
Total stockholders' equity	65,136	49,091
Total liabilities and stockholders' equity	$ 100,675	$ 95,203

See accompanying notes to consolidated financial statements.

SYNTA PHARMACEUTICALS CORP.

Consolidated Statements of Operations

(in thousands, except share and per share amounts)

	Years Ended December 31,		
	2014	2013	2012
Revenues:			
Grant revenue	$ —	$ —	$ 147
Total revenues	—	—	147
Operating expenses:			
Research and development	68,205	71,860	49,412
General and administrative	15,746	15,699	11,676
Total operating expenses	83,951	87,559	61,088
Loss from operations	(83,951)	(87,559)	(60,941)
Interest expense, net	(2,210)	(2,633)	(1,849)
Net loss	$ (86,161)	$ (90,192)	$ (62,790)
Net loss per common share:			
Basic and diluted net loss per common share	$ (0.87)	$ (1.27)	$ (1.06)
Basic and diluted weighted average number of common shares outstanding	98,489,470	70,976,705	59,411,476

See accompanying notes to consolidated financial statements.

SYNTA PHARMACEUTICALS CORP.

Consolidated Statements of Comprehensive Loss

(in thousands)

	Years Ended December 31,		
	2014	2013	2012
Net loss	$ (86,161)	$ (90,192)	$ (62,790)
Other comprehensive income (loss):			
Unrealized gain (loss) on available-for-sale securities	(13)	15	(1)
Comprehensive loss	$ (86,174)	$ (90,177)	$ (62,791)

See accompanying notes to consolidated financial statements.

SYNTA PHARMACEUTICALS CORP.

Consolidated Statements of Stockholders' Equity

(in thousands, except share amounts)

	Common stock		Additional paid-in Capital	Accumulated other comprehensive income (loss)	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balance at December 31, 2011	49,539,808	$ 5	$ 413,196	$ 3	$ (398,430)	$ 14,774
Issuance of common shares in equity offering, excluding to related parties, net	11,264,102	1	65,106	—	—	65,107
Issuance of common shares to related parties	7,762,600	1	53,544	—	—	53,545
Issuance of restricted common shares	45,243	—	—	—	—	—
Exercise of stock options	322,298	—	1,141	—	—	1,141
Purchase and retirement of common shares from an officer	(3,969)	—	(32)	—	—	(32)
Compensation expense related to stock options for services	—	—	3,322	—	—	3,322
Unrealized loss on marketable securities	—	—	—	(1)	—	(1)
Net loss	—	—	—	—	(62,790)	(62,790)
Balance at December 31, 2012	68,930,082	$ 7	$ 536,277	$ 2	$ (461,220)	$ 75,066
Issuance of common shares in equity offering, excluding to related parties, net	10,916,667	1	37,628	—	—	37,629
Issuance of common shares to related parties	5,183,333	1	19,436	—	—	19,437
Issuance of restricted common shares	140,000	—	—	—	—	—
Forfeitures of restricted common shares	(75,000)	—	—	—	—	—
Exercise of stock options	137,424	—	1,106	—	—	1,106
Compensation expense related to stock options for services	—	—	6,030	—	—	6,030
Unrealized gain on marketable securities	—	—	—	15	—	15
Net loss	—	—	—	—	(90,192)	(90,192)
Balance at December 31, 2013	85,232,506	$ 9	$ 600,477	$ 17	$ (551,412)	$ 49,091
Issuance of common shares in equity offering, excluding to related parties, net	21,692,753	2	88,940	—	—	88,942

Issuance of common shares to related parties	1,250,000	—	4,992	—	—	4,992
Issuance of restricted common shares	764,022	—	—	—	—	—
Forfeitures of restricted common shares	(25,000)	—	—	—	—	—
Exercise of stock options	206,389	—	854	—	—	854
Compensation expense related to stock options for services	—	—	7,431	—	—	7,431
Unrealized loss on marketable securities	—	—	—	(13)	—	(13)
Net loss	—	—	—	—	(86,161)	(86,161)
Balance at December 31, 2014	109,120,670	$ 11	$ 702,694	$ 4	$ (637,573)	$ 65,136

See accompanying notes to consolidated financial statements.

SYNTA PHARMACEUTICALS CORP.

Consolidated Statements of Cash Flows

(in thousands)

	Years Ended December 31,		
	2014	2013	2012
Cash flows from operating activities:			
Net loss	$ (86,161)	$ (90,192)	$ (62,790)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation expense	7,431	6,030	3,322
Depreciation and amortization	673	516	738
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	102	21	(225)
Other assets	111	(951)	173
Accounts payable	(3,450)	928	2,194
Accrued contract research costs	1,910	5,646	1,920
Other accrued liabilities	459	591	533
Net cash used in operating activities	(78,925)	(77,411)	(54,135)
Cash flows from investing activities:			
Purchases of marketable securities	(93,845)	(114,151)	(50,033)
Maturities of marketable securities	85,152	90,267	40,595
Purchases of property and equipment	(144)	(769)	(505)
Net cash used in investing activities	(8,837)	(24,653)	(9,943)
Cash flows from financing activities:			
Proceeds from issuances of common stock, excluding to related parties, and exercise of common stock options, net of transaction costs	89,796	38,735	66,248
Proceeds from the sale of common stock to related parties	4,992	19,437	53,545
Purchase and retirement of common stock from an officer	—	—	(32)
Proceeds from term loans	—	13,500	—
Payment of term loans	(9,450)	(2,617)	(4,234)
Payment of capital lease obligations	(42)	(13)	(12)
Net cash provided by financing activities	85,296	69,042	115,515
Net increase (decrease) in cash and cash equivalents	(2,466)	(33,022)	51,437
Cash and cash equivalents at beginning of period	48,490	81,512	30,075
Cash and cash equivalents at end of period	$ 46,024	$ 48,490	$ 81,512
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 1,875	$ 2,512	$ 1,696
Assets acquired under capital lease	—	$ 126	—

See accompanying notes to consolidated financial statements.

(1) Nature of Business

Synta Pharmaceuticals Corp. (the Company) was incorporated in March 2000 and commenced operations in July 2001. The Company is an innovative, agile biopharmaceutical company focused on research, development and commercialization of novel oncology medicines that have the potential to change the lives of cancer patients.

The Company is subject to risks common to emerging companies in the drug development and pharmaceutical industry including, but not limited to, uncertainty of product development and commercialization, lack of marketing and sales history, 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 and compliance with the U.S. Food and Drug Administration and other government regulations.

The Company has incurred significant operating losses since its inception and, as a result, as of December 31, 2014 had an accumulated deficit of $637.6 million. Operations have been funded principally through the sale of common stock and convertible preferred stock, capital leases, non-refundable payments under the former collaboration agreements with GlaxoSmithKline (GSK) and Hoffman-La Roche (Roche), and proceeds from term loans by General Electric Capital Corporation (GECC) and Oxford Finance Corporation (Oxford) (see Note 9).

The Company expects its $97.7 million in cash, cash equivalents and marketable securities as of December 31, 2014 will be sufficient to fund operations at least through the end of 2015. This estimate assumes no additional funding from new partnership agreements, equity financings or further sales under the Company's at-the-market-issuance sales agreement (ATM) with MLV & Co. LLC (MLV) (see Note 5). The timing and nature of certain activities contemplated for 2015 will be conducted subject to the availability of sufficient financial resources.

The Company may require significant additional funds earlier than it currently expects in order to conduct additional clinical trials and continue to fund its operations. There can be no assurances, however, that additional funding will be available on favorable terms, or at all. If adequate funds are not available, the Company may be required to delay, significantly modify or terminate its research and development programs or reduce its planned commercialization efforts.

(2) Summary of Significant Accounting Policies

Principles of Consolidation

The condensed 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 U.S. generally accepted accounting principles (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. Significant items subject to such estimates and assumptions include contract research accruals, recoverability of long-lived assets, measurement of stock-based compensation, and the periods of performance under collaborative research and development agreements. The Company bases its

(2) Summary of Significant Accounting Policies (Continued)

estimates on historical 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 and an investment in a money market fund to be cash equivalents. Changes in the level of cash and cash equivalents may be affected by changes in investment portfolio maturities, as well as actual cash disbursements to fund operations.

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 a highly rated financial institution 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. Declines in interest rates, however, would reduce future investment income.

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 expense, 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 expense, 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, 2014, 2013 and 2012, 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, 2014, 2013 and 2012, 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, marketable securities and term loan obligations, 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

(2) Summary of Significant Accounting Policies (Continued)

paid to transfer a 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, 2014, 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, 2014, 2013 and 2012, the Company did not have any transfers of financials assets between Levels 1 and 2. As of December 31, 2014, the Company did not have any financial liabilities that were recorded at fair value on the balance sheet. The disclosed fair value of the Company's term loan obligations is determined using current applicable rates for similar instruments as of the balance sheet date. The carrying value of the Company's term loan obligations approximates fair value as the Company's interest rate yield is near current market rate yields. The disclosed fair value of the Company's term loan obligations is based on Level 3 inputs.

Property and Equipment

Property, equipment and software is carried at cost and depreciated using the straight-line method over the estimated useful lives of the related assets, which range from three to seven years. Leasehold improvements are amortized over the lesser of the lease term or estimated useful life. Repairs and maintenance costs are expensed as incurred.

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 for salaries, bonuses, benefits, facilities, research-related overhead and stock compensation, and external costs for payments to third party contract research organizations, investigative sites and consultants in connection with the Company's preclinical and clinical programs, costs associated with drug formulation and supply of drugs for clinical trials, and other external costs.

(2) Summary of Significant Accounting Policies (Continued)

Patents

Costs to secure and defend patents are expensed as incurred and are classified as general and administrative expense in the Company's consolidated statements of operations. Patent expenses were approximately $1.9 million, $2.9 million, and $1.8 million for the years ended December 31, 2014, 2013 and 2012, respectively.

Income Taxes

The Company uses the 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 consolidated 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. A valuation allowance is provided to reduce the deferred tax assets to the amount that will more likely than not be realized.

As of December 31, 2014 and 2013, the Company had no items that were considered to be uncertain tax items or accrued interest or penalties related to uncertain tax positions.

The tax years 2011 through 2014 remain open to examination by the major taxing jurisdictions to which the Company is subject.

Impairment of Long-Lived Assets

The Company assesses the potential impairments of its long-lived assets whenever events or changes in circumstances indicate that an asset's carrying value may not be recoverable. If the carrying value exceeds the undiscounted future cash flows estimated to result from the use and eventual disposition of the asset, the Company writes down the asset to its estimated fair value. Management believes that no long-lived assets were impaired as of December 31, 2014 and 2013.

Revenue Recognition

Collaboration and License Agreements

The Company's principal source of revenue to date has been its former collaboration and license agreements, which included upfront license payments, development milestones, reimbursement of research and development costs, potential profit sharing payments, commercial and sales-based milestones and royalties. The accounting for collaboration and license agreements requires subjective analysis and requires management to make estimates and assumptions about whether deliverables within multiple-element arrangements are separable from the other aspects of the contractual arrangement into separate units of accounting and to determine the arrangement consideration to be allocated to each unit of accounting.

For multiple-element arrangements entered into or materially modified after January 1, 2011, the Company follows the provisions of Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) No. 2009-13—*Multiple-deliverable Revenue Arrangements* (ASU No. 2009-13). ASU No. 2009-13 amended certain provisions of Accounting Standards Codification (ASC) Topic 605—*Revenue Recognition* . This standard addresses the determination of the unit(s) of accounting for

(2) Summary of Significant Accounting Policies (Continued)

multiple-element arrangements and how an arrangement's consideration should be allocated to each unit of accounting.

Pursuant to this standard, each required deliverable is evaluated to determine if it qualifies as a separate unit of accounting. For the Company this determination includes an assessment as to whether the deliverable has "stand-alone value" to the customer separate from the undelivered elements. The arrangement's consideration is then allocated to each separate unit of accounting based on the relative selling price of each deliverable. The estimated selling price of each deliverable is determined using the following hierarchy of values: (i) vendor-specific objective evidence of fair value, (ii) third-party evidence of selling price, or (iii) the Company's best estimate of the selling price (BESP). The BESP reflects the Company's best estimate of what the selling price would be if the deliverable was regularly sold by it on a stand-alone basis. The Company expects, in general, to use BESP for allocating consideration to each deliverable in future collaboration agreements. In general, the consideration allocated to each unit of accounting is then recognized as the related goods or services are delivered limited to the consideration not contingent upon future deliverables. The Company did not recognize any revenue related to collaboration and license agreements during the years ended December 31, 2014, 2013 and 2012.

The Company accounts for development milestones under collaboration and license agreements pursuant to ASU No. 2010-17 *Milestone Method of Revenue Recognition* (ASU No. 2010-17). ASU No. 2010-17 codified a method of revenue recognition that has been common practice. Under this method, contingent consideration from research and development activities that is earned upon the achievement of a substantive milestone is recognized in its entirety in the period in which the milestone is achieved. At the inception of each arrangement that includes milestone payments, the Company evaluates whether each milestone is substantive. This evaluation includes an assessment of whether (a) the consideration is commensurate with either (1) the entity's performance to achieve the milestone, or (2) the enhancement of the value of the delivered item(s) as a result of a specific outcome resulting from the entity's performance to achieve the milestone, (b) the consideration relates solely to past performance and (c) the consideration is reasonable relative to all of the deliverables and payment terms within the arrangement. The Company evaluates factors such as the scientific, clinical, regulatory, commercial and other risks that must be overcome to achieve the respective milestone, the level of effort and investment required and whether the milestone consideration is reasonable relative to all deliverables and payment terms in the arrangement in making this assessment. The Company does not have any ongoing collaboration and license agreements under which milestones may be achieved.

Royalty revenues are based upon a percentage of net sales. Royalties from the sales of products will be recorded on the accrual basis when results are reliably measurable, collectability is reasonably assured and all other revenue recognition criteria are met. Commercial and sales-based milestones, which are based upon the achievement of certain agreed-upon sales thresholds, will be recognized in the period in which the respective sales threshold is achieved and collectability is reasonably assured. The Company does not have any ongoing collaboration and license agreements under which royalties or commercial and sales-based milestones may be achieved.

(2) Summary of Significant Accounting Policies (Continued)

Grant Revenue

In March 2011, the Company received a grant from the Department of Defense, in the approximate amount of $1 million, for the development of STA-9584 in advanced prostate cancer. The Company conducted work on this study during the grant period from April 2011 through March 2012. Reimbursements were based on actual costs agreed upon in the proposal (salary, fringe benefits, overhead, and direct costs such as materials and subcontractors). During the years ended December 31, 2014, 2013 and 2012, the Company recognized $0, $0 and $147,000, respectively, in grant revenues.

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. Expected volatility is based upon the weighted average historical volatility data of the Company's common stock. The risk-free rate for periods within the expected life of the option is based on the U.S. Treasury yield curve in effect at the time of the grant. The expected lives for options granted represent the period of time that options granted are expected to be outstanding. The Company uses the simplified method for determining the expected lives of options. The Company estimates the forfeiture rate based on historical data. This analysis is re-evaluated at least annually and the forfeiture rate is adjusted as necessary.

For awards with graded vesting, the Company recognizes compensation costs based on the grant date fair value of awards on a straight-line basis over the requisite service period, which is generally the vesting period.

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.

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.

(2) Summary of Significant Accounting Policies (Continued)

Segment Reporting

Operating segments are determined based on the way management organizes its business for making operating decisions and assessing performance. The Company has a single operating segment, which is the discovery, development and commercialization of drug products.

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, 2014, 2013 and 2012, 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 for the years ended December 31, 2014, 2013 and 2012:

	Years Ended December 31,		
	2014	2013	2012
Common stock options	8,829,343	6,814,417	5,521,584
Unvested restricted stock	744,514	45,000	35,122

Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which amends the guidance for accounting for revenue from contracts with customers. This ASU supersedes the revenue recognition requirements in ASC Topic 605, and creates a new Topic 606, *Revenue from Contracts with Customers*. This guidance is effective for fiscal years beginning after December 15, 2016, with early adoption not permitted. Two adoption methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU recognized at the date of initial application. The Company has not yet determined which adoption method it will utilize or the effect that the adoption of this guidance will have on its consolidated financial statements.

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 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 has not yet determined the effect that the adoption of this guidance will have on the disclosures included in its consolidated financial statements.

(3) 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, 2014 and December 31, 2013 was as follows in thousands (see Note 2):

	December 31, 2014			
	Cost	Unrealized gains	Unrealized losses	Fair value
Cash and cash equivalents:				
Cash and money market funds (Level 1)	$ 45,004	$ —	$ —	$ 45,004
Corporate debt securities due within 3 months of date of purchase (Level 2)	1,020	—	—	1,020
Total cash and cash equivalents	$ 46,024	$ —	$ —	$ 46,024
Marketable securities:				
Corporate debt securities due within 1 year of date of purchase (Level 2)	51,662	12	(8)	51,666
Total cash, cash equivalents and marketable securities	$ 97,686	$ 12	$ (8)	$ 97,690

	December 31, 2013			
	Cost	Unrealized gains	Unrealized losses	Fair value
Cash and cash equivalents:				
Cash and money market funds (Level 1)	$ 40,586	$ —	$ —	$ 40,586
Corporate debt securities due within 3 months of date of purchase (Level 2)	7,904	—	—	7,904
Total cash and cash equivalents	$ 48,490	$ —	$ —	$ 48,490
Marketable securities:				
Corporate debt securities due within 1 year of date of purchase (Level 2)	42,969	18	(1)	42,986
Total cash, cash equivalents and marketable securities	$ 91,459	$ 18	$ (1)	$ 91,476

(4) Property and Equipment

Property and equipment as of December 31, 2014 and December 31, 2013 consisted of the following (in thousands):

	December 31, 2014	December 31, 2013
Laboratory equipment	$ 12,217	$ 12,681
Leasehold improvements	4,988	4,958
Computers and software	3,126	3,220
Furniture and fixtures	1,176	1,170
	21,507	22,029
Less accumulated depreciation and amortization	(20,483)	(20,476)
	$ 1,024	$ 1,553

Depreciation and amortization expenses of property and equipment, including equipment purchased under capital leases, were approximately $0.7 million, $0.5 million and $0.7 million for the years ended December 31, 2014, 2013 and 2012, respectively.

The net book value and accumulated amortization of equipment under capital lease was approximately $84,000 and $42,000 respectively, at December 31, 2014, and $126,000 and $0, respectively, at December 31, 2013.

(5) Stockholders' Equity

Common Stock

Each common stockholder is entitled to one vote for each common share of 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.

Registered Direct Offering

In April 2014, the Company sold 1,250,000 shares of its common stock at a purchase price of $4.01 per share in a registered direct offering to an affiliate of a director who is its largest stockholder. These shares were sold directly without a placement agent, underwriter, broker or dealer. The net proceeds to the Company were approximately $5.0 million after deducting offering expenses payable by the Company.

At-The-Market Issuance Sales Agreements

The Company entered into at-the-market issuance sales agreements (May 2012, May 2014 and July 2014 Sales Agreements) with MLV & Co. LLC (MLV), pursuant to which the Company may issue and sell shares of its common stock from time to time, at the Company's option, through MLV as its sales agent. Sales of common stock through MLV 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

(5) Stockholders' Equity (Continued)

amended, including by means of ordinary brokers' transactions at market prices, in block transactions or as otherwise agreed by the Company and MLV. Subject to the terms and conditions of the Sales Agreements, MLV will use commercially reasonable efforts 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 Agreements. Any shares sold will be sold pursuant to an effective shelf registration statement on Form S-3. The Company will pay MLV a commission of up to 3% of the gross proceeds. The May 2012 and May 2014 Sales Agreements were terminated by the Company upon the sale of substantially all stock authorized for sale under each such agreement. The July 2014 Sales Agreement may be terminated by the Company at any time.

In March and April 2014, the Company sold an aggregate of 6,588,875 shares of common stock pursuant to the May 2012 Sales Agreement for an aggregate of approximately $28.0 million in gross proceeds at an average selling price of $4.25 per share. Net proceeds to the Company were approximately $27.3 million after deducting commissions and other transactions costs.

From May 2014 through July 2014, the Company sold an aggregate of 9,424,193 shares of common stock pursuant to the May 2014 Sales Agreement for an aggregate of approximately $40.0 million in gross proceeds at an average selling price of $4.24 per share. Net proceeds to the Company were approximately $39.2 million after deducting commissions and other transactions costs.

In July 2014, the Company reserved up to $50 million under its shelf registration statement for issuance under the July 2014 Sales Agreement. In the third quarter of 2014, the Company sold an aggregate of 5,679,685 shares of common stock pursuant to the July 2014 Sales Agreement for an aggregate of approximately $23.0 million in gross proceeds at an average selling price of $4.05 per share. Net proceeds to the Company were approximately $22.5 million after deducting commissions and other transactions costs. As of December 31, 2014, approximately $27.0 million remained reserved under the Company's shelf registration statement and the applicable prospectus supplement for possible future issuance under the July 2014 Sales Agreement.

Public Offering

In November 2013, the Company raised approximately $60.4 million in gross proceeds from the sale of an aggregate 16,100,000 shares of its common stock in a public offering at a public offering price of $3.75 per share, including 14,000,000 shares in the initial offering and 2,100,000 shares upon the full exercise of the underwriters' option to purchase additional shares. Certain of the Company's directors and their affiliates, including its largest stockholder, purchased an aggregate of 5,183,333 shares in this offering. The net offering proceeds to the Company were approximately $57.1 million after deducting underwriters' discounts, fees and commissions, and other offering expenses payable by the Company.

Registered Direct Offerings

In December 2012, the Company entered into common stock purchase agreements with investors and certain directors, including its largest stockholder, pursuant to which the Company sold 7,000,000 shares of its common stock in a registered direct offering at a purchase price of $8.60 per share. These shares were sold directly to these investors and directors without a placement agent, underwriter,

(5) Stockholders' Equity (Continued)

broker or dealer. The net proceeds to the Company were approximately $59.8 million after deducting estimated offering expenses payable by the Company.

In July 2012, the Company entered into subscription agreements with certain directors, including its largest stockholder, pursuant to which the Company sold 3,976,702 shares of its common stock in a registered direct offering at a purchase price of $6.49 per share. These shares were sold directly to these directors without a placement agent, underwriter, broker or dealer. The net proceeds to the Company were approximately $25.8 million after deducting estimated offering expenses payable by the Company.

Public Offering

In January 2012 and February 2012, the Company raised approximately $35.4 million in gross proceeds from the sale of an aggregate 8,050,000 shares of its common stock in a public offering at $4.40 per share, including 7,000,000 shares in the initial closing in January 2012 and 1,050,000 shares in a second closing in February 2012 upon the full exercise of the over-allotment option granted to the underwriters. One of the Company's directors, who is its largest stockholder, purchased 1,136,363 shares in this offering. The net offering proceeds to the Company were approximately $33.0 million after deducting underwriters' discounts, fees and commissions, and other offering expenses payable by the Company.

(6) Stock-Based Compensation

The Company's 2006 Stock Plan provides for the grant of incentive stock options, non-statutory stock options and non-vested restricted stock to employees, officers, directors and consultants of the Company. In January 2015, the number of shares of common stock reserved for issuance under the 2006 Stock Plan was increased from 10,300,000 to 11,600,000 pursuant to an "evergreen" provision, which provides for an annual increase based on the lesser of 1,300,000 shares, 5% of the Company's then outstanding shares of common stock, or such other amount as the board of directors may determine. This increase was approved by the board of directors in December 2014. The administration of the 2006 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. Options generally vest over four years. As of December 31, 2014, the Company had options outstanding to purchase 8,829,343 shares of its common stock, which includes options outstanding under its 2001 Stock Plan that was terminated in March 2006. As of December 31, 2014, 1,385,022 shares were available for future issuance.

(6) Stock-Based Compensation (Continued)

The following table summarizes stock option activity during the year ended December 31, 2014:

	Shares	Weighted average exercise price	Weighted average remaining contractual life (years)	Aggregate intrinsic value
Outstanding at January 1	6,814,417	$ 6.90		
Options granted	3,276,427	4.90		
Options exercised	(206,389)	4.14		
Options cancelled	(1,055,112)	7.35		
Outstanding at December 31	8,829,343	$ 6.17	6.35	$ 70,082
Exercisable at December 31	4,915,662	$ 6.67	4.17	$ 70,082

The aggregate intrinsic value of all options outstanding and exercisable represents the total pre-tax amount, net of the exercise price, which would have been received by option holders if all option holders had exercised all options with an exercise price lower than the closing stock price of $2.65 on December 31, 2014, which was the last trading day of the year. The total intrinsic value of options exercised during the years ended December 31, 2014, 2013 and 2012 was approximately $435,000, $385,000 and $904,000, respectively. The total cash received by the Company as a result of stock option exercises during 2014, 2013 and 2012 was $0.9 million, $1.1 million and $1.1 million, respectively. The weighted-average grant date fair values of options granted during the years ended December 31, 2014, 2013 and 2012 were $4.00, $7.28 and $4.10, respectively.

Non-Vested ("Restricted") Stock Awards With Service Conditions

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 total fair value of restricted stock that vested during the years ended December 31, 2014, 2013 and 2012 was $0.1 million, $0.3 million and $0.6 million, respectively.

The following table summarizes unvested restricted share activity during the year ended December 31, 2014:

	Shares	Weighted average grant date fair value
Outstanding at January 1	45,000	$ 4.63
Vested	(39,508)	4.56
Granted	764,022	3.67
Forfeited	(25,000)	4.34
Outstanding at December 31	744,514	$ 3.65

(6) Stock-Based Compensation (Continued)

Stock-Based Compensation Expense

For the years ended December 31, 2014, 2013 and 2012, the fair value of each employee stock option award was estimated on the date of grant based on the fair value method using the Black-Scholes option pricing valuation model with the following weighted average assumptions:

	Years ended December 31,		
	2014	2013	2012
Risk-free interest rate	1.88%	1.20%	1.11%
Expected life in years	6.25 years	6.25 years	6.25 years
Volatility	104%	102%	101%
Expected dividend yield	—	—	—

Stock-based compensation expense during the years ended December 31, 2014, 2013 and 2012 was as follows (in thousands):

	Years ended December 31,		
	2014	2013	2012
Stock-based compensation expense by type of award:			
Employee stock options	$ 7,076	$ 5,757	$ 3,082
Restricted stock	355	273	240
Total stock-based compensation expense	$ 7,431	$ 6,030	$ 3,322
Effect of stock-based compensation expense by line item:			
Research and development	$ 4,412	$ 3,220	$ 2,485
General and administrative	3,019	2,810	837
Total stock-based compensation expense included in net loss	$ 7,431	$ 6,030	$ 3,322

Unrecognized stock-based compensation expense as of December 31, 2014 was as follows (dollars in thousands):

	Unrecognized stock compensation expense as of December 31, 2014	Weighted average remaining period (in years)
Employee stock options	$ 13,468	2.77
Restricted stock	2,545	3.39
Total	$ 16,013	2.87

7) Other Accrued Liabilities

Other accrued liabilities as of December 31, 2014 and December 31, 2013 consisted of the following (in thousands):

	December 31, 2014	December 31, 2013
Compensation and benefits	$ 3,852	$ 3,137
Professional fees	1,285	1,585
Other	1,040	996
	$ 6,177	$ 5,718

(8) Co-Development and License Agreements

Co-Development Agreement

In July 2011, the Company entered into a co-development agreement with a clinical research organization (CRO) for the conduct of certain company-sponsored clinical trials. Under the co-development agreement, this CRO was performing clinical research services under a reduced fee structure in exchange for a share of licensing payments and commercial revenues, if any, resulting from the product under development up to a specified maximum payment, which is defined as a multiple of the fee reduction realized. Research and development expenses were being recognized based on the reduced fee structure and expected payments will be recorded in the future if and when payment is probable. The maximum amount of the service fee discount was realized in the year ended December 31, 2013.

License Arrangement

In May 2014, the Company entered into a license arrangement for its CRACM program, including two lead candidates and the associated intellectual property portfolio, with PRCL Research Inc. (PRCL), a company funded by TVM Life Science Venture VII and the Fonds de Solidarité des Travailleurs du Québec, based in Montreal, Canada. PRCL plans to develop one of the two lead candidates licensed from the Company to proof-of-concept. Synta was granted a minority interest in PRCL in exchange for its contribution of know-how and intellectual property and will also hold a seat on PRCL's Board of Directors. Synta will not be required to provide any research funding or capital contributions to PRCL. Synta will be reimbursed by PRCL for any ongoing intellectual property management costs in connection with the contributed intellectual property and may conduct preclinical research activities which would be reimbursed by PRCL. If and when proof-of-concept is reached with either drug candidate, Eli Lilly and Company, which is an investor in TVM, will manage the development program through one of its divisions and will have an option to acquire PRCL or its assets at the then fair value.

(9) Term Loans

General Electric Capital Corporation

In March 2013, the Company amended its loan and security agreement entered into in September 2010 with General Electric Capital Corporation (GECC) and another lender (the GECC Term Loan) and obtained $12.9 million in additional loan funding and, as a result, increased the principal balance

(9) Term Loans (Continued)

to $22.5 million at March 31, 2013. This amendment was accounted for as a loan modification. Interest on the borrowings under the GECC Term Loan remains at the annual rate of 9.75%. In January 2014, the Company began making 30 equal monthly payments of principal plus accrued interest on the outstanding balance. During the period from July 2012 through March 2013, the Company made 9 equal monthly payments of principal under the GECC Term Loan. For the periods from April 2013 through December 2013 and prior to July 2012 the Company made interest-only payments.

The Company has paid various transaction fees and expenses in connection with the GECC Term Loan, which are deferred and are being amortized as interest expense over the remaining term of the GECC Term Loan. In addition, the Company is obligated to pay an exit fee of $788,000 at the time of the final principal payment which is being accreted and expensed as interest over the remaining term of the GECC Term Loan. In the years ended December 31, 2014, 2013 and 2012, the Company recognized GECC Term Loan interest expense of $2.1 million, $2.5 million and $1.7 million, respectively, of which $0.4 million, $0.6 million and $0.3 million, respectively, was in connection with these transaction and exit fees and expenses. The Company may prepay the full amount of the GECC Term Loan, subject to prepayment premiums under certain circumstances. The Company did not issue any warrants in connection with the GECC Term Loan.

The GECC Term Loan is secured by substantially all of the Company's assets, except its intellectual property. The Company has granted GECC a springing security interest in its intellectual property in the event the Company is not in compliance with certain cash usage covenants, as defined therein. The GECC Term Loan contains restrictive covenants, including the requirement for the Company to receive the prior written consent of GECC to enter into loans, other than up to $4.0 million of equipment financing, restrictions on the declaration or payment of dividends, restrictions on acquisitions, and customary default provisions that include material adverse events, as defined therein. The Company has determined that the risk of subjective acceleration under the material adverse events clause is remote and therefore has classified the outstanding principal in current and long-term liabilities based on the timing of scheduled principal payments.

Oxford Finance Corporation

In March 2011, the Company entered into a loan and security agreement with Oxford Finance Corporation (Oxford) and received $2.0 million in loan funding, and in December 2012, the Company entered into a loan modification agreement, as amended, under which the Company could elect to draw down up to an additional $0.6 million in equipment financing until June 30, 2013 that would be payable in 36 equal monthly payments of principal plus accrued interest on the outstanding balance (collectively, the Oxford Term Loan). As of June 30, 2013, the Company had fully utilized the $0.6 million in additional equipment financing. Interest on the borrowings under the Oxford Term Loan accrues at an annual rate of 13.35%. In May 2011, the Company began making 36 equal monthly payments of principal plus accrued interest on the initial $2.0 million outstanding balance that was fully paid in April 2014. The Company continues to make equal monthly payments of principal plus accrued interest on the $0.6 million in additional equipment financing. The Company recognized approximately $59,000, $127,000 and $172,000 in interest expense in the years ended December 31, 2014, 2013 and 2012, respectively, related to the outstanding principal under the Oxford Term Loan. In addition to the interest payable under the Oxford Term Loan, the Company paid approximately $108,000 of administrative and legal fees and expenses in connection with the Oxford Term Loan. These expenses have been deferred and are being expensed over the term of the Oxford Term Loan. The Company did

(9) Term Loans (Continued)

not issue any warrants in connection with the Oxford Term Loan. The Company may prepay the Oxford Term Loan, subject to prepayment premiums under certain circumstances. Oxford has the right to require the Company to prepay the Oxford Term Loan if the Company prepays the full amount of the GECC Term Loan under certain circumstances.

The Oxford Term Loan is secured by certain laboratory and office equipment, furniture and fixtures. In connection with the Oxford Term Loan, Oxford and GECC entered into a Lien Subordination Agreement, whereby GECC granted Oxford a first priority perfected security interest in the loan collateral. The Oxford Term Loan contains restrictive covenants, including the requirement for the Company to receive the prior written consent of Oxford to enter into acquisitions in which the Company incurs more than $2.0 million of related indebtedness, and customary default provisions that include material adverse events, as defined therein. The Company has determined that the risk of subjective acceleration under the material adverse events clause is remote and therefore has classified the outstanding principal in current and long-term liabilities based on the timing of scheduled principal payments.

Future principal payments under the GECC and Oxford Term Loans as of December 31, 2014 were approximately as follows (in thousands):

Years ending December 31,	
2015	$ 9,214
2016	4,607
Total principal payments	13,821
Less current portion	(9,214)
Long term portion	$ 4,607

(10) Income Taxes

Differences between the actual tax provision (benefit) and the tax provision (benefit) computed using the United States federal income tax rate is as follows for the years ended December 31, 2014, 2013 and 2012 (in thousands):

	Years ended December 31,		
	2014	2013	2012
Benefit at statutory rate	$ (29,293)	$ (30,665)	$ (21,349)
State taxes, net of federal benefit	(3,342)	(3,735)	(3,220)
State net operating loss expiration	—	661	3,167
Stock-based compensation	1,094	1,118	382
Tax credits	(1,720)	(2,462)	(411)
Foreign rate differential	6,243	5,252	—
Other	100	(47)	22
Increase in valuation allowance	26,918	29,878	21,409
Income tax provision (benefit)	$ —	$ —	$ —

(10) Income Taxes (Continued)

The effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities at December 31, 2014 and 2013 are presented below (in thousands):

	2014	2013
Deferred tax assets:		
Federal and state net operating loss carryforwards	$ 194,091	$ 170,557
Federal and state research and development credits	21,401	19,675
Depreciation and amortization	2,423	2,412
Deferred compensation	7,643	6,254
Other	1,427	1,169
Deferred tax assets	226,985	200,067
Less valuation allowance	(226,985)	(200,067)
Net deferred tax assets	$ —	$ —

The total valuation allowance increased by approximately $26.9 million, $29.9 million and $21.4 million in the years ended December 31, 2014, 2013 and 2012, respectively.

The Company has established valuation allowances against its deferred tax assets because management believes that, after considering all of the available objective evidence, both historical and prospective, the realization of the deferred tax assets does not meet the "more likely than not" criteria. The Company evaluates the need for a valuation allowance on a quarterly basis.

For tax years through 2014 the Company performed analyses to determine if there were changes in ownership, as defined by Section 382 of the Internal Revenue Code that would limit its ability to utilize certain net operating loss and tax credit carryforwards. The Company determined that it experienced an ownership change, as defined by Section 382, in connection with its acquisition of Principia Associates, Inc. on September 20, 2002, but did not experience a change in ownership upon the effectiveness of the Company's IPO, or any other equity offerings to date. As a result, the utilization of the Company's federal tax net operating loss carryforwards generated prior to the ownership change is limited. As of December 31, 2014, the Company has net operating loss carryforwards for U.S. federal tax purposes of approximately $529.7 million, after excluding net operating losses that have expired unused as a result of Section 382 limitations, with the remainder expiring in varying amounts through 2034 unless utilized. At December 31, 2014, the Company has state net operating loss carryforwards of approximately $275.4 million, which will expire through 2034 unless utilized. The net operating loss carryforwards include approximately $1.4 million of deductions related to the exercise of common stock options. This amount represents an excess tax benefit and has not been included in the gross deferred tax asset reflected for net operating losses. The utilization of these net operating loss carryforwards may be further limited if the Company experiences future ownership changes as defined in Section 382 of the Internal Revenue Code.

At December 31, 2014, the Company had approximately $16.7 million and $7.1 million, respectively, in federal and state research and development credits. Unless utilized, the federal credits will expire from 2020 through 2034, state research credits will expire from 2018 through 2029 and state investment tax credits will expire from 2015 through 2017.

(10) Income Taxes (Continued)

The Company is currently open to examination under the statute of limitations by the Internal Revenue Service and state jurisdictions for the tax years ended 2011 through 2014. Carryforward tax attributes generated in years past may still be adjusted upon future examination if they have or will be used in a future period. The Company is currently not under examination by the Internal Revenue Service or any other jurisdictions for any tax years.

The Company does not consider any of its tax positions to be uncertain and accordingly there are no tax reserves for the years ended December 31, 2014, 2013 and 2012. The Company will recognize interest expense and penalties related to uncertain tax positions in income tax expense. The Company has not, as yet, conducted a study of its domestic research and development credit carryforwards. This study may result in an increase or decrease to the Company's research and development credit carryforwards; however, until a study is completed and any adjustment is known, no amounts are being presented as an uncertain tax position. A full valuation allowance has been provided against the Company's research and development credits, and if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. As a result, there would be no impact to the consolidated balance sheet, statement of operations and comprehensive loss or cash flows if an adjustment were required.

(11) Commitments and Contingencies

Leases

The Company leases its research and office facilities under three non-cancelable and renewable operating leases with terms expiring in the fourth quarter of 2016. These lease agreements include customary provisions for rent increases, escalations for operating costs and renewals. The Company also leases equipment under various other non-cancellable operating leases. The Company recognizes rent expense on a straight-line basis over the non-cancelable term of the lease.

Future minimum payments, excluding operating costs and taxes, under the Company's capital and non-cancellable operating leases are approximately as follows (in thousands):

	Operating leases	Capital leases
Years ending December 31,		
2015	$ 2,226	$ 44
2016	1,995	44
2017	25	—
Total minimum payments	$ 4,246	88
Less: amount representing interest		(3)
Present value of minimum payments		85
Less current portions of obligations		(42)
Long term obligation		$ 43

Rent expense under operating leases was approximately $2.3 million, $2.2 million and $2.2 million, for the years ended December 31, 2014, 2013 and 2012, respectively.

(11) Commitments and Contingencies (Continued)

Guarantees

As permitted under Delaware law, the Company's Certificate of Incorporation and Bylaws provide that the Company will indemnify certain of its officers and directors for certain claims asserted against them in connection with their service as an officer or director. The maximum potential amount of future payments that the Company could be required to make under these indemnification provisions is unlimited. However, the Company has purchased a directors' and officers' liability insurance policy that reduces its monetary exposure and enables it to recover a portion of any future amounts paid. The Company believes the estimated fair value of these indemnification arrangements is minimal.

The Company customarily agrees in the ordinary course of its business to indemnification provisions in agreements with clinical trial investigators in its drug development programs, in sponsored research agreements with academic and not-for-profit institutions, in various comparable agreements involving parties performing services for the Company in the ordinary course of business, and in its real estate leases. The Company expects to agree to certain indemnification provisions in drug discovery and development collaboration agreements the Company may enter into. With respect to the Company's clinical trials and sponsored research agreements, these indemnification provisions typically apply to any claim asserted against the investigator or the investigator's institution relating to personal injury or property damage, violations of law or certain breaches of the Company's contractual obligations arising out of the research or clinical testing of the Company's compounds or drug candidates. With respect to lease agreements, the indemnification provisions typically apply to claims asserted against the landlord relating to personal injury or property damage caused by the Company, to violations of law by the Company or to certain breaches of the Company's contractual obligations. The indemnification provisions appearing in collaboration agreements are similar, but in addition provide some limited indemnification for the collaborator in the event of third-party claims alleging infringement of intellectual property rights. In each of the cases above, the term of these indemnification provisions generally survives the termination of the agreement, although the provision has the most relevance during the contract term and for a short period of time thereafter. The maximum potential amount of future payments that the Company could be required to make under these provisions is generally unlimited. The Company purchases insurance policies covering personal injury, property damage and general liability that reduce its exposure for indemnification and would enable it in many cases to recover a portion of any future amounts paid. The Company has never paid any material amounts to defend lawsuits or settle claims related to these indemnification provisions. Accordingly, the Company believes the estimated fair value of these indemnification arrangements is minimal.

(12) Related Party Transactions

In April 2014, the Company sold 1,250,000 shares of its common stock at a purchase price of $4.01 per share in a registered direct offering to an affiliate of a director who is its largest stockholder (see Note 5).

In November 2013, the Company sold an aggregate of 5,183,333 shares of common stock to certain of the Company's directors and their affiliates, including its largest stockholder, at a purchase price of $3.75 per share in a public offering (see Note 5).

In January 2013, a director exercised an aggregate of 114,250 shares of common stock options that resulted in $1.0 million in proceeds to the Company.

(12) Related Party Transactions (Continued)

In December 2012, the Company entered into common stock purchase agreements with certain directors, including its largest stockholder, pursuant to which the Company sold 2,649,535 shares of its common stock in a registered direct offering at a purchase price of $8.60 per share (see Note 5).

In November 2012, the Company purchased and retired 3,969 shares from an officer upon the vesting of restricted common stock in order to fund the related tax liability.

In July 2012, the Company entered into subscription agreements with certain directors, including its largest stockholder, pursuant to which the Company sold 3,976,702 shares of its common stock in a registered direct offering at a purchase price of $6.49 per share (see Note 5).

In January 2012, the Company sold 1,136,363 shares of common stock to a director, who is its largest stockholder, at a purchase price of $4.40 per share in a public offering (see Note 5).

(13) Retirement Plan

In 2003, the Company implemented a 401(k) retirement plan (the Synta 401(k) Plan) in which substantially all of its permanent employees are eligible to participate. Participants may contribute a percentage of their annual compensation to the plan, subject to statutory limitations. The Company may declare discretionary matching contributions to the Synta 401(k) Plan.

In April 2006, the Company began matching participants' contributions up to 50% of the first 6% of the employee's salary. The match is subject to a three-year equally graded vesting schedule and any forfeitures will be applied to reduce the Company's contributions. Company contributions for the years ended December 31, 2014, 2013 and 2012 were approximately $359,000, $413,000 and $376,000, respectively, subject to forfeitures.

(14) Quarterly Financial Data (unaudited)

The following tables present a summary of quarterly results of operations for 2014 and 2013:

	Three Months Ended			
	March 31, 2014	June 30, 2014	September 30, 2014	December 31, 2014
	(in thousands, except shares and per share data)			
Revenues:				
Total revenues	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	17,583	18,761	16,208	15,653
General and administrative	5,324	2,940	3,241	4,241
Total operating expenses	22,907	21,701	19,449	19,894
Loss from operations	(22,907)	(21,701)	(19,449)	(19,894)
Interest expense, net	(650)	(585)	(517)	(458)
Net loss	$ (23,557)	$ (22,286)	$ (19,966)	$ (20,352)
Basic and diluted net loss per common share	$ (0.28)	$ (0.24)	$ (0.19)	$ (0.19)
Basic and diluted weighted average number of common shares outstanding	85,438,127	94,046,278	105,774,949	108,366,504

(14) Quarterly Financial Data (unaudited) (Continued)

	Three Months Ended			
	March 31, 2013	June 30, 2013	September 30, 2013	December 31, 2013
	(in thousands, except shares and per share data)			
Revenues:				
Total revenues	$ —	$ —	$ —	$ —
Operating expenses:				
Research and development	16,380	17,876	17,623	19,981
General and administrative	3,878	4,187	4,171	3,463
Total operating expenses	20,258	22,063	21,794	23,444
Loss from operations	(20,258)	(22,063)	(21,794)	(23,444)
Interest expense, net	(470)	(724)	(721)	(718)
Net loss	$ (20,728)	$ (22,787)	$ (22,515)	$ (24,162)
Basic and diluted net loss per common share	$ (0.30)	$ (0.33)	$ (0.33)	$ (0.31)
Basic and diluted weighted average number of common shares outstanding	68,991,371	69,034,823	69,047,161	76,769,199

Exhibit 10.45

NON-QUALIFIED STOCK OPTION AGREEMENT **450,000 SHARES OF COMMON STOCK, $.0001 PAR VALUE PER SHARE**

SYNTA PHARMACEUTICALS CORP.

December 8, 2014

As of December 8, 2014 (the "Grant Date"), Synta Pharmaceuticals Corp. (the "Company"), a Delaware corporation, grants to Chen Schor (the "Participant") the right and option (the "Option") to purchase up to 450,000 shares of the common stock, $.0001 par value per share, of the Company (the "Shares") at a purchase price of $2.85 per share (the "Purchase Price") on the terms and conditions and subject to all the limitations set forth in this Agreement. For the purpose of this Agreement, the initial vesting date shall be December 8, 2015 ("Initial Vesting Date").

SYNTA PHARMACEUTICALS CORP.

By: /s/ Anne Whitaker
Anne Whitaker
President and 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. Except as expressly provided in this Agreement, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of the Shares. Except as expressly provided in this Agreement, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company.

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 Section 9 of this Agreement, 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 5 of this Agreement.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement, the Option granted hereby shall become exercisable in cumulative installments of (i) 25% of the Shares on the Initial Vesting Date, and (ii) 6.25% of the Shares on the last day of each successive three-month period thereafter. Notwithstanding the foregoing, the Option shall become vested and exercisable in accordance with the terms and conditions set forth in Sections 9B and C hereof and upon termination by the Company of the Participant without cause or by the Participant for good reason as set forth in the Severance and Change of Control Agreement between the Company and the Participant dated December 3, 2014 (the "Severance Agreement").

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.

If the Participant ceases to be an employee, or consultant of the Company or any parent or subsidiary, direct or indirect, of the Company (an "Affiliate") (for any reason other than the death or permanent and total disability as defined in Section 22(e)(3) of the United States Internal Revenue Code of 1986, as amended (the "Code") of the Participant (a "Disability") or termination of the Participant for "cause" (as defined in the Participant's Severance Agreement), 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 deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to the Option by will or by the laws of descent and distribution (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 Participant's Severance Agreement), the Participant's right to exercise any unexercised portion of the Option shall cease immediately as of the time the Participant is notified his or her service is terminated for "cause," and the 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", then the Participant shall immediately cease to have any right to exercise the Option and the Option shall thereupon terminate.

In the event of the Disability of the Participant, 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.

The Board of Directors of the Company or, if applicable, a committee of the Board of Directors, shall make the determination both of whether a Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, the cost of which examination shall be paid for by the Company.

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 prescribed by the Company or its designee together with provision for payment of the full Purchase Price in accordance with this Section 5 for the Shares as to which the Option is being exercised. 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 (a) in United States dollars in cash or by check, or (b) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, through delivery of shares of common stock of the Company having a Fair Market Value (as defined below) equal as of the date of the exercise to the cash exercise price of the Option and held for at least six months, or (c) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by having the Company retain from the shares otherwise issuable upon exercise of the Option, a number of shares having a Fair Market Value equal as of the date of exercise to the exercise price of the Option, or (d) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by delivery of the grantee's personal recourse note, bearing interest payable not less than annually at no less than 100% of the applicable Federal rate, as defined in Section 1274(d) of the Code, or (e) in accordance with a cashless exercise program established with a securities brokerage firm previously approved by the Company, or (f) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by any combination of (a), (b), (c) (d) and (e) above or (g) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, payment of such other lawful consideration as the Board of Directors of the Company or, if applicable, a committee of the Board of Directors may determine.

For purposes of this Agreement, Fair Market Value of a Share of common stock means:

(1) If the common stock of the Company is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the common stock, the closing or last price of the common stock on the composite tape or other comparable reporting system for the trading day on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date;

(2) If the common stock of the Company is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the common stock for the trading day referred to in clause (1), and if bid and asked prices for the common stock are regularly reported, the mean between the bid and the asked price for the common stock at the close of trading in the over-the-counter market for the trading day on which common stock was traded on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date; and

(3) If the common stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Board of Directors of the Company, in good faith, shall determine.

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 the 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 the 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 this Agreement 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.

Upon the occurrence of any of the following events, the Participant's rights with respect to the Option, except to the extent previously exercised shall be adjusted as hereinafter provided:

A. Stock Dividends and Stock Splits. If (i) shares of common stock of the Company shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of common stock as a stock dividend on its outstanding common stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of common stock, the Shares deliverable upon the exercise of the Option shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made including, in the Purchase Price per Share to reflect such events.

B. Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a

transaction to merely change the state of incorporation (a "Corporate Transaction"), the Board of Directors of the Company or, if applicable, a committee of the Board of Directors or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to the unexercised portion of the Option, either (i) make appropriate provision for the continuation of the Option by substituting on an equitable basis for the Shares either the consideration payable with respect to the outstanding shares of common stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participant, provide that the Option must be exercised, within a specified number of days of the date of such notice, at the end of which period the Option shall terminate (the Option shall for purposes of this clause (ii) be made fully vested and exercisable immediately prior to its termination); or (iii) terminate the Option in exchange for a cash payment equal to the excess of the Fair Market Value of the Shares over the Purchase Price thereof (the Option shall for purposes of this clause (iii) be made fully vested and immediately exercisable immediately prior to its termination).

C. [RESERVED.]

D. Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of common stock of the Company, the Participant upon exercising the Option after the recapitalization or the reorganization shall be entitled to receive for the purchase price paid upon such exercise the number of replacement securities which would have been received if the Option had been exercised prior to such recapitalization or reorganization.

E. Dissolution or Liquidation of the Company. Upon the dissolution or liquidation of the Company, the Option will terminate and become null and void; provided, however, that if the rights of the Participant or the Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise the Option to the extent that the Option is exercisable as of the date immediately prior to such dissolution or liquidation.

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 the Option or the Shares issuable pursuant to the 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 Fair Market Value of the Shares to be withheld shall be determined as of the most recent practicable date prior to the date of exercise. 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 service 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 Option obligated to continue the Participant as an employee or consultant of the Company or of an Affiliate. The Participant acknowledges: (i) that the grant of the Option is discretionary in nature and 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; (ii) 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; (iii) 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; (iv) that the Participant's participation in this Agreement is voluntary; and (v) 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 shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Synta Pharmaceuticals Corp.
45 Hartwell Avenue
Lexington, MA 02421
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 Massachusetts and agree that such litigation shall be conducted in the courts of Middlesex County, Massachusetts or the federal courts of the United States for the District of Massachusetts.

16. BENEFIT OF AGREEMENT.

Subject to the 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 Severance Agreement 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.

18. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended by the Company in a manner which is not adverse to the Participant, including, without limitation, to the extent necessary

to qualify the shares issuable upon exercise of the Option for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Any modification or amendment of this Agreement shall not, without the consent of the Participant, adversely affect his rights under the Option, including but not limited to pursuant to Section 409A of the Code.

19. WAIVERS AND CONSENTS.

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 this Agreement or providing 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 this Agreement; 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 10.46

NON-QUALIFIED STOCK OPTION AGREEMENT **225,000 SHARES OF COMMON STOCK, $.0001 PAR VALUE PER SHARE**

SYNTA PHARMACEUTICALS CORP.

December 8, 2014

As of December 8, 2014 (the "Grant Date"), Synta Pharmaceuticals Corp. (the "Company"), a Delaware corporation, grants to Marc Schneebaum (the "Participant") the right and option (the "Option") to purchase up to 225,000 shares of the common stock, $.0001 par value per share, of the Company (the "Shares") at a purchase price of $2.85 per share (the "Purchase Price") on the terms and conditions and subject to all the limitations set forth in this Agreement. For the purpose of this Agreement, the initial vesting date shall be December 8, 2015 ("Initial Vesting Date").

SYNTA PHARMACEUTICALS CORP.

By: /s/ Anne Whitaker
Anne Whitaker
President and 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. Except as expressly provided in this Agreement, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of the Shares. Except as expressly provided in this Agreement, no adjustments shall be made for dividends paid in cash or in property (including without limitation, securities) of the Company.

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 Section 9 of this Agreement, 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 5 of this Agreement.

3. EXERCISABILITY OF OPTION.

Subject to the terms and conditions set forth in this Agreement, the Option granted hereby shall become exercisable in cumulative installments of (i) 25% of the Shares on the Initial Vesting Date, and (ii) 6.25% of the Shares on the last day of each successive three-month period thereafter. Notwithstanding the foregoing, the Option shall become vested and exercisable in accordance with the terms and conditions set forth in Sections 9B and C hereof and upon termination by the Company of the Participant without cause or by the Participant for good reason as set forth in the Severance and Change of Control Agreement between the Company and the Participant dated November 24, 2014 (the "Severance Agreement").

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.

If the Participant ceases to be an employee, or consultant of the Company or any parent or subsidiary, direct or indirect, of the Company (an "Affiliate") (for any reason other than the death or permanent and total disability as defined in Section 22(e)(3) of the United States Internal Revenue Code of 1986, as amended (the "Code") of the Participant (a "Disability") or termination of the Participant for "cause" (as defined in the Participant's Severance Agreement), 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 deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to the Option by will or by the laws of descent and distribution (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 Participant's Severance Agreement), the Participant's right to exercise any unexercised portion of the Option shall cease immediately as of the time the Participant is notified his or her service is terminated for "cause," and the 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", then the Participant shall immediately cease to have any right to exercise the Option and the Option shall thereupon terminate.

In the event of the Disability of the Participant, 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.

The Board of Directors of the Company or, if applicable, a committee of the Board of Directors, shall make the determination both of whether a Disability has occurred and the date of its occurrence (unless a procedure for such determination is set forth in another agreement between the Company and such Participant, in which case such procedure shall be used for such determination). If requested, the Participant shall be examined by a physician selected or approved by the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, the cost of which examination shall be paid for by the Company.

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 prescribed by the Company or its designee together with provision for payment of the full Purchase Price in accordance with this Section 5 for the Shares as to which the Option is being exercised. 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 (a) in United States dollars in cash or by check, or (b) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, through delivery of shares of common stock of the Company having a Fair Market Value (as defined below) equal as of the date of the exercise to the cash exercise price of the Option and held for at least six months, or (c) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by having the Company retain from the shares otherwise issuable upon exercise of the Option, a number of shares having a Fair Market Value equal as of the date of exercise to the exercise price of the Option, or (d) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by delivery of the grantee's personal recourse note, bearing interest payable not less than annually at no less than 100% of the applicable Federal rate, as defined in Section 1274(d) of the Code, or (e) in accordance with a cashless exercise program established with a securities brokerage firm previously approved by the Company, or (f) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, by any combination of (a), (b), (c) (d) and (e) above or (g) at the discretion of the Board of Directors of the Company or, if applicable, a committee of the Board of Directors, payment of such other lawful consideration as the Board of Directors of the Company or, if applicable, a committee of the Board of Directors may determine.

For purposes of this Agreement, Fair Market Value of a Share of common stock means:

(1) If the common stock of the Company is listed on a national securities exchange or traded in the over-the-counter market and sales prices are regularly reported for the common stock, the closing or last price of the common stock on the composite tape or other comparable reporting system for the trading day on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date;

(2) If the common stock of the Company is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the common stock for the trading day referred to in clause (1), and if bid and asked prices for the common stock are regularly reported, the mean between the bid and the asked price for the common stock at the close of trading in the over-the-counter market for the trading day on which common stock was traded on the applicable date and if such applicable date is not a trading day, the last market trading day prior to such date; and

(3) If the common stock is neither listed on a national securities exchange nor traded in the over-the-counter market, such value as the Board of Directors of the Company, in good faith, shall determine.

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 the 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 the 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 this Agreement 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.

Upon the occurrence of any of the following events, the Participant's rights with respect to the Option, except to the extent previously exercised shall be adjusted as hereinafter provided:

A. Stock Dividends and Stock Splits. If (i) shares of common stock of the Company shall be subdivided or combined into a greater or smaller number of shares or if the Company shall issue any shares of common stock as a stock dividend on its outstanding common stock, or (ii) additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of common stock, the Shares deliverable upon the exercise of the Option shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made including, in the Purchase Price per Share to reflect such events.

B. Corporate Transactions. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a

transaction to merely change the state of incorporation (a "Corporate Transaction"), the Board of Directors of the Company or, if applicable, a committee of the Board of Directors or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall, as to the unexercised portion of the Option, either (i) make appropriate provision for the continuation of the Option by substituting on an equitable basis for the Shares either the consideration payable with respect to the outstanding shares of common stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) upon written notice to the Participant, provide that the Option must be exercised, within a specified number of days of the date of such notice, at the end of which period the Option shall terminate (the Option shall for purposes of this clause (ii) be made fully vested and exercisable immediately prior to its termination); or (iii) terminate the Option in exchange for a cash payment equal to the excess of the Fair Market Value of the Shares over the Purchase Price thereof (the Option shall for purposes of this clause (iii) be made fully vested and immediately exercisable immediately prior to its termination).

C. [RESERVED.]

D. Recapitalization or Reorganization. In the event of a recapitalization or reorganization of the Company other than a Corporate Transaction pursuant to which securities of the Company or of another corporation are issued with respect to the outstanding shares of common stock of the Company, the Participant upon exercising the Option after the recapitalization or the reorganization shall be entitled to receive for the purchase price paid upon such exercise the number of replacement securities which would have been received if the Option had been exercised prior to such recapitalization or reorganization.

E. Dissolution or Liquidation of the Company. Upon the dissolution or liquidation of the Company, the Option will terminate and become null and void; provided, however, that if the rights of the Participant or the Participant's Survivors have not otherwise terminated and expired, the Participant or the Participant's Survivors will have the right immediately prior to such dissolution or liquidation to exercise the Option to the extent that the Option is exercisable as of the date immediately prior to such dissolution or liquidation.

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 the Option or the Shares issuable pursuant to the 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 Fair Market Value of the Shares to be withheld shall be determined as of the most recent practicable date prior to the date of exercise. 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 service 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 Option obligated to continue the Participant as an employee or consultant of the Company or of an Affiliate. The Participant acknowledges: (i) that the grant of the Option is discretionary in nature and 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; (ii) 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; (iii) 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; (iv) that the Participant's participation in this Agreement is voluntary; and (v) 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 shall be given by recognized courier service, facsimile, registered or certified mail, return receipt requested, addressed as follows:

If to the Company:

Synta Pharmaceuticals Corp.
45 Hartwell Avenue
Lexington, MA 02421
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 Massachusetts and agree that such litigation shall be conducted in the courts of Middlesex County, Massachusetts or the federal courts of the United States for the District of Massachusetts.

16. BENEFIT OF AGREEMENT.

Subject to the 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 Severance Agreement 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.

18. MODIFICATIONS AND AMENDMENTS.

The terms and provisions of this Agreement may be modified or amended by the Company in a manner which is not adverse to the Participant, including, without limitation, to the extent necessary

to qualify the shares issuable upon exercise of the Option for listing on any national securities exchange or quotation in any national automated quotation system of securities dealers. Any modification or amendment of this Agreement shall not, without the consent of the Participant, adversely affect his rights under the Option, including but not limited to pursuant to Section 409A of the Code.

19. WAIVERS AND CONSENTS.

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 this Agreement or providing 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 this Agreement; 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 10.47

RESTRICTED STOCK AGREEMENT

SYNTA PHARMACEUTICALS CORP.

AGREEMENT made as of the 8th day of December, 2014 (the "Grant Date"), between Synta Pharmaceuticals Corp. (the "Company"), a Delaware corporation having its principal place of business in Lexington, Massachusetts, and Chen Schor (the "Participant").

WHEREAS, the Company desires to promote the interests of the Company by providing an incentive for the Participant , an employee of the Company or a corporation which is a parent or subsidiary of the Company, direct or indirect (an "Affiliate");

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

WHEREAS, the Participant wishes to accept said offer.

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 this Agreement, One Hundred Fifty Thousand (150,000) Shares of the Company's Common Stock (such shares, subject to adjustment pursuant to Subsection 2.1(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.

2.1. Forfeiture Provisions.

(a) Lapsing Forfeiture Right. In the event that for any reason the Participant is no longer an employee or consultant of the Company or an Affiliate prior to December 8, 2016 (the "Termination"), the Participant (or (or the deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to the Granted Shares by will or by the laws of descent and distribution (the "Participant's Survivor) shall, on the date of Termination, immediately forfeit to the Company (or its designee) all of the Granted Shares which have not yet lapsed in accordance with the schedule set forth below (the "Lapsing Forfeiture Right") except as otherwise set forth in Section 2.1(b) or (c).

The Company's Lapsing Forfeiture Right is as follows except as otherwise accelerated upon termination of service by the Company not for cause or by the Participant for good reason as set forth in the Severance and Change of Control Agreement between the Company and the Participant dated December 3, 2014 (the "Severance Agreement")):

If the Participant's Termination is prior to December 8, 2016 all of the Granted Shares shall be forfeited to the Company. On December 8, 2016, if the Participant remains an employee or consultant of the Company or an Affiliate, the Lapsing Forfeiture Right shall lapse as to 50.0% of the Granted Shares and the Participant's ownership of that portion of the Granted Shares shall be vested as of such date. On December 8, 2017, if the Participant remains an employee or consultant of the Company or an Affiliate, the Lapsing Forfeiture Right shall lapse

as to the remaining 50.0% of the Granted Shares and the Participant's ownership of that portion of the Granted Shares shall be vested as of such date.

(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 the Participant's permanent and total disability (a "Disability") as defined in Section 22(e)(3) of the United States Internal Revenue Code of 1986, as amended (the "Code"), 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 Severance Agreement) 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 Corporate Transaction. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Board of Directors of the Company or, if applicable, a committee of the Board of Directors or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall either (i) make appropriate provisions for the continuation of this Agreement on the same terms and conditions by substituting on an equitable basis for the Granted Shares then subject to this Agreement either the consideration payable with respect to the outstanding Shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) terminate this Agreement in exchange for a cash payment equal to the Fair Market Value of the Granted Shares then subject to the Lapsing Forfeiture Right.

(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 2.1(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 5. 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 Board of Directors of the Company or, if applicable, a committee of the Board of Directors, 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 Board of Directors of the Company or, if applicable, a committee of the Board of Directors, 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 2.1(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 2.1(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 2.1(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.

(i) If the Company shall pay a stock dividend or declare a stock split on or with respect to any of its Common Stock, or otherwise distribute securities of the Company to the holders of its Common Stock, the number of shares of stock or other securities of the Company issued with respect to the Common Stock then subject to the restrictions contained in this Agreement shall be added to the Granted Shares subject to this Agreement. If the Company shall distribute to its stockholders securities of another corporation, the securities of such other corporation, distributed with respect to the Common Stock then subject to the restrictions contained in this Agreement, shall be added to the Granted Shares subject to this Agreement.

(ii) If the outstanding shares of the Company's Common Stock shall be subdivided into a greater number of shares or combined into a smaller number of shares, or in the event of a reclassification of the outstanding shares of the Company's Common Stock, or if the Company shall be a party to a merger, consolidation or capital reorganization, there shall be substituted for the Granted Shares then subject to the restrictions contained in this Agreement such amount and kind of securities as are issued in such subdivision, combination, reclassification, merger, consolidation or capital reorganization in respect of the Common Stock subject to this Agreement.

2.2 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.

3. 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.

4. 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.

5. Legend. 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 December 8, 2014 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."

6. 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. In connection with the foregoing, the Participant agrees that if an arrangement to pay the withholding obligation in cash has not been received by the Company prior to the date that Granted Shares shall be released from the Lapsing Forfeiture Right, the Company shall authorize a registered broker(s) (the "Broker") to sell on the date that the Granted Shares shall be released from the Lapsing Forfeiture Right such number of Granted Shares as the Company instructs the Broker to sell to satisfy the Company's withholding obligations, after deduction of the Broker's commission, and the Broker shall remit to the Company the cash necessary in order for the Company to satisfy its withholding obligation. To the extent the proceeds of such sale exceed the Company's tax withholding obligation the Company agrees to pay such excess cash to the Participant as soon as practicable. In addition, if such sale is not sufficient to pay the Company's tax withholding obligation the Participant agrees to pay to the Company as soon as practicable, including through additional payroll withholding, the amount of any tax withholding obligation that is not satisfied by the sale of shares of Common Stock. The Participant agrees to hold the Company and the Broker harmless from all costs, damages or expenses relating to any such sale. The Participant acknowledges that the Company and the Broker are under no obligation to arrange for such sale at any particular price. In connection with such sale of Granted Shares, the Participant shall execute any such documents requested by the Broker in order to effectuate the sale of the Granted Shares and payment of the withholding obligation to the Company. The Company shall not deliver any shares of Common Stock to the Participant until all of the Company's withholding obligations have been satisfied. The Participant acknowledges that this paragraph is intended to comply with Section 10b5-1(c)(1(i)(B)

under the Securities Exchange Act of 1934, as amended. Notwithstanding the foregoing, the Company shall have the right to require the Company payments be made in cash instead of through the sale of shares of Common Stock if it reasonably believes that the sale of shares would violate applicable securities laws.

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 2.1, 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.

7. Equitable Relief. The Participant specifically acknowledges and agrees that in the event of a breach or threatened breach of the provisions of this Agreement, 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.

8. No Obligation to Maintain Relationship. The Company is not by this Agreement obligated to continue the Participant as an employee or consultant of the Company or an Affiliate. The Participant acknowledges: (i) that the grant of the Shares is discretionary in nature and 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; (ii) 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; (iii) that the Participant's participation in this Agreement is voluntary; (iv) 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 (v) 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.

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

If to the Company:

Synta Pharmaceuticals Corp.
45 Hartwell Avenue
Lexington, MA 02421
Attn: 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 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.

10. Benefit of Agreement. Subject to the 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.

11. 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 Massachusetts and agree that such litigation shall be conducted in the courts of the Commonwealth of Massachusetts or the federal courts of the United States for the District of Massachusetts.

12. 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.

13. Entire Agreement. This Agreement, together with the Severance Agreement, 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.

14. Modifications and Amendments; Waivers and Consents. The terms and provisions of this Agreement may be modified or amended by the Company in a manner which is not adverse to the Participant. 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.

15. 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.

16. 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.

17. 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 providing 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 Company's stock records; 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.

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

SYNTA PHARMACEUTICALS CORP.

By: /s/ Anne C. Whitaker
Name: Anne C. Whitaker
Title: President and Chief Executive Officer

Participant:

By: /s/ Chen Schor
Print Name: Chen Schor

EXHIBIT A

CONSENT OF SPOUSE/DOMESTIC PARTNER

I, , spouse or domestic partner of Chen Schor, acknowledge that I have read the RESTRICTED STOCK AGREEMENT dated as of December 8, 2014 (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 Synta Pharmaceuticals Corp. (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 10.48

RESTRICTED STOCK AGREEMENT

SYNTA PHARMACEUTICALS CORP.

AGREEMENT made as of the 8th day of December, 2014 (the "Grant Date"), between Synta Pharmaceuticals Corp. (the "Company"), a Delaware corporation having its principal place of business in Lexington, Massachusetts and Marc Schneebaum (the "Participant").

WHEREAS, the Company desires to promote the interests of the Company by providing an incentive for the Participant , an employee of the Company or a corporation which is a parent or subsidiary of the Company, direct or indirect (an "Affiliate");

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

WHEREAS, the Participant wishes to accept said offer.

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 this Agreement, Seventy-five Thousand (75,000) Shares of the Company's Common Stock (such shares, subject to adjustment pursuant to Subsection 2.1(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.

2.1. Forfeiture Provisions.

(a) Lapsing Forfeiture Right. In the event that for any reason the Participant is no longer an employee or consultant of the Company or an Affiliate prior to December 8, 2016 (the "Termination"), the Participant (or (or the deceased Participant's legal representatives and/or any person or persons who acquired the Participant's rights to the Granted Shares by will or by the laws of descent and distribution (the "Participant's Survivor) shall, on the date of Termination, immediately forfeit to the Company (or its designee) all of the Granted Shares which have not yet lapsed in accordance with the schedule set forth below (the "Lapsing Forfeiture Right") except as otherwise set forth in Section 2.1(b) or (c).

The Company's Lapsing Forfeiture Right is as follows except as otherwise accelerated upon termination of service by the Company not for cause or by the Participant for good reason as set forth in the Severance and Change of Control Agreement between the Company and the Participant dated November 24, 2014 (the "Severance Agreement")):

If the Participant's Termination is prior to December 8, 2016 all of the Granted Shares shall be forfeited to the Company. On December 8, 2016, if the Participant remains an employee or consultant of the Company or an Affiliate, the Lapsing Forfeiture Right shall lapse as to 50.0% of the Granted Shares and the Participant's ownership of that portion of the Granted Shares shall be vested as of such date. On December 8, 2017, if the Participant remains an employee or consultant of the Company or an Affiliate, the Lapsing Forfeiture Right shall lapse

as to the remaining 50.0% of the Granted Shares and the Participant's ownership of that portion of the Granted Shares shall be vested as of such date.

(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 the Participant's permanent and total disability (a "Disability") as defined in Section 22(e)(3) of the United States Internal Revenue Code of 1986, as amended (the "Code"), 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 Severance Agreement) 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 Corporate Transaction. If the Company is to be consolidated with or acquired by another entity in a merger, sale of all or substantially all of the Company's assets other than a transaction to merely change the state of incorporation (a "Corporate Transaction"), the Board of Directors of the Company or, if applicable, a committee of the Board of Directors or the board of directors of any entity assuming the obligations of the Company hereunder (the "Successor Board"), shall either (i) make appropriate provisions for the continuation of this Agreement on the same terms and conditions by substituting on an equitable basis for the Granted Shares then subject to this Agreement either the consideration payable with respect to the outstanding Shares of Common Stock in connection with the Corporate Transaction or securities of any successor or acquiring entity; or (ii) terminate this Agreement in exchange for a cash payment equal to the Fair Market Value of the Granted Shares then subject to the Lapsing Forfeiture Right.

(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 2.1(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 5. 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 Board of Directors of the Company or, if applicable, a committee of the Board of Directors, 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 Board of Directors of the Company or, if applicable, a committee of the Board of Directors, 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 2.1(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 2.1(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 2.1(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.

(i) If the Company shall pay a stock dividend or declare a stock split on or with respect to any of its Common Stock, or otherwise distribute securities of the Company to the holders of its Common Stock, the number of shares of stock or other securities of the Company issued with respect to the Common Stock then subject to the restrictions contained in this Agreement shall be added to the Granted Shares subject to this Agreement. If the Company shall distribute to its stockholders securities of another corporation, the securities of such other corporation, distributed with respect to the Common Stock then subject to the restrictions contained in this Agreement, shall be added to the Granted Shares subject to this Agreement.

(ii) If the outstanding shares of the Company's Common Stock shall be subdivided into a greater number of shares or combined into a smaller number of shares, or in the event of a reclassification of the outstanding shares of the Company's Common Stock, or if the Company shall be a party to a merger, consolidation or capital reorganization, there shall be substituted for the Granted Shares then subject to the restrictions contained in this Agreement such amount and kind of securities as are issued in such subdivision, combination, reclassification, merger, consolidation or capital reorganization in respect of the Common Stock subject to this Agreement.

2.2 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.

3. 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.

4. 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.

5. Legend. 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 December 8, 2014 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."

6. 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. In connection with the foregoing, the Participant agrees that if an arrangement to pay the withholding obligation in cash has not been received by the Company prior to the date that Granted Shares shall be released from the Lapsing Forfeiture Right, the Company shall authorize a registered broker(s) (the "Broker") to sell on the date that the Granted Shares shall be released from the Lapsing Forfeiture Right such number of Granted Shares as the Company instructs the Broker to sell to satisfy the Company's withholding obligations, after deduction of the Broker's commission, and the Broker shall remit to the Company the cash necessary in order for the Company to satisfy its withholding obligation. To the extent the proceeds of such sale exceed the Company's tax withholding obligation the Company agrees to pay such excess cash to the Participant as soon as practicable. In addition, if such sale is not sufficient to pay the Company's tax withholding obligation the Participant agrees to pay to the Company as soon as practicable, including through additional payroll withholding, the amount of any tax withholding obligation that is not satisfied by the sale of shares of Common Stock. The Participant agrees to hold the Company and the Broker harmless from all costs, damages or expenses relating to any such sale. The Participant acknowledges that the Company and the Broker are under no obligation to arrange for such sale at any particular price. In connection with such sale of Granted Shares, the Participant shall execute any such documents requested by the Broker in order to effectuate the sale of the Granted Shares and payment of the withholding obligation to the Company. The Company shall not deliver any shares of Common Stock to the Participant until all of the Company's withholding obligations have been satisfied. The Participant acknowledges that this paragraph is intended to comply with Section 10b5-1(c)(1(i)(B)

under the Securities Exchange Act of 1934, as amended. Notwithstanding the foregoing, the Company shall have the right to require the Company payments be made in cash instead of through the sale of shares of Common Stock if it reasonably believes that the sale of shares would violate applicable securities laws.

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 2.1, 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.

7. Equitable Relief. The Participant specifically acknowledges and agrees that in the event of a breach or threatened breach of the provisions of this Agreement, 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.

8. No Obligation to Maintain Relationship. The Company is not by this Agreement obligated to continue the Participant as an employee or consultant of the Company or an Affiliate. The Participant acknowledges: (i) that the grant of the Shares is discretionary in nature and 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; (ii) 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; (iii) that the Participant's participation in this Agreement is voluntary; (iv) 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 (v) 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.

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

If to the Company:

Synta Pharmaceuticals Corp.
45 Hartwell Avenue
Lexington, MA 02421
Attn: 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 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.

10. Benefit of Agreement. Subject to the 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.

11. 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 Massachusetts and agree that such litigation shall be conducted in the courts of the Commonwealth of Massachusetts or the federal courts of the United States for the District of Massachusetts.

12. 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.

13. Entire Agreement. This Agreement, together with the Severance Agreement, 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.

14. Modifications and Amendments; Waivers and Consents. The terms and provisions of this Agreement may be modified or amended by the Company in a manner which is not adverse to the Participant. 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.

15. 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.

16. 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.

17. 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 providing 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 Company's stock records; 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.

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

SYNTA PHARMACEUTICALS CORP.

By: /s/ Anne C. Whitaker
Name: Anne C. Whitaker
Title: President and Chief Executive Officer

Participant:

By: /s/ Marc Schneebaum
Print Name: Marc Schneebaum

EXHIBIT A

CONSENT OF SPOUSE/DOMESTIC PARTNER

I, , spouse or domestic partner of Marc Schneebaum, acknowledge that I have read the RESTRICTED STOCK AGREEMENT dated as of December 8, 2014 (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 Synta Pharmaceuticals Corp. (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 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement (Form S-3 No. 333-187242) of Synta Pharmaceuticals Corp., the Registration Statement (Form S-8 No. 333-141903) pertaining to the 2001 Stock Plan, the 2006 Stock Plan and the Non-qualified Stock Option Agreement dated May 27, 2004, the Registration Statement (Form S-8 No. 333-152824) pertaining to the Amended and Restated 2006 Stock Plan of Synta Pharmaceuticals Corp., the Registration Statement (Form S-8 No. 333-173862) pertaining to the Amended and Restated 2006 Stock Plan of Synta Pharmaceuticals Corp., the Registration Statement (Form S-8 No. 333-181117) pertaining to the Amended and Restated 2006 Stock Plan of Synta Pharmaceuticals Corp., the Registration Statement (Form S-8 No. 333-187243) pertaining to the Amended and Restated 2006 Stock Plan of Synta Pharmaceuticals Corp., and the Registration Statement (Form S-8 No. 333-194477) pertaining to the Amended and Restated 2006 Stock Plan of Synta Pharmaceuticals Corp., of our reports dated March 12, 2015, with respect to the consolidated financial statements of Synta Pharmaceuticals Corp. and the effectiveness of internal control over financial reporting of Synta Pharmaceuticals Corp. included in this Annual Report (Form 10-K) for the year ended December 31, 2014.

/s/ Ernst & Young LLP

Boston, Massachusetts
March 12, 2015

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Exhibit 31.1

CERTIFICATIONS UNDER SECTION 302

I, Anne C. Whitaker, certify that:

1. I have reviewed this Annual Report on Form 10-K of Synta Pharmaceuticals Corp.;

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.

Dated: March 12, 2015

/s/ ANNE C. WHITAKER

Anne C. Whitaker
President and Chief Executive Officer
(principal executive officer)

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Exhibit 31.2

CERTIFICATIONS UNDER SECTION 302

I, Marc Schneebaum, certify that:

1. I have reviewed this Annual Report on Form 10-K of Synta Pharmaceuticals Corp.;

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.

Dated: March 12, 2015

/s/ MARC R. SCHNEEBAUM

Marc R. Schneebaum
Senior Vice President, Chief Financial Officer
(principal accounting and financial officer)

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Exhibit 32.1

CERTIFICATIONS UNDER SECTION 906

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Synta Pharmaceuticals Corp., 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, 2014 (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 12, 2015

/s/ ANNE C. WHITAKER

Anne C. Whitaker
President and Chief Executive Officer
(principal executive officer)

Dated: March 12, 2015

/s/ MARC R. SCHNEEBAUM

Marc R. Schneebaum
Senior Vice President, Chief Financial Officer
(principal accounting and financial officer)

A signed original of this written statement required by Section 906 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.

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