MATEON THERAPEUTICS INC

FORM 10-K
(Annual Report)

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Industry	Biotechnology & Medical Research
Sector	Healthcare
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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2016

OR

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

For the transition period from _____ to _____

Commission File Number: 0-21990

MATEON THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**13-3679168**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
701 Gateway Boulevard, Suite 210 South San Francisco, CA	**94080**
(Address of principal executive offices)	*(Zip Code)*

Registrant's telephone number, including area code: (650) 635-7000

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

Title of Each Class	Name of Each Exchange on Which Registered
None	

Securities registered pursuant to Section 12(g) of the Act:
Common stock, par value $0.01 per share

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 (§ 229.405 of this chapter) 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. (Check one):

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☒
(Do not check if a 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 voting and non-voting 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, as of June 30, 2016 was approximately $18,532,000.

As of March 30, 2017, the aggregate number of outstanding shares of common stock of the registrant was 26,544,934.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's definitive Proxy Statement for the 2017 Annual Meeting of Stockholders are incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this Annual Report on Form 10-K.

SAFE HARBOR FOR FORWARD-LOOKING STATEMENTS UNDER THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This Annual Report on Form 10-K ("Annual Report") contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that involve substantial risks and uncertainties. We generally identify forward-looking statements by terminology such as "may," "will," "should," "expect," "plan," "anticipate," "could," "would," "intend," "target," "aim," "project," "believe," "estimate," "predict," "potential," "seek," "indicate," or "continue" or the negative of these terms or other similar words, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements regarding our or our management's expectations, hopes, beliefs, intentions or strategies regarding the future, such as our estimates regarding anticipated operating losses, future performance, future revenues and projected expenses; our liquidity and our expectations regarding our needs for and ability to raise additional capital; our ability to select and capitalize on commercially desirable product opportunities as a result of limited financial resources; our ability to manage our expenses effectively and raise the funds needed to continue our business; our ability to retain the services of our current executive officers, directors and principal consultants; the competitive nature of our industry and the possibility that our products or product candidates may become obsolete; our ability to obtain and maintain regulatory approval of our existing products and any future products we may develop; the clinical development of and the process of commercializing CA4P, which is also known as combretastatin A4-phosphate, fosbretabulin or fosbretabulin tromethamine; the efficacy of the combination of CA4P with bevacizumab; the clinical development of and the process of commercializing OXi4503; the combination of OXi4503 with cytarabine; the initiation, timing, progress and results of our preclinical and clinical trials, research and development programs; regulatory and legislative developments in the United States and foreign countries; the timing, costs and other limitations involved in obtaining regulatory approval for any product; the further preclinical or clinical development and commercialization of our product candidates; our ability to obtain and maintain orphan drug exclusivity for some of our product candidates; the potential benefits of our product candidates over other therapies; our ability to enter into and maintain any collaboration with respect to product candidates; our ability to continue to develop or commercialize our products or product candidates in the event any license agreements in place with third parties expire or are terminated; the performance and conduct of third parties, including our third-party manufacturers and third party service providers used in our clinical trials; our ability to obtain and maintain intellectual property protection for our products and operate our business without infringing upon the intellectual property rights of others; the potential liability exposure related to our products and our insurance coverage for such exposure; the successful development of our sales and marketing capabilities; the size and growth of the potential markets for our products and our ability to serve those markets; the rate and degree of market acceptance of any future products; the volatility of the price of our common stock; the ability to achieve secondary trading of our stock in certain states; the dilutive effects of potential future equity issuances; our expectation that no dividends will be declared on our common stock in the foreseeable future; our ability to maintain an effective system of internal controls; the payment and reimbursement methods used by private or governmental third-party payers; our ability to retain adequate staffing levels; unfavorable global economic conditions; a failure of our internal computer systems or those of our contractors and consultants; potential misconduct or other improper activities by our employees, contractors or consultants; the ability of our business continuity and disaster recovery plans to protect us in the event of a natural disaster; and other factors discussed elsewhere in this Annual Report or any document incorporated by reference herein or therein.

The words "may," "will," "should," "expect," "plan," "anticipate," "could," "would," "intend," "target," "aim," "project," "believe," "estimate," "predict," "potential," "seek," "indicate," or "continue" and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. The forward-looking statements contained in this Annual Report are based on our current expectations and beliefs concerning future developments and their potential effects on us. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in the section titled "Risk Factors." Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary from those projected in these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. The sections captioned "Risk Factors" and "Business," as well as other sections in this Annual Report or incorporated by reference into this Annual Report, discuss some of the factors that could contribute to these differences.

The forward-looking statements made in this Annual Report relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events.

This Annual Report also contains market data related to our business and industry. These market data include projections that are based on a number of assumptions. While we believe these assumptions to be reasonable and sound as of the date of this Annual Report, if these assumptions turn out to be incorrect, actual results may differ from the projections based on these assumptions. As a result, the markets for our product candidates may not grow at the rates projected by these data, or at all. The failure of these markets to grow at these projected rates may have a material adverse effect on our business, results of operations, financial condition and the market price of our common stock.

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PART I

ITEM 1. *BUSINESS*

Our Business

Overview

We are a biopharmaceutical company focused on the development of vascular disrupting agents, or VDAs, for the treatment of cancer. VDAs selectively target the vasculature of cancer tumors and obstruct a tumor's blood supply without disrupting the blood supply to normal tissues. Treatment with VDAs has been shown to lead to rapid and significant death of cancer cells within tumors.

VDAs are in a class of drugs called vascular targeted therapies, or VTTs, which also includes anti-angiogenic agents, or AAs. There are over 12 AAs approved in the U.S. for over 15 different oncology indications. According to Datamonitor, 2015 sales for AAs were estimated to exceed $10 billion. Genentech's bevacizumab (Avastin ®) had the greatest market share, with 2015 estimated sales of approximately $6.7 billion. Bevacizumab and other AA drugs work by preventing angiogenesis, or the growth of new blood vessels.

We are seeking to realize the full potential of VTTs in oncology by using the combination of VDAs and AAs to treat cancer. Our VDAs have been shown to rapidly cut off the blood supply to the tumor, which causes necrosis, or death, of the cancer cells in the interior of the tumor. Conversely, AAs inhibit angiogenesis, which is the process by which new tumor blood vessels form. If a VDA were given in the absence of an AA, angiogenesis would allow new blood vessels to re-vascularize the tumor, including the interior where the VDA had caused tumor cell necrosis.

Our current VDA development plans are focused on the combination of VDAs and AAs because the mechanism of action of each drug complements that of the other — disrupting tumor blood supply in two different ways instead of just one. We believe that our VDA's direct effect on established tumor blood vessels combined with the AA's prevention of new blood vessel formation results in a significantly greater benefit to patients than either drug alone. Our belief in the benefit of this combination is supported by numerous preclinical studies, as well as clinical studies which demonstrate improved progression-free survival and objective response rate, as well as trends in overall survival.

Interestingly, our VDAs have consistently shown a stronger treatment effect in larger tumors than in smaller tumors, which is in contrast to the majority of conventional therapies currently used for the treatment of cancer. The greater effect of our VDAs on larger tumors occurs because these larger tumors have a greater proportion of tumor cells which depend upon the tumor vasculature for their supply of oxygen and nutrients, and a smaller proportion of tumor cells that have exposure to the tumor rim, where normal tissue blood vessels can supply oxygen and nutrients to the tumor cells. The proportion of the tumor's blood vessels that are inside the tumor increases as the size of the tumor increases, based on volume-to-surface area ratios, allowing our drug candidates to occlude a greater percentage of a larger tumor's overall blood supply. The tumor cell necrosis caused by CA4P is greatest in the interior of the tumor, because cancer cells in the interior are fully reliant on the tumor vasculature for their blood supply. Cancer cells on or near the edge of the tumor can receive their blood supply through the tumor vasculature as well as from surrounding, normal vasculature.

We are currently developing two clinical stage investigational drugs, which are both VDAs — CA4P and OXi4503. Our lead compound is CA4P, which is also known as combretastatin A4-phosphate, fosbretabulin tromethamine, fosbretabulin and ZYBRESTAT ®. The largest clinical trial of CA4P conducted to date was a phase 2 clinical trial in recurrent ovarian cancer sponsored by the Gynecologic Oncology Group, or GOG, which was completed in 2014 and met its primary endpoint by demonstrating an improvement in progression-free survival for the patients who received CA4P. This trial, referred to as GOG-0186I, compared treatment with CA4P plus bevacizumab to treatment with bevacizumab alone. Based on the positive results of this clinical trial, we initiated the FOCUS Study in 2016, a phase 2/3 clinical trial of CA4P in platinum-resistant ovarian cancer, with the goal of determining whether the addition of CA4P improves upon the current standard of care. In the FOCUS Study, we are comparing treatment with CA4P, bevacizumab and physician's choice chemotherapy

(PCC) to treatment with bevacizumab and PCC. CA4P is also being studied in combination with pazopanib (Votrient ®) in an on-going phase 2 clinical trial in recurrent ovarian cancer that is sponsored by The Christie Hospital NHS Foundation Trust in the United Kingdom. Our second compound, OXi4503, is being studied in combination with cytarabine in an ascending-dose phase 1/2 clinical trial in patients with relapsed or refractory acute myeloid leukemia (AML) or myelodysplastic syndromes (MDS).

In 2016, we received Fast Track designation for CA4P for the treatment of platinum-resistant ovarian cancer. Companies with Fast Track designation are able to benefit from more frequent meetings and communications with the United States Food and Drug Administration, or the FDA, regarding development plans to support product registration, and may also be eligible for priority review of New Drug Applications, which shortens FDA's standard review timeline. We have also been granted orphan drug designation for CA4P for the treatment of ovarian cancer in the United States and the European Union, and for OXi4503 for the treatment of AML in the United States and the European Union.

To date, we have observed CA4P to be well tolerated in over 475 patients and to have clinical activity in a variety of indications in addition to ovarian cancer.

CA4P Development Program

CA4P is a reversible tubulin-binding agent that selectively targets endothelial cells, which make up the interior lining of blood vessel walls in most solid tumors. CA4P causes these endothelial cells to change shape and detach, which obstructs the flow of blood to the tumor and starves the tumor of vital nutrients and oxygen. The resultant tumor ischemia leads to rapid downstream tumor cell death. Although CA4P acts quickly, within minutes of infusion, and its circulating half-life is approximately 4 hours, the anti-tumor effects caused by CA4P generally last for several weeks, until tumor regrowth aided by revascularization occurs. CA4P is given to patients via a 10 minute intravenous infusion.

Ovarian Cancer

Our primary focus for 2017 will be the development of CA4P for platinum-resistant ovarian cancer.

Approximately 22,000 women in the U.S. are diagnosed with ovarian cancer each year. This form of cancer is thought to begin in the ovaries and often spreads to the rest of the pelvis and abdomen prior to detection, resulting in a relatively poor prognosis. More than 60% of women diagnosed with ovarian cancer are in stage III or IV, making ovarian cancer difficult to treat and often fatal, with a five-year survival rate of approximately 45% — a rate which is largely unchanged since the 1990s. Overall, approximately 80% of patients diagnosed with ovarian epithelial, fallopian tube, and primary peritoneal cancer will relapse after first-line platinum-based and taxane-based chemotherapy. When treating recurrent ovarian cancer, the time between receiving the last dose of platinum-based chemotherapy and disease recurrence is used to help determine the choice of therapy used in the next line of treatment. Patients are considered to have platinum-resistant disease if the cancer progresses within six months of completing platinum-based chemotherapy. Approximately 25% of those who relapse after initial treatment, or more than 4,000 women, have platinum-resistant cancer, the most difficult-to-treat form of the disease. Additionally, a majority of patients who are not initially platinum-resistant and who may achieve remission following first-line therapy will also develop recurrent disease. There are relatively few treatments that have been approved for ovarian cancer, and fewer for platinum-resistant ovarian cancer. Approved drugs for ovarian cancer include bevacizumab, carboplatin and cisplatin, gemcitabine, doxorubicin, paclitaxel and olaparib. Many patients eventually become resistant to platinum-based therapies, and new treatment agents are needed.

In December 2014, the FDA approved bevacizumab in combination with chemotherapy (paclitaxel, pegylated liposomal doxorubicin, or topotecan) for the treatment of women with platinum-resistant ovarian cancer, based on results from the phase 3 AURELIA trial, which had a primary endpoint of PFS, or progression-free survival. Accordingly, PFS is the primary endpoint for our FOCUS trial. Bevacizumab is also approved in the EU in combination with different chemotherapy regimens for platinum-resistant and platinum-sensitive ovarian cancer, and the EU approvals were also based on PFS. In December 2016, the FDA approved bevacizumab for the treatment of platinum-sensitive ovarian cancer also, which could expand our market opportunity for CA4P, although we are presently not studying CA4P in platinum-sensitive disease.

CA4P has been granted Fast Track designation in the U.S. for treatment of platinum-resistant ovarian cancer. CA4P has also been granted orphan drug designation in both the U.S. and the European Union for the treatment of ovarian cancer.

CA4P in Combination with Bevacizumab—Completed Phase 2 Clinical Trial with Positive Results (GOG-0186I)

Genentech's bevacizumab is an anti-vascular endothelial growth factor, or VEGF, monoclonal antibody which has been approved for the treatment of ovarian cancer in the United States and elsewhere. The GOG-0186I clinical trial was conducted by the GOG, now part of NRG Oncology, under the sponsorship of the Cancer Therapy Evaluation Program (CTEP) of the National Cancer Institute (NCI), and was a randomized, two-arm phase 2 clinical trial evaluating CA4P plus bevacizumab compared to bevacizumab alone in patients with recurrent ovarian cancer.

The GOG-0186I clinical trial enrolled a total of 107 patients with recurrent ovarian cancer at 67 clinical sites in the United States. The results indicated a statistically significant increase in progression-free survival (PFS) in the combination arm, which was the primary endpoint of the trial, with a p-value of 0.049 (pre-specified analysis using a one-sided test; 10% level of significance). The hazard ratio was 0.685, with a 90% 2-sided confidence interval (CI) of 0.47 ~1.00. Median PFS was 7.3 months for CA4P plus bevacizumab (n=54), compared to 4.8 months for bevacizumab alone (n= 53). Patients in both arms were treated until disease progression or adverse effects prohibited further therapy.

In a post-hoc subgroup analysis, data showed that patients who were platinum-resistant had an even greater improvement in PFS with the combination. Among the 27 patients who were platinum-resistant, median PFS was 6.7 months for those receiving CA4P plus bevacizumab compared to 3.4 months for those receiving bevacizumab alone, and the results were statistically significant with a p-value of 0.01 and a hazard ratio of 0.57. These findings suggest that adding CA4P to bevacizumab has a greater effect in the difficult-to-treat platinum-resistant patient group than it does for platinum-sensitive patients. Although the results were stronger for the platinum-resistant patients, the 80 patients who were platinum-sensitive still showed a numerical improvement in PFS for the combination therapy, with a median PFS of 7.6 months for those receiving CA4P plus bevacizumab compared to 6.1 months for those receiving bevacizumab alone, although the results were not statistically significant, with a p-value of 0.139 and a hazard ratio of 0.67.

Based on the final dataset as of November 2015, the median overall survival (OS) for the GOG-0186I Study in the intent-to-treat (ITT) group was 3.2 months longer for the CA4P-treated patients compared to the control patients (25.2 vs. 22.0 months, respectively; HR=0.83, p=NS).

The GOG-0186I Study included 81 patients (75.7% of study patients) with recurrent ovarian cancer that was deemed "measurable", as defined by RECIST criteria, and 26 patients (24.3%) deemed "non-measurable." Measurable disease is generally defined as primary tumor sizes greater than 1 cm in diameter, while non-measurable tumors are generally identified and monitored by increased serum CA-125 antigen levels, ascites, or other clinical signs of disease. Patients with measurable disease who received the combination of CA4P and bevacizumab achieved a higher objective response rate, or ORR, a secondary endpoint in the clinical trial, measured according to RECIST criteria. Although not a statistically significant result, patients receiving the combination had an ORR of 35.7% (n=42; 90% CI 23.5 ~ 49.5%) compared to 28.2% for patients on bevacizumab alone (n=39; 90% CI 16.7 ~ 42.3%). In the subgroup of platinum-resistant patients, the addition of CA4P to bevacizumab increased ORR to 40.0% (n=10) compared to 12.5% (n=8) for bevacizumab alone.

More importantly, patients with measurable disease treated with CA4P had a 5.6 month improvement in median OS (26.8 vs. 21.2 months; 22% reduction in the risk of death; HR=0.78, not statistically significant), and a 3.7 month improvement in progression free survival (PFS) (9.8 vs. 6.1 months; HR=0.60, p=0.027) compared to control patients with measurable disease. Additional analyses were conducted on patients with measurable disease whose tumors were larger than the median baseline tumor size (tumor size ≥ 5.7 cm; n=41), showing CA4P-treated patients with these larger tumors experienced a 48% reduction in the risk of death (HR=0.52; p=0.095) and a 6.2 month improvement in median PFS (10.5 vs. 4.3 months; HR=0.55, p=0.071) compared to control patients.

All adverse events in the clinical trial were manageable, with one Grade 4 event occurring in each treatment arm. Consistent with prior clinical experience with CA4P, patients in the combination arm experienced an increased incidence of Grade 3 hypertension compared to the control arm (17 events for the combination compared to 10 events for bevacizumab alone). One patient on the combination regimen had a Grade 3 thromboembolic event. All cases of hypertension were managed with anti-hypertensive treatments, as specified in the clinical trial protocol.

CA4P in Combination with Bevacizumab and Physician's Choice Chemotherapy—Phase 2/3 FOCUS Study

Based on the positive overall results from the GOG-0186I clinical trial in recurrent ovarian cancer, including the stronger results among the subgroup of platinum-resistant patients and among the patients with measurable disease, we initiated the FOCUS Clinical Study in June 2016. FOCUS is a phase 2/3 clinical trial of CA4P seeking to demonstrate whether CA4P improves upon the current standard of care for platinum-resistant ovarian cancer — the current standard of care being treatment with both bevacizumab and chemotherapy. The primary endpoint of FOCUS is PFS, and secondary endpoints include ORR, OS and safety. If results from the second stage of the clinical study meet the primary endpoint, we plan to submit a New Drug Application, or NDA, to the FDA. The FDA has approved the protocol for FOCUS.

In FOCUS, we are enrolling platinum-resistant ovarian cancer patients with measurable disease, and randomizing them on a 1:1 basis into either the treatment group or the control group. The treatment group receives CA4P, bevacizumab and PCC, while the control group receives only bevacizumab and PCC. The clinical trial is designed in two sequential stages — in the first stage we are enrolling up to 80 patients and conducting interim analyses after 20, 40, 60 and 80 patients have been treated for approximately three months. The goal of the first stage is to verify efficacy seen in the GOG-0186I Study, confirm the safety of the treatment regimen in this population, and to confirm powering assumptions for the second stage. In the second stage, which is designed to support registration of CA4P in the United States and elsewhere, we plan to enroll up to 356 additional patients.

The FOCUS Study is currently enrolling patients in the United States and western Europe, with the first interim analysis expected in April 2017.

CA4P in Combination with Pazopanib—Ongoing Phase 2 Clinical Trial

Pazopanib is an anti-angiogenic oral tyrosine kinase inhibitor that is currently approved by the FDA for the treatment of renal cell carcinoma (RCC) and soft tissue sarcoma (STS). Pazopanib is also approved for ovarian and other cancers in the European Union, and was initially developed by GlaxoSmithKline, then sold to Novartis in 2015. We believe that using CA4P in combination with pazopanib may provide a clinically active yet potentially better tolerated alternative to the current standard of care, cytotoxic chemotherapy, for relapsed ovarian cancer.

The PAZOFOS trial in advanced recurrent ovarian cancer patients consists of a 12 patient phase 1b dose escalation portion with the combination of pazopanib and CA4P, which has been completed, followed by a 120 patient randomized phase 2 portion comparing pazopanib plus CA4P to pazopanib alone in patients with relapsed ovarian cancer. We are incurring limited costs for this trial, which is sponsored by The Christie Hospital NHS Foundation Trust and coordinated by the Manchester Academic Health Science Centre, Trials Coordination Unit, or MAHSC-CTU, with additional support from The University of Manchester, the Royal Marsden NHS Foundation Trust and Mount Vernon Cancer Centre (part of the East and North Hertfordshire NHS Trust).

In October 2014, the first patient was enrolled in the phase 1b portion of the trial, with the goal of finding an appropriate combination dose of CA4P and pazopanib for the phase 2 portion of the trial. Following the investigators' identification of an appropriate dose combination, in July 2016 the first patient was enrolled in the phase 2 portion of the trial. The primary endpoint of the trial is PFS, and secondary endpoints include ORR, OS and safety.

Neuroendocrine Tumors

Approximately 14,000 patients in the U.S. are diagnosed with neuroendocrine tumors, or NETs, each year. Since patients with NETs can have prolonged survival rates of over 5 years, it is estimated that the overall prevalence is much higher, approximating 100,000 patients in the U.S. These tumors can produce increased amounts of vasoactive

substances including hormones, many of which are biologically active and can result in debilitating symptoms including flushing, diarrhea, weight loss and, less frequently, bronchoconstriction and heart failure. It is our belief, based on the available preclinical data, that by reducing blood flow to these tumors using CA4P, we may be able to reduce the production of tumor-derived substances, including the biologically active hormones.

We have completed a phase 2 monotherapy clinical trial of CA4P in 18 patients with gastrointestinal or pancreatic NETs and elevated biomarkers. One patient (6%) experienced significant symptomatic improvement as measured by ECOG Status and had a partial response per investigator-assessed RECIST criteria, and an additional 7 patients (39%) had stable disease. In addition, a majority of patients (53%) experienced an improvement in patient-reported quality of life. A statistically significant mean change in biomarkers from baseline, the primary endpoint of the study, was not achieved due to the small sample size along with a high intra-and inter-patient variability observed in the biomarkers. A total of 7 patients were enrolled in a follow-up trial, of which 5 patients (71%) had stable disease, including one that continued for 14 months. The partial response and stable disease analyses, as well as other measures from the trial, suggest that CA4P monotherapy has activity in this indication. Based on the evidence of efficacy observed in this trial, plus an understanding of the benefits of VTT combination therapy, a lead investigator in this trial is sponsoring and funding a 20 patient study in NETs using CA4P in combination with everolimus (AFINITOR ®, marketed by Novartis), an anti-angiogenic agent which is already approved and commonly used in this indication.

CA4P has been granted orphan drug designation for the treatment of neuroendocrine tumors in both the U.S. and the European Union.

Glioblastoma Multiforme

We are exploring recurrent glioblastoma multiforme, or GBM, as an additional indication for CA4P because:

- we have preclinical data that demonstrate a positive treatment effect in GBM tumor models,
- similar to ovarian cancer tumors, GBM tumors are highly vascular and thus we believe will be quite susceptible to CA4P's mechanism of action,
- there are currently no adequate therapies for most GBM patients, and accordingly the indication has a high unmet medical need,
- bevacizumab is approved for patients with progressive disease in this indication following prior therapy, and
- rapid enrollment would be expected in clinical trials for this indication.

CA4P has been granted orphan drug designation for the treatment of glioma in the United States. If funds become available for us to initiate and complete a clinical trial in GBM, we expect that we would pursue a trial. However, we currently do not plan to initiate a GBM clinical trial in the near term in order to conserve current resources.

Anaplastic Thyroid Cancer, or ATC

We have previously conducted a randomized, controlled clinical trial in ATC. ATC is one of the most aggressive tumors known and has very few treatment options. Results of the FACT Study, which combined CA4P with chemotherapy and which, in 2010, we terminated early (after 80 patients were enrolled) due to slow enrollment, showed a numerical improvement in OS for the CA4P group (5.2 months) compared to the control group (4.0 months), although the results were not statistically significant. Results also showed an improvement in ORR for the CA4P group (20.0%) compared to the control group (16.0%), although these results were not statistically significant. We believe the numerical improvements shown for the CA4P group compared to the control group provide supportive evidence for the potential benefit of CA4P against this tumor type, and for the overall potential of CA4P against other highly vascular solid tumors.

Non-Small Cell Lung Carcinoma, or NSCLC

We have previously conducted a randomized, controlled clinical trial in NSCLC. NSCLC accounts for most cases of lung cancer, and generally does not respond well to chemotherapy. Results of the FALCON Study,

completed in 2011, which enrolled 63 patients and combined CA4P with both bevacizumab and chemotherapy, showed a numerical improvement in ORR for the CA4P group (56.3%) compared to the control group (35.5%), although the results were not statistically significant. The FALCON Study only enrolled patients who had not previously received chemotherapy. We believe the patients' initial exposure to chemotherapy, requiring six cycles in the study, contributed to a high dropout rate among both treatment groups (46.8% and 38.7% for CA4P and control, respectively), making evaluation of PFS, the primary endpoint, difficult. However, we believe the numerical improvements in response rates shown for the CA4P group compared to the control group provide supportive evidence for the potential benefit of CA4P against this tumor type, and for the overall potential of CA4P against other highly vascular solid tumors.

Combination with Immune Oncology Agents—Preclinical Research

Over the last several years, there have been considerable advances in cancer immunotherapy, which makes use of the immune system to treat cancer. However, these immune oncology agents have significant limitations when used as single agents to treat cancer, since relatively few patients achieve a durable clinical response following treatment. Because CA4P causes tumor cell necrosis within hours of its administration, we believe it may in turn release into the circulation tumor antigens that enhance the immune system, and consequently enhance the presence and activity of T-cells within tumors. We believe CA4P's potential enhanced immunologic effect may result in more and/or better clinical responses in certain cancers when combined with immune oncology agents, including in patients who have not experienced a response to therapy with immune oncology agents alone.

We have completed several preclinical studies evaluating CA4P in combination with immune oncology agents. Of these studies, the best results were found combining CA4P with an anti-CTLA4 antibody in an EMT-6 mammary tumor model. In this study, 7 of 8 mice receiving a combination of CA4P and an anti-CTLA4 antibody experienced complete remission of their tumors, compared to 1 of 8 in the CA4P monotherapy arm and 2 of 8 in the anti-CTLA4 antibody monotherapy arm. Three of four follow-up studies have also indicated that CA4P combined with immune oncology agents can delay tumor growth — these studies were conducted in a larger tumor EMT-6 mammary model, a C3H mammary model and a CT26 colon model, providing additional supportive evidence that CA4P may enhance anti-CTLA4 antibody activity, as well as initial evidence that CA4P may enhance anti PD-1 and PD-L1 activity. Based on these initial results, we are now planning additional preclinical work in this area.

OXi4503 Development Program

In addition to pursuing development of CA4P, we are also pursuing the development of a second product candidate, OXi4503, a novel, dual-mechanism VDA, which not only has been shown to reduce tumor blood flow but which also forms a potentially anti-proliferative metabolite. We believe that this dual mechanism of OXi4503 may result in enhanced anti-tumor activity in certain tumor types. Based on preclinical data, we believe that OXi4503 may be particularly active in certain cancers, including AML, which have relatively high levels of the enzymes that facilitate the conversion of OXi4503 into a metabolite that directly kills tumor cells. OXi4503 has shown potent anti-tumor activity in preclinical studies of solid tumors and AML, and in two clinical studies in advanced solid tumors and liver tumors, both as a single agent and in combination with other anti-proliferative agents.

Acute Myeloid Leukemia

AML is a cancer of the myeloid blood cells, with approximately 10,500 new cases each year in the U.S. AML is characterized by the rapid growth of abnormal white blood cells that pollute bone marrow and interfere with the production of normal blood cells. OXi4503 has been granted orphan drug designation in both the U.S. and the European Union for the treatment of AML.

With support from The Leukemia & Lymphoma Society's Therapy Acceleration Program, the University of Florida sponsored a phase 1 clinical trial of patients with AML or MDS, a related disorder of the normal blood formation process. 18 patients were enrolled into UF4503, an open label, dose-escalating clinical trial which was

designed to assess the safety profile, maximum tolerated dose and biologic activity of OXi4503. In October 2015 we closed the investigator-sponsored study and initiated a Mateon-sponsored study, OX1222, prior to the determination of a maximum tolerated dose, in order to bring the clinical trial under our direct management and expand the number of sites enrolling patients.

Initial data from UF4503 was presented at the December 2013 annual meeting of the American Society of Hematology, or ASH. Among the first 13 patients treated at the two lowest dose levels, two patients showed stable disease, one patient had a partial remission and one patient achieved a complete bone marrow response. Side effects included increases in D-dimer (a substance in the blood that is released when a blood clot breaks up), bone pain, fever, chills and flu-like symptoms. Accordingly, OXi4503 appeared to be reasonably well-tolerated based on these results in patients with relapsed and refractory AML and MDS.

In December 2015 we initiated the second stage of OX1222, in which ascending doses of OXi4503 are being used in combination with cytarabine, an FDA-approved drug for the treatment of AML. Data from the first two cohorts of the Mateon-sponsored trial was presented at the December 2016 annual meeting of ASH. The first cohort enrolled 6 patients, each receiving a dose of 3.75 mg/m ^{2} of OXi4503 in combination with an intermediate dose (1g/m ^{2} /day x 5 days) of cytarabine. The second cohort enrolled 4 patients, each receiving a dose of 4.68 mg/m ^{2} of OXi4503 in combination with the same intermediate dose of cytarabine. Patients enrolled into the trial were treatment-resistant, end-stage AML/MDS patients who had on average four prior therapy failures before entering the study. In total 2 of 10 (20%) patients achieved a complete remission (CR) on treatment — one patient of six (17%) responded in the 3.75 mg/m ^{2} dose cohort, and one patient of four (25%) responded in the 4.68 mg/m ^{2} dose cohort. One of these two patients remains in CR at 9 months following treatment with OXi4503 and the other remained in CR for approximately 6 months before the disease recurred.

OXi4503 was generally well tolerated in the first two cohorts of the study. The adverse event profile remains similar to that seen in the monotherapy portion of the trial, with coagulopathies and hematological adverse events the most significant events. The most common drug-related SAEs were anemia (30%), neutropenia (30%), D-dimer increase (20%), thrombocytopenia (20%), and AST increase (20%). One patient in the 3.75 mg/m ^{2} cohort experienced a dose-limiting toxicity of hypofibrinogenemia, or low levels of fibrinogen in the blood, with no clinical evidence of bleeding, which resolved with treatment.

In March 2017 we announced preliminary data from the third cohort, which enrolled 4 patients at a dose of 6.25 mg/m ^{2} of OXi4503 in combination with the same intermediate dose of cytarabine. In the third cohort, one patient (25%) had a CR and one additional patient in the study remained in treatment. The CR in this cohort is particularly encouraging because the patient has a high risk TP53 gene mutation. Similar to the first two cohorts, OXi4503 was generally well tolerated and adverse events were also similar to the first two cohorts, with no significant adverse events. There were no dose-limiting toxicities observed in the third cohort, and following a safety review committee recommendation we initiated enrollment in the fourth cohort, at an OXi4503 dose of 7.81 mg/m ^{2} .

Vascular Disrupting Agents: Background

According to Cancer Research UK, a non-profit cancer research organization in the United Kingdom, nearly 90% of all cancers are solid tumors that are dependent upon a continually evolving vascular supply for their growth and survival. VTTs, which include AAs and VDAs, are designed to interfere with a tumor's vascular supply.

AAs are drugs that interfere with tumor blood vessel growth, as described further in the table below, and since 2004, a number have been approved for a variety of cancer indications. Development of AAs for new indications continues, and physician adoption of AAs has been rapid. VDAs are drugs that disrupt existing tumor blood vessels. Although a number of VDAs have been in clinical development, to date none have been approved. We believe that the historical focus on development of VDAs as a single agent, rather than as an agent for use in combination with an AA, is the primary reason that VDA development to date has generally not been successful.

While VDAs such as CA4P deprive tumors of blood supply, as do AAs, the mechanism of action of VDAs is quite different than that of AAs. VDAs such as CA4P have a direct effect on existing tumor blood vessels, and act by rapidly obstructing the blood supply to cancer tumors. AAs, on the other hand, act by preventing the

formation of new blood vessels to cancer tumors. We believe that our VDA drug candidates and approved AAs are complementary to each other in that one agent destroys existing tumor vasculature and the other prevents new tumor vasculature from forming. We intend for substantially all of our future CA4P development to be focused on this combination, rather than pursuing CA4P approval as a monotherapy. We believe our VDAs are a second generation of VTTs that have the potential to improve upon the efficacy of AAs, the first generation of VTTs. Our belief in the synergy of CA4P and AAs is supported by the data we have gathered showing an improvement in certain patient outcomes when both agents are used in combination. Several preclinical studies, as well as the results of the phase 2 GOG-0186I clinical trial, have confirmed the potential of this approach.

As illustrated in the table below, VDA and anti-angiogenic drugs act via different mechanisms to produce complementary biological and anti-vascular effects with mostly non-overlapping side effects. In preclinical studies, VDA plus anti-angiogenic drug combinations demonstrate robust and additive anti-tumor effects. Results from human clinical trials with combinations of CA4P and bevacizumab provide support and initial clinical validation for combining these agents to significantly increase clinical activity without significantly increasing side-effects.

	Anti-Angiogenic Drugs	CA4P	OXi4503
Molecule Characteristics	Bevacizumab, ranibizumab are monoclonal antibodies (MABs) Sorafenib, sunitinib, pegaptanib, pazopanib, cediranib, axitinib, etc. are small molecule tyrosine kinase inhibitors (TKIs)	Small molecule reversible inhibitor of tubulin polymerization	Small molecule reversible inhibitor of tubulin polymerization Also forms cytotoxic metabolite (orthoquinone) via oxidation
Target	Tumor rim	Tumor core	Tumor core Metabolite targets malignant cells of myeloid lineage
Mechanism	MABs bind to VEGF, thereby rendering it inactive TKIs inhibit the VEGF receptor, thereby inhibiting its activation	Rapid and selective binding to tubulin, which destabilizes microtubules, changes the shape of endothelial cells and disrupts the cell junctional protein VE-cadherin	Similar to CA4P OXi4503 also produces an orthoquinone metabolite that has an anti-proliferative effect on leukemic cells
Biological Effect	Continuously inhibit pro-angiogenic growth factor signaling (e.g., VEGF) to prevent formation and growth of new blood vessels throughout the tumor rim	Occludes pre-existing abnormal tumor blood vessels that feed tumors	Similar to CA4P OXi4503 also temporarily mobilizes hematopoietic and leukemic cells from the bone marrow
Rapidity of Effect	Weeks	Hours	Hours

	Anti-Angiogenic Drugs	CA4P	OXi4503
Target tissue	All angiogenesis	Selective for abnormal vasculature characteristically seen in tumor blood vessels	Similar to CA4P OXi4503 also makes leukemic cells mobilized from the bone marrow vulnerable to the effects of its orthoquinone metabolite
Plasma Half-life	MABs remain in circulation for days or weeks TKI half-lives vary, average range is 4-12 hours	Approximately 4 hours	Approximately 2 hours OXi4503 metabolite half-life is approximately 20 hours
Side Effects	Chronic hypertension with long-term use; Acute-impairment in wound healing; Hemorrhage, hemoptysis, gastrointestinal perforation, proteinuria, nephrotic syndrome, thromboembolic events, etc.	Transient blood pressure increases; Tumor pain, nausea, hematological adverse events; Overlapping with anti-angiogenics: no cumulative toxicities observed	Transient acute blood pressure increases; Tumor pain, nausea, vomiting, headache, fatigue; Effects on hematopoiesis and white blood cell counts; In AML — similar to solid tumors with more pronounced effects on coagulation and hematopoiesis

We believe our VDA drug candidates act on tumor blood vessels via two complementary mechanisms, tubulin depolymerization and disengagement of the junctional protein VE-cadherin, which cause a change in the shape of tumor vascular endothelial cells, tumor vessel occlusion, and the subsequent blockage of blood-flow to the tumor, which deprives the tumor of oxygen and nutrients essential for survival.

In vitro studies have demonstrated that our VDA drug candidates act in a reversible fashion on tubulin inside newly-formed and growing endothelial cells, such as the vascular endothelial cells comprising tumor vasculature. By binding to the tubulin, CA4P is able to alter the structural framework that normally maintains the cells' flat shape. When this occurs, the shape of the cells changes from flat to round, resulting in physical blockage of the blood vessels. The resulting shutdown in blood-flow then deprives tumor cells of the oxygen and nutrients necessary for maintenance and growth and also prevents tumor cells from being able to excrete toxic metabolic waste products. The consequence of the blockage is extensive tumor cell death.

Preclinical research, published in the November 2005 issue of the Journal of Clinical Investigation, showed that CA4P also disrupts the molecular engagement of VE-cadherin, a junctional protein important for endothelial cell survival and function. The authors of the research article conclude that this effect only occurs in endothelial cells which lack contact with smooth muscle cells, a known feature of abnormal vasculature associated with tumors and other disease processes. The disengagement of VE-cadherin leads to endothelial cell detachment, which in turn, can cause permanent physical blockage of vessels.

Preclinical and clinical study results indicate that CA4P exerts anti-vascular effects rapidly, within hours of administration, and the half-life of the active form of CA4P in humans is approximately four hours. In part because the half-life of the active form of CA4P is relatively short, the effects of CA4P on tubulin are reversible, and the pharmacodynamic effect lasts for weeks, CA4P is typically administered no more frequently than once per week. The side-effects of CA4P are typically transient in nature, limited to the period of time following administration when the active form of CA4P is in the body in significant concentrations. This contrasts with AAs, which are typically administered on a chronic basis so as to constantly maintain levels of drug in the body. Currently approved AAs generally exert their tumor blood-vessel growth inhibiting effects over days to weeks to

months, and as a result can cause a variety of chronic side-effects that are not limited to the immediate period following administration.

Side-effects associated with CA4P are generally transient and manageable. The most frequent CA4P side-effects include acute blood pressure increases, infusion-related side effects such as nausea, vomiting, headache and fatigue, and tumor pain, which is consistent with the drug's mechanism-of-action. Incrementally, we have noted that approximately 15-30% more patients treated with CA4P experience clinically-significant acute blood pressure increases compared to control patients. The acute blood pressure increases are often manageable by controlling underlying hypertension or treating with short-acting anti-hypertensives prior to CA4P infusion. The incidence of serious cardiovascular side-effects such as angina and myocardial ischemia observed across all studies to date (including early studies in which hypertension management and prevention was not employed) was less than 3%, a frequency comparable to that reported with approved anti-angiogenic agents such as bevacizumab, sunitinib and sorafenib.

Collaborative Research and Development Arrangements

Our primary focus is on advancing the clinical development of our drug candidates CA4P and OXi4503. We are also seeking to find additional potential uses for our clinical candidates and to identify new preclinical candidates that are complementary to our VDAs. In order to help achieve these objectives, we have established relationships with universities, research organizations and other institutions in the fields of our interest.

We plan to continue to rely on these external relationships as our programs advance, although the composition of our external relationships may change. Currently, we have collaborative agreements and arrangements with a number of institutions which we utilize to perform certain activities associated with drug discovery and drug development. In 2016, collaborations and agreements were ongoing with several universities and research institutions, including the following:

- Arizona State University
- Baylor University
- UT Southwestern, Texas
- Gynecologic Oncology Group, and the Cancer Therapy Evaluation Program of the National Cancer Institute
- University of Florida
- Lonza, Ltd.

For rights to CA4P, we have secured a technology license from Arizona State University, or ASU. The ASU license is an exclusive, world-wide, royalty-bearing license for commercial development, use and sale of products or services covered by certain patent rights to particular combretastatins, including among others, CA4P and OXi4503. Combretastatins were originally isolated from the bark of the South African Bush Willow tree by researchers from Arizona State University but are now created by synthetic means and have tubulin-dependent anti-vascular and anti-proliferative properties. Under the ASU license, we have the right to grant sublicenses. ASU is entitled to single-digit royalty payments under the license agreement during the term of the patents licensed from ASU. We bear the costs of preparing, filing, prosecuting and maintaining all patent applications under the ASU license. Under the license agreement, we have agreed to diligently proceed with the development, manufacture and sale of products using the licensed technology. ASU has the first responsibility of enforcing patents under the license agreement. License payments made to ASU to date have amounted to $2,700,000, with no further license payments due on the combretastatins we are developing. The agreement remains in force until the expiration of the last to expire patent subject to the ASU license. Either party may terminate the ASU license agreement upon material default or bankruptcy of the other party. In addition, we may terminate the agreement if we determine that filing for regulatory approval is not warranted or economically feasible or upon two months' written notice.

We also have an exclusive, world-wide, royalty-bearing license from Bristol-Myers Squibb, or BMS, for commercial development, use and sale of products or services covered by certain patent rights to particular

combretastatins, including among others, CA4P. Under the BMS license, we have the right to grant sublicenses, and BMS is entitled to low single-digit royalty payments for all commercial sales plus any remuneration we receive for sale of CA4P under named patient or compassionate use programs. All licensing fees and milestone payments under the BMS license, in the aggregate amount of $1,080,000, have been paid. We bear the costs of preparing, filing, prosecuting and maintaining all patent applications under the BMS license and have a right, but not a duty, of enforcing patents covered by the license. Either party may terminate the BMS license upon material default of the other party. The term of the BMS license ends upon the expiration of the licensed patents. The latest United States patent licensed under the BMS license is scheduled to expire in December 2021, excluding a patent term extension available under the Hatch-Waxman Act.

Under a sponsored research agreement with Baylor University, we are pursuing discovery and development of additional novel, small-molecule therapeutics for the treatment of cancer, including small-molecule cathepsin-K inhibitors, cathepsin-L inhibitors and hypoxia-activated VDAs. Cathepsin-L is an enzyme involved in protein degradation and has been shown to be closely involved in the processes of angiogenesis and metastasis. Small molecule inhibitors may have the potential to slow tumor growth and metastasis in a manner we believe could be complementary with our VDA therapeutics. We believe that our hypoxia-activated VDAs could serve as line-extension products to CA4P and/or OXi4503. We also have an exclusive license from Baylor University to novel compositions developed for the treatment of vascular disorders, inflammation, parasitic diseases and infections, fungal diseases and infections and/or cancer. We have the right to grant sublicenses under the Baylor license. The agreement with Baylor provides for low-single-digit royalties to be paid by us for sales generated through use of Baylor's compounds. Further, commencing in the first year that we provide no research funding to Baylor University we must pay a minimum annual royalty payment of $40,000. We are not required to pay Baylor for use of Baylor's compounds other than pursuant to this royalty arrangement. We are entitled to file, prosecute and maintain patent applications on products for which we have a license under this agreement. We have made a one-time payment of $50,000 for the licensing fee that was used as a credit against research expenses generated by Baylor. Either party may terminate the license agreement upon material default of the other party. The term of the license shall end upon the expiration of the licensed patents. The latest U.S. patent licensed under this agreement is scheduled to expire in November 2030.

We previously licensed certain patents related to vascular disrupting agents for treating neuroendocrine tumors and associated symptoms and syndromes from Angiogene Pharmaceuticals Ltd. prior to our termination of the agreement in 2016.

Company Background

We were originally incorporated in 1988 in New York as OXiGENE, Inc., reincorporating in Delaware in 1992. In 2016, we changed our name to Mateon Therapeutics, Inc. Our principal corporate office is in the United States at 701 Gateway Boulevard, Suite 210, South San Francisco, California 94080 (telephone: (650) 635-7000, fax: (650) 635-7001). Our Internet address is www.mateon.com. 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 to you free of charge through the "Investors & News" section of our web site as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the Securities and Exchange Commission. Information contained on, or that can be accessed through, our web site is not and shall not be deemed to be a part of this Annual Report on Form 10-K.

REGULATORY MATTERS

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing and export and import of products such as those we are developing. 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.

U.S. Drug Development Process

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

- completion of preclinical laboratory tests, animal studies and formulation studies according to Good Laboratory Practices (GLP) or other applicable regulations;
- submission to the FDA of an Investigational New Drug Application, or IND, which must be first approved by the FDA before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to Good Clinical Practices (GCP) 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 drug is produced to assess compliance with current good manufacturing practice, or cGMP, to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- satisfactory completion of FDA inspections of clinical sites and GLP toxicology studies; and
- FDA review and approval of the NDA.

The testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for our product candidates will be granted on a timely basis, if at all.

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

All clinical trials must be conducted under the supervision of qualified investigators in accordance with GCP regulations. These regulations include the requirement that all research subjects provide informed consent. Further, an institutional review board, or IRB, must review and approve the plan for any clinical trial before it commences at any institution. An IRB considers, among other things, whether the risks to individuals participating in the trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the information regarding the trial and the consent form that must be provided to each trial subject or his or her legal representative and must monitor the clinical trial until completed.

Each new clinical protocol must be submitted to the IND for FDA review, and to the IRBs for approval. Protocols detail, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety and efficacy in Phase 2 and 3 clinical trials.

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 and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- Phase 2: Involves clinical trials in a limited patient population to identify possible adverse effects and safety risks, to evaluate preliminary 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 trial sites. These studies are intended to establish the overall risk-benefit ratio of the product and provide, if appropriate, an adequate basis for product labeling.

During the development of a new drug, sponsors may, under certain circumstances request a special protocol assessment, or SPA, from the FDA. For example, a sponsor may request an SPA of a protocol for a clinical trial that will form the primary basis of an efficacy claim in an NDA. The request, which must be made prior to commencing the trial, must include the proposed protocol and protocol-specific questions that the sponsor would like the FDA to answer regarding the protocol design, clinical trial goals and data analysis for the proposed investigation. After receiving the request, the FDA will consider whether the submission is appropriate for an SPA. If an SPA is appropriate, the FDA will base its assessment on the questions posed by the sponsor. Comments from the FDA review team are supposed to be sent to the sponsor within 45 calendar days of receipt of the request. The sponsor may request a meeting to discuss the comments and any remaining issues and uncertainties regarding the protocol. If the sponsor and the FDA reach agreement regarding the protocol, the agreement will be documented and made part of the administrative record. This agreement may not be changed by the sponsor or the FDA after the trial begins, except (1) with the written agreement of the sponsor and the FDA or (2) if the FDA determines that a substantial scientific issue essential to determining the safety or effectiveness of the drug was identified after the testing began.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA. IND Safety Reports must be submitted to the FDA, IRBs and the investigators for (a) any suspected adverse reaction that is both serious and unexpected; (b) any findings from epidemiological studies, pooled analysis of multiple trials, or clinical trials(other than those already reported in (a)); (c) any findings from animal or *in vitro* testing, whether or not conducted by the sponsor, that suggest a significant risk in humans exposed to the drug, such as reports of mutagenicity, teratogenicity, or carcinogenicity or reports of significant organ toxicity at or near the expected human exposure; and (d) any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. 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 on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

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

U.S. Review and Approval Processes

The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling, and other

relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of user fees; a waiver of such fees may be obtained under certain limited circumstances, which may include orphan drug status and the first NDA application for a company.

In addition, under the Pediatric Research Equity Act, or PREA, an NDA or supplement to an NDA must contain data to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the drug is safe and effective. The FDA may grant deferrals for submission of data or full or partial waivers. Unless otherwise required by regulation, PREA does not apply to any drug for an indication for which orphan designation has been granted.

The FDA reviews all NDAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. The FDA may request additional information rather than accept an 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 submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA may refer the NDA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. The approval process is lengthy and difficult and the FDA may refuse to approve an NDA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data and information. Even if such data and information are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive, and the FDA may interpret data differently than we interpret the same data. The FDA may issue a complete response letter, which may require additional clinical or other data or impose other conditions that must be met in order to secure final approval of the NDA. 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. Before approving an NDA, the FDA will inspect the facility or facilities where the product is manufactured. The FDA will also inspect selected clinical sites that participated in the clinical studies and may inspect the testing facilities that performed the GLP toxicology studies cited in the NDA.

NDAs receive either standard or priority review. A drug representing a significant improvement in treatment, prevention or diagnosis of disease may receive priority review. In addition, products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may receive accelerated approval and may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. Priority review and accelerated approval do not change the standards for approval, but may expedite the approval process.

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

Orphan Drug Designation

Under the Orphan Drug Act, the FDA may grant orphan drug designation to a drug intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making available in the United States a drug for this type of disease or condition will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an NDA. 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, could also 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 product candidate is determined to be contained within the competitor's product for the same indication or disease.

In the European Union and Japan, orphan drug exclusivity regulations provide for 10 years of marketing exclusivity for orphan drugs that are approved for the treatment of rare diseases or conditions.

CA4P has been awarded orphan drug status by the FDA for the treatment of anaplastic, medullary, Stage IV papillary and Stage IV follicular thyroid cancers, ovarian cancer, neuroendocrine tumors and glioma. OXi4503 has been awarded orphan drug status by the FDA for the treatment of acute myelogenous leukemia.

CA4P has also been awarded orphan drug status by the European Commission in the European Union for the treatment of anaplastic thyroid cancer, ovarian cancer and neuroendocrine tumors. OXi4503 has been awarded orphan drug status by the European Commission in the European Union for the treatment of acute myelogenous leukemia.

Expedited Review and Approval

The FDA has various programs, including Fast Track, priority review, accelerated approval and breakthrough therapy, which are intended to expedite or simplify the process for reviewing drugs, and/or provide for approval on the basis of surrogate endpoints. Even if a drug qualifies for one or more of these programs, the FDA may subsequently decide the drug no longer meets the conditions for qualification or the FDA may not shorten the review or approval time period. Generally, drugs that may be 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. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. 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. Drugs that receive an accelerated approval may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect of a surrogate endpoint that is reasonably likely to predict clinical benefit or on the basis of an effect on a clinical endpoint other than survival or irreversible morbidity. As a condition of approval, the FDA may require that a sponsor of a drug receiving accelerated approval perform post-marketing clinical trials.

CA4P has been awarded Fast Track designation for the treatment of platinum-resistant ovarian cancer.

Foreign Regulation

In addition to regulations in the United States, we are subject to a variety of foreign regulations governing clinical trials and if any of our product candidates are approved we will be subject to additional regulations regarding commercial sales and distribution. 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 any product candidate 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, or MAAs, 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 mutual recognition of national approval decisions. Under this procedure, the holder of a national marketing authorization may submit an application to the remaining member states. Within 90 days of receiving the applications and assessments report, each member state must decide whether to recognize approval. 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, the European Medicines Agency, or EMA, may grant orphan drug status for specific indications if the request is made before an MAA is submitted. The EMA considers an orphan medicinal product to be one that affects less than five of every 10,000 people in the European Union. A company whose application for orphan drug designation in the European Union is approved is eligible to receive, among other benefits, regulatory assistance in preparing the marketing application, protocol assistance and reduced application fees. Orphan drugs in the European Union also enjoy economic and marketing benefits, including up to ten years of market exclusivity for the approved indication, unless another applicant can show that its product is safer, more effective or otherwise clinically superior to the orphan designated product.

Reimbursement

Sales of any of our product candidates, if approved, will depend, in part, on the extent to which the costs of the products will be covered by third-party payors, including government health programs such as Medicare and Medicaid, commercial health insurers and managed care organizations. These third-party payors are increasingly challenging the prices charged for health care products and services. 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. If these 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 Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, imposes requirements for the distribution and pricing of prescription drugs for Medicare beneficiaries. Under Part D (the Medicare prescription drug benefit), Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs not covered under Medicare Part B. Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs. Each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. Federal regulations require Part D prescription drug formularies to include drugs within each therapeutic category and class of covered Part D drugs, although not necessarily all the drugs in each category or class.

In general, 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 often follow Medicare coverage policy and payment limitations in setting their own payment rates. Any reduction in payment that results from the MMA or other Medicare regulations may result in a similar reduction in payments from non-governmental payors.

The Patient Protection and Affordable Care Act and the Health Care and Education Affordability Reconciliation Act of 2010 (collectively, the Affordable Care Act or ACA,) was enacted in March 2010 and has had a significant impact on the health care industry. The ACA mandated prescription drug coverage as one of ten essential health benefits that most health plans must offer, requiring coverage of at least one drug in every category and class. The ACA also expanded coverage for the uninsured through the new health insurance exchanges and a significant increase in the number of individuals eligible for Medicaid coverage. The ACA also prevents health insurers from charging more, denying, or limiting coverage for individuals with pre-existing conditions (i.e. individuals whose health care costs are typically higher).

Because of the significant increase in the number of individuals covered and the expansion of the coverage that must be provided to them, commercial insurers and government programs have increased their emphasis on cost controls to reduce overall spending. For example, the ACA expanded and increased mandatory industry rebates for drugs covered under Medicaid. Pharmaceutical manufacturers are required to provide drug rebates to the federal government and most state governments in order to have the product eligible for Medicaid coverage. In addition, commercial insurers offering Medicaid managed care products seek to negotiate additional rebates. The ACA also made changes to the drug coverage requirements under the Medicare Part D program. Although the changes have not yet been enacted, the Center for Medicine Services, or CMS, has proposed decreasing the number of categories and classes of drugs Part D plan sponsors must cover. Because of these cost controls, it is hard to determine what impact the ACA's expansion in coverage might have on pharmaceutical companies.

The outcome of the recent Presidential and Congressional elections in the United States could result in significant changes in, and uncertainly with respect to, legislation, regulation and a number of government policies involving matters presently addressed by the ACA. The U.S. President and certain members of Congress have stated their intent to repeal the ACA and replace it with new laws and regulations. We expect that there will continue to be a number of federal and state proposals addressing governmental pricing controls and the growth of health care costs, including the cost of prescription drugs. At the present time, Medicare is prohibited from negotiating directly with pharmaceutical companies for drugs. Prior to the 2016 U.S. Presidential and Congressional elections, there were legislative proposals seeking to allow such direct negotiation. It is possible that the adoption of these or other alternative legislative or regulatory proposals could have a material adverse effect on our business, financial condition and results of operations.

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.

PATENTS AND PROPRIETARY RIGHTS

We actively seek to protect the proprietary technology that we consider important to our business, including chemical species, compositions and forms, their methods of use and processes for their manufacture, as well as modified forms of naturally-expressed receptors, in the United States and other jurisdictions internationally that we consider key pharmaceutical markets. We also rely upon trade secrets and contracts to protect our proprietary information.

As of March 30, 2017, we were the exclusive licensee, sole assignee or co-assignee of twenty-one granted U.S. patents, one pending U.S. patent application, and granted patents and/or pending applications in several other major markets, including the European Union, Canada and Japan. Our policy is to file U.S. and foreign patent applications to protect technology, inventions and improvements to inventions that are commercially important to the development of our business. There can be no assurance that any of these patent applications will result in the grant of a patent either in the United States or elsewhere, or that any patents granted will be valid and enforceable, or will provide a competitive advantage or will afford protection against competitors with similar technologies. We also intend to rely upon trade secret rights to protect other technologies that may be used to discover and validate targets and that may be used to identify and develop novel drugs. We seek protection, in part, through confidentiality and proprietary information agreements.

We consider the following U.S. patents and applications owned by or exclusively licensed to us to be particularly important to the protection of our most advanced product candidates.

Product Candidate	Patent Scope	Patent Expiration
CA4P	Lyophilized or crystalline combretastatin A4-phosphate tromethamine*	September 2021
	Use of VDAs to Enhance Immunomodulating Therapies Against Tumors**	August 2036
OXi4503	Composition of matter for OXi4503 (combretastatin A1-disodium-phosphate (OXi4503) pro-drug)***	October 2021
	Method of treating myeloid neoplasm by administering OXi4503	November 2028

* In-licensed from Bristol-Myers Squibb

** Patent filed, awaiting grant

*** In-licensed from Arizona State University

In addition to these patents, for some of our product candidates, we have patents and/or applications that cover a particular form or composition, use for a particular indication, use as part of combination therapy or method of preparation or use, as well as other pending patent applications. These issued patents, including any patents that issue from pending applications, could provide additional or a longer period of protection. We also have patent applications pending that seek equivalent or substantially comparable protection for our product candidates in jurisdictions internationally that we consider key pharmaceutical markets.

The patent expiration dates referenced above do not reflect any potential patent term extension that we may receive under the federal Drug Price Competition and Patent Term Restoration Act of 1984, known as the Hatch-Waxman Act. The Hatch-Waxman Act generally permits a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years. The patent term restoration period is generally one-half of the time between the effective date of an investigational new drug application, or IND, and the submission date of a new drug application, or NDA, plus the time between the submission date and approval date of an NDA. 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 applications for patent term extension.

As previously noted, the FDA and European Union have granted CA4P and OXi4503 orphan drug status for certain indications. We are also pursuing, and may continue to in the future to pursue, orphan drug status for other product candidates and indications. Our ability to obtain and maintain the exclusivity for our products and product candidates by virtue of their orphan drug status is an important part of our intellectual property strategy.

COMPETITION

The industry in which we are engaged is characterized by rapidly evolving technology and intense competition. Our competitors include, among others, major pharmaceutical, biopharmaceutical and biotechnology companies, many of which have financial, technical and marketing resources significantly greater than ours. In addition, many of the small companies that compete with us have also formed collaborative relationships with large, established companies to support research, development, clinical trials and commercialization of products that may be competitive with ours. Academic institutions, governmental agencies and other public and private research organizations are also conducting research activities and seeking patent protection and may commercialize products on their own or through joint ventures or other collaborations.

We are aware of a limited number of companies currently or previously involved in the development of VDAs. Such companies include Angiogene, Bionomics, Immune Pharmaceuticals, and MediciNova, all of which have VDAs that we believe are at an earlier stage of clinical development than our lead drug candidate, CA4P. In addition, we are aware of one company, BeyondSpring, which has a tubulin-binding drug in phase 3 development

for advanced NSCLC. If this trial is successful and BeyondSpring's drug is approved, it could constitute competition for CA4P even though the indications are different.

We expect that, if any of our products gain regulatory approval for sale, they will compete primarily on the basis of product efficacy, safety, patient convenience, reliability, price and patent protection. Our competitive position will also depend on our ability to attract and retain qualified scientific and other personnel, develop effective proprietary products and implement joint ventures or other alliances with large pharmaceutical companies in order to jointly market and manufacture our products.

EMPLOYEES

We expect to continue to maintain a relatively small number of executives and other employees. We rely on outsourcing for much of our research, development, preclinical testing and clinical trial activity, although we maintain managerial and quality control over our clinical trials. As of March 30, 2017, we had a total of 16 full-time employees.

ITEM 1A. *RISK FACTORS*

Statements in this Annual Report under the captions "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," as well as oral statements that may be made by us or by officers, directors or employees acting on our behalf, that are not historical fact constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to be materially different from the historical results or from any results expressed or implied by such forward-looking statements. Such factors include, but are not limited to, the risk factors set forth below.

We do not intend to update any forward-looking statements to reflect events or circumstances after the date of such statements or to reflect the occurrence of anticipated or unanticipated events.

We need to raise additional funds to finance our operations and continue the development of our product candidates, and we may not be able to do so when necessary. Even if we are able to raise additional funds, the terms of any financings may not be advantageous to us.

Our operations to date have consumed substantial amounts of cash. Negative cash flows from our operations are expected to continue over at least the next several years. Our cash utilization amount is highly dependent on the product development programs we choose to pursue, the progress of these product development programs, the results of our preclinical studies and clinical trials, the cost, timing and outcomes of regulatory decisions regarding potential approval for our product candidates, the terms and conditions of our contracts with service providers for these programs, and the rate of recruitment of patients in our human clinical trials. In addition, the continuation of our clinical trials, and quite possibly our entire business, will depend on results of upcoming analyses and our financial resources at the time.

In order to continue the development of our product candidates, we are pursuing forms of capital infusion including public or private financing, strategic partnerships or other arrangements with organizations that have capabilities, products and/or resources that are complementary to or could further extend our own capabilities, products or resources. However, there can be no assurances that we will complete any financings, strategic alliances or collaborative development agreements, and the terms of such arrangements may not be advantageous to us.

Based on our current operating plans, we expect our existing cash to support our operations into approximately October 2017. We expect that our planned level of cash utilization will allow us to advance our ongoing programs, including completion of at least two interim analyses of our phase 2/3 FOCUS Study of CA4P in combination with bevacizumab and chemotherapy in platinum-resistant ovarian cancer; completion of the dose escalation portion of an open-label Phase 1b/2 clinical trial of OXi4503 in combination with cytarabine in patients with AML; supporting a Phase 2 trial of CA4P in relapsed ovarian cancer in combination with pazopanib, which is being sponsored by two UK-based nonprofit organizations; and additional preclinical studies

of CA4P in combination with immune oncology agents. Any significant further clinical development of CA4P, including the completion of the Phase 2/3 clinical trial of CA4P in ovarian cancer, and of OXi4503 would be contingent upon our ability to raise additional capital through public or private financings or from one or more new collaborative research or license agreements with a third-party, as to which we can give you no assurance.

Our ongoing capital requirements will depend on numerous factors, including the progress and results of preclinical testing and clinical trials of our product candidates under development; the costs of complying with the FDA and other regulatory agency requirements; the progress of our research and development programs; the time and costs expended and required to obtain any necessary or desired regulatory approvals; our ability to enter into licensing arrangements, including any unanticipated licensing arrangements that may be necessary to enable us to continue our development and clinical trial programs; the costs and expenses of filing, prosecuting and, if necessary, enforcing our patent claims, or defending against possible claims of infringement by third-party patent or other technology rights; the cost of commercialization activities and arrangements, if any, undertaken by us; and, if and when approved, the demand for our products, which demand depends in turn on circumstances and uncertainties that cannot be fully known, understood or quantified unless and until the time of approval, including the range of indications for which any product is granted approval.

Our ability to raise additional capital was significantly impaired following the delisting of our common stock from The NASDAQ Capital Market. If we are unable to raise additional funds when needed, we will not be able to continue development of our product candidates or we will be required to delay, scale back or eliminate some or all of our development programs or cease operations. We may seek to raise funds through public or private financing, strategic partnerships or other arrangements. Any additional equity or convertible debt financing may be dilutive to our current stockholders and debt financing, if available, may involve restrictive covenants. If we raise funds through collaborative or licensing arrangements, we may be required to relinquish, on terms that are not favorable to us, rights to some of our technologies or product candidates that we would otherwise seek to develop or commercialize. Our failure to raise capital when needed will materially harm our business, financial condition and results of operations.

Due in part to our limited financial resources, we may fail to select or capitalize on the most scientifically, clinically or commercially promising or profitable indications or therapeutic areas for our product candidates, and we may be unable to pursue and complete the clinical trials that we would like to pursue and complete.

We have limited financial and technical resources to determine the indications on which we should focus the development efforts for our product candidates. Due to our limited available financial resources, we have curtailed clinical development programs and activities that might otherwise have led to more rapid progress of our product candidates through the regulatory and development processes. Further, our current clinical trial in platinum-resistant ovarian cancer is designed to be larger than any other clinical trial that we have conducted previously. We currently do not have the financial resources to complete this clinical trial, and cannot assure you that we will be able to obtain sufficient financial resources to complete the trial. If we are forced to terminate the trial early, our chances of obtaining positive results from the clinical trial are likely to be reduced, due to the lower statistical power of smaller clinical trials.

We may make incorrect determinations with regard to the indications and clinical trials on which to focus the available resources that we do have. Furthermore, we cannot assure you that we will be able to retain adequate staffing levels to run our operations and/or to accomplish all of the objectives that we otherwise would seek to accomplish. We currently are pursuing clinical trials in several indications, but we are required by our financial resources to engage only in limited clinical activities. The decisions to allocate our research, management and financial resources toward particular indications or therapeutic areas for our product candidates may not lead to the development of viable commercial products and may divert resources from better opportunities. Similarly, our decisions to delay or terminate drug development programs may also cause us to miss valuable opportunities. In addition, from time to time, we may in-license or otherwise acquire product candidates to supplement our internal development activities. Those activities may use resources that otherwise would have been devoted to our internal programs, and with research and development programs there is no way to assure that the outcome of any trials or other activities will be positive, whether the program was internally generated or in-licensed.

If we are unable to obtain required regulatory approvals, we will be unable to market and sell our product candidates.

Our product candidates are subject to extensive governmental regulations relating to development, clinical trials, manufacturing, oversight of clinical investigators, recordkeeping and commercialization. Rigorous preclinical testing and clinical trials and an extensive regulatory review and approval process are required to be successfully completed in the United States, in the European Union and in many other 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 or the European Medicines Agency, or EMA, is unpredictable and often takes many years following the commencement of clinical trials.

In connection with the clinical development of our product candidates, we face risks that:

- the product candidate may not prove to be safe and efficacious;
- patients may die or suffer serious adverse effects for reasons that may or may not be related to the product candidate being tested;
- we fail to maintain adequate records of observations and data from our clinical trials, to establish and maintain sufficient procedures to oversee, collect data from, and manage clinical trials, or to monitor clinical trial sites and investigators to the satisfaction of the FDA, EMA or other regulatory agencies;
- we may not have sufficient financial resources to complete the clinical trials that would be necessary to obtain regulatory approvals;
- the results of later-phase clinical trials may not confirm the results of earlier clinical trials; and
- the results from clinical trials may not meet the level of statistical significance or clinical benefit-to-risk ratio required by the FDA, EMA or other regulatory agencies for marketing approval.

Only a small percentage of product candidates for which clinical trials are initiated are the subject of NDAs and even fewer receive approval for commercialization. Furthermore, even if we do receive regulatory approval to market a product candidate, any such approval may be subject to limitations such as those on the indicated uses for which we may market the product.

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

We currently use independent clinical investigators in all of our clinical trials and, in many cases, also utilize contract research organizations, or CROs, and other third-party service providers to conduct and/or oversee the clinical trials of our product candidates and expect to continue to do so for the foreseeable future. We rely heavily on these parties for successful execution of our clinical trials. Nonetheless, we are responsible for confirming that each of our clinical trials is conducted in accordance with the FDA's requirements and our general investigational plan and protocol. Currently, we have clinical trial activities involving CA4P and OXi4503 being conducted by clinical investigators who are independent of us, but with whom we have agreements for them to provide the results of their clinical trials to us. In order for us to rely on data from these ongoing clinical trials in support of a New Drug Application, or NDA, for approval of any of our product candidates by the FDA or similar types of marketing applications that are required by other regulatory authorities, the independent investigators are required to comply with applicable good clinical practice requirements.

The FDA and corresponding foreign regulatory authorities require us and our clinical investigators to comply with regulations and standards, commonly referred to as good clinical practices, or GCPs, for conducting and recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the trial participants are adequately protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities

on schedule or may not conduct our clinical trials in accordance with regulatory requirements or the respective trial plans and protocols. The failure of these third parties to carry out their obligations could delay or prevent the development, approval and commercialization of our product candidates or result in enforcement action against us.

We have taken and continue to take steps to strengthen our procedures and practices , but we cannot assure you that the FDA will be satisfied with our procedures or that the FDA will not issue warning letters or take other enforcement action against us in the future. The steps we take to strengthen our procedures and conduct future clinical trials necessary for approval will be time-consuming and expensive.

We may encounter difficulties in expanding our operations successfully if and when we evolve from a company that is primarily involved in clinical development to a company that is also involved in commercialization.

As we advance our product candidates through later stages of clinical trials, we will need to expand our development, regulatory, manufacturing, marketing and sales capabilities or contract with third parties to provide these capabilities for us. As our operations expand, we expect that we will need to manage additional relationships with such third parties, as well as additional collaborators, distributors, marketers and suppliers.

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

If, following any approval of our product candidates, we enter into arrangements with third parties to perform sales, marketing or distribution services, any product revenues that we receive, or the profitability of these product revenues to us, are likely to be lower than if we were to market and sell any products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our products or in doing so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our products.

If we were to submit an NDA for our drug candidates in the United States or a marketing application in the EU, we would need to undertake commercial scale manufacturing activities at significant expense to us in order to proceed with the application for approval for commercialization. We or our external vendors may encounter technical difficulties that preclude us from successfully manufacturing the required registration and validation batches of active pharmaceutical ingredient, or API, and/or drug product and we may be unable to recover any financial losses associated with the manufacturing activities. Further, our research or product development efforts may not be successfully completed, any compounds currently under development by us may not be successfully developed into drugs, any potential products may not receive regulatory approval on a timely basis, if at all, and competitors may develop and bring to market products or technologies that render our potential products obsolete. If any of these problems occur, our business would be materially and adversely affected.

We have no manufacturing capacity and have relied on, and expect to continue to rely on, third-party manufacturers to produce our product candidates.

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

- reliance on third-parties for manufacturing process development, regulatory compliance and quality assurance;

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

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

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

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

Our product candidates have not completed clinical trials, and may never demonstrate sufficient safety and efficacy in order to do so.

Our product candidates are in the clinical stage of development. In order to achieve profitable operations, we alone or in collaboration with others, must successfully develop, manufacture, introduce and market our products. The time frame necessary to achieve market success for any individual product is long and uncertain. The products currently under development by us may require significant additional research and development and additional preclinical and clinical testing prior to application for commercial use. A number of companies in the biotechnology and pharmaceutical industries have suffered significant setbacks in clinical trials, even after showing promising results in early or later-stage studies or clinical trials. Although we have obtained some favorable results to date in preclinical studies and clinical trials of certain of our potential products, such results may not be indicative of results that will ultimately be obtained in or throughout such clinical trials, and clinical trials may not show any of our products to be safe or capable of producing a desired result. Additionally, we may encounter problems in our clinical trials that may cause us to delay, suspend or terminate those clinical trials.

Adverse events observed to date and associated with CA4P and OXi4503 have generally been found to be manageable for drugs treating the indications for which we are developing our product candidates. However, we will be required to continue to test and evaluate the safety of our product candidates in additional clinical trials, and to demonstrate their safety to the satisfaction of appropriate regulatory agencies, as a condition to receipt of any regulatory approvals. In clinical trials to date, transient hypertension believed to be associated with CA4P and OXi4503 has been effectively managed through pre-treatment with anti-hypertensive medication. We cannot assure you, however, that we will be able to make the necessary demonstrations of safety to allow us to receive regulatory approval for our product candidates in any indication.

We only have a limited number of employees to manage and operate our business.

As of March 30, 2017, we had a total of 16 full-time employees. Our limited financial resources require us to manage and operate our business in a highly efficient manner. We cannot assure you that we will be able to retain adequate staffing levels to run our operations and/or to accomplish all of the objectives that we otherwise would seek to accomplish.

We have a history of losses, and we anticipate that we will continue to incur losses in the future; our auditors have included in their audit report an explanatory paragraph as to substantial doubt as to our ability to continue as a going concern.

We have experienced net losses every year since our inception and, as of December 31, 2016, had an accumulated deficit of over $278 million. Our auditors have included in their audit report a "going concern" explanatory paragraph as to substantial doubt as to our ability to continue as a going concern that assumes the realization of our assets and the satisfaction of our liabilities and commitments in the normal course of business. We anticipate continuing to incur substantial additional losses over at least the next several years due to, among other factors, our continuing clinical trials and development activities with respect to our VDA drug candidates, technologies, and anticipated research and development activities and the general and administrative expenses associated with those activities. We have not yet commercialized any product candidates. Our ability to attain profitability will depend upon our ability to develop and commercialize products that are effective and commercially viable, to obtain regulatory approval for the manufacture and sale of our products and to license or otherwise market our products successfully. We may never achieve profitability.

We depend on our executive officers and principal consultants and the loss of their services could materially harm our business.

We believe that our success depends, and will likely continue to depend, upon our ability to retain the services of our current executive officers, principal consultants and others. The loss of the services of any of these individuals could have a material adverse effect on our business. In addition, we have established relationships with universities, hospitals and research institutions, which have historically provided, and continue to provide, us with access to research laboratories, clinical trials, facilities and patients. Additionally, we believe that we may, at any time and from time to time, materially depend on the services of consultants and other unaffiliated third parties. We cannot assure you that consultants and other unaffiliated third parties will provide the level of service to us that we require in order to achieve our business objectives.

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

We are engaged in a rapidly evolving field. Competition from other pharmaceutical companies, biotechnology companies and research and academic institutions is intense and likely to increase. Many of those companies and institutions have substantially greater financial, technical and human resources than we do. Many of those companies and institutions also have substantially greater experience in developing products, conducting clinical trials, obtaining regulatory approval and in manufacturing and marketing pharmaceutical products. Our competitors may succeed in obtaining regulatory approval for their products more rapidly than we do. Competitors have developed or are in the process of developing technologies that are, or in the future may be, the basis for competitive products. We are aware of at least four other companies that currently have a clinical-stage VDA for use in an oncology indication. Some of these competitive products may have an entirely different approach or means of accomplishing the desired therapeutic effect than products being developed by us. Our competitors may succeed in developing products that are more effective and/or cost competitive than those we are developing, or that would render our product candidates less competitive or even obsolete. In addition, one or more of our competitors may achieve product commercialization or patent protection earlier than we do, which could materially adversely affect us.

We depend extensively on the patents and proprietary technology we license from others, and we must maintain these licenses in order to preserve our business.

We have licensed in rights to CA4P, OXi4503 and other programs from third parties. If our license agreements terminate or expire, we may lose the licensed rights to our product candidates, including CA4P and OXi4503, and we may not be able to continue to develop them or, if they are approved, we may not be able to market or commercialize them.

We depend on license agreements with third-parties for certain intellectual property rights relating to our product candidates, including patent rights. Currently, we have licensed in certain patent rights from Arizona

State University, or ASU, and the Bristol-Myers Squibb Company for CA4P and OXi4503 and from Baylor University for other programs. In general, our license agreements require us to make payments and satisfy performance obligations in order to keep these agreements in effect and retain our rights under them. These payment obligations can include upfront fees, maintenance fees, milestones, royalties, patent prosecution expenses, and other fees. These performance obligations typically include diligence obligations. If we fail to pay, be diligent or otherwise perform as required under our license agreements, we could lose the rights under the patents and other intellectual property rights covered by the agreements. While we are not currently aware of any dispute with any licensors under our material agreements with them, if disputes arise under any of our in-licenses, including our in-licenses from ASU, the Bristol-Myers Squibb Company and Baylor University, we could lose our rights under these agreements. Any such dispute may not be resolvable on favorable terms, or at all. Whether or not any disputes of this kind are favorably resolved, our management's time and attention and our other resources could be consumed by the need to attend to and seek to resolve these disputes and our business could be harmed by the emergence of such a dispute.

If we lose our rights under these agreements, we may not be able to conduct any further activities with the product candidate or program that the license covered. If this were to happen, we might not be able to develop our product candidates further, or following regulatory approval, if any, we might be prohibited from marketing or commercializing them. In particular, patents previously licensed to us, such as the patents we previously licensed from Angiogene, might after termination be used to stop us from conducting activities in the patents' respective fields.

We depend on patents and proprietary technology in the course of our business, and we must protect those assets in order to preserve our business.

Although we expect to seek patent protection for any compounds we discover and/or for any specific use we discover for new or previously known compounds, any or all of them may not be subject to effective patent protection. Further, the development of regimens for the administration of pharmaceuticals, which generally involve specifications for the frequency, timing and amount of dosages, has been, and we believe, may continue to be, important to our effort, although those processes, as such, may not be patentable. In addition, the issued patents may be declared invalid or our competitors may find ways to avoid the claims in the patents.

Our success will depend, in part, on our ability to obtain patents, protect our trade secrets and operate without infringing on the proprietary rights of others. We are the exclusive licensee, sole assignee or co-assignee on a number of granted United States patents, pending United States patent applications, and granted patents and/or pending applications in several other major markets, including the European Union, Canada and Japan. The patent position of pharmaceutical and biotechnology firms like us is generally highly uncertain and involves complex legal and factual questions, resulting in both an apparent inconsistency regarding the breadth of claims allowed in United States patents and general uncertainty as to their legal interpretation and enforceability. Accordingly, patent applications assigned or exclusively licensed to us may not result in patents being issued, any issued patents assigned or exclusively licensed to us may not provide us with competitive protection or may be challenged by others, and the current or future granted patents of others may have an adverse effect on our ability to do business and achieve profitability. Moreover, because some of the basic research relating to one or more of our patent applications and/or patents were performed at various universities and/or funded by grants, one or more of these universities, employees of such universities and/or grantors could assert that they have certain rights in such research and any resulting products. Further, others may independently develop similar products, may duplicate our products, or may design around our patent rights. In addition, as a result of the assertion of rights by a third-party or otherwise, we may be required to obtain licenses to patents or other proprietary rights of others in or outside of the United States. Any licenses required under any such patents or proprietary rights may not be made available on terms acceptable to us, if at all. If we do not obtain such licenses, we could encounter delays in product market introductions while our attempts to design around such patents or could find that the development, manufacture or sale of products requiring such licenses is foreclosed. In addition, we could incur substantial costs in defending ourselves in suits brought against us or in connection with patents to which we hold licenses or in bringing suit to protect our own patents against infringement.

We require employees and the institutions that perform our preclinical and clinical trials to enter into confidentiality agreements with us. Those agreements provide that all confidential information developed or made known to a party to any such agreement during the course of the relationship with us be kept confidential and not be disclosed to third-parties, except in specific circumstances. Any such agreement may not provide meaningful protection for our trade secrets or other confidential information in the event of unauthorized use or disclosure of such information.

The use of our products may result in product liability exposure, and it is uncertain whether our insurance coverage will be sufficient to cover all claims.

The use of our product candidates in clinical trials may expose us to liability claims in the event such product candidates cause death, injury or disease, or result in adverse effects. We may be exposed to liability claims even if our product did not cause death, injury or diseases, but is merely presumed or alleged to have caused any of these. If our product candidates are ever commercially approved, the commercial use of these products may also expose us to similar liability claims. Any of these claims could be made by health care institutions, contract laboratories, patients or others using such products. Although we have obtained liability insurance coverage for our ongoing clinical trials, this coverage may not be in amounts sufficient to protect us from any product liability claims or product recalls which could have a material adverse effect on our financial condition and prospects. Further, adverse product and similar liability claims could negatively impact our ability to obtain or maintain regulatory approvals for our technology and product candidates under development.

If clinical trials or regulatory approval processes for our product candidates are prolonged, delayed or suspended, we may be unable to out-license or commercialize our product candidates on a timely basis, which would require us to incur additional costs and delay or prevent our receipt of any proceeds from potential license agreements or 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 or invalidate 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 product candidate:

- conditions imposed on us by the FDA, EMA or another 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 of our product candidates or other materials necessary to conduct and complete our clinical trials;
- slow enrollment and retention rate of subjects in clinical trials;
- any compliance audits and pre-approval inspections by the FDA, EMA or other regulatory authorities;
- negative or inconclusive results from clinical trials, or results that are inconsistent with earlier results;
- serious and unexpected drug-related side effects; and
- failure of our third-party contractors to comply with regulatory requirements or otherwise meet their contractual obligations to us.

Commercialization or licensure of our product candidates may be delayed or prevented by the imposition of additional conditions on our clinical trials by the FDA, EMA or another foreign regulatory authority or the requirement of additional supportive clinical trials by the FDA, EMA or another foreign regulatory authority. In addition, clinical trials require sufficient patient enrollment, which is a function of many factors, including the size of the 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, or it could prevent us from being able to complete the clinical trial. In addition, the FDA and EMA could require us to conduct clinical trials with a larger number of subjects than we have projected for any of our product 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 significance 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 product candidates, and our financial resources may be insufficient to fund any incremental costs. In addition, if our clinical trials are delayed, our competitors may be able to bring products to market before we do and the commercial viability of our product candidates could be limited.

We have been granted orphan drug status for certain of our product candidates and may seek orphan drug status for additional indications for those product candidates or for additional product candidates. We may be unsuccessful in maintaining orphan drug exclusivity for our product candidates and may be unsuccessful in our efforts to seek orphan drug status and orphan drug exclusivity.

Regulatory authorities in some jurisdictions, including the United States and the European Union, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a disease with a patient population of fewer than 200,000 individuals in the United States. In the European Union and Japan, orphan drug exclusivity regulations provide for 10 years of marketing exclusivity for orphan drugs that are approved for the treatment of rare diseases or conditions. Our product candidate, CA4P, has been awarded orphan drug status by the FDA for the treatment of anaplastic, medullary, Stage IV papillary and Stage IV follicular thyroid cancers, ovarian cancer, neuroendocrine tumors and glioma. Our product candidate, OXi4503, has been awarded orphan drug status by the FDA for the treatment of acute myelogenous leukemia. CA4P has also been awarded orphan drug status by the European Commission in the European Union for the treatment of anaplastic thyroid cancer, ovarian cancer and neuroendocrine tumors. OXi4503 has been awarded orphan drug status by the European Commission in the European Union for the treatment of acute myelogenous leukemia.

Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same drug for the same indication during the period of exclusivity. The applicable period is seven years in the United States and ten years in the European Union. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or the EMA determines that the request for designation was materially defective, if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for a product candidate or additional product candidates, that exclusivity may not effectively protect the product candidate from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve a different drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

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

Even if we receive regulatory approval to market a particular product candidate, the manufacturing, labeling, packaging, adverse event reporting, storage, advertising, promotion, and record keeping related to the product will remain subject to extensive regulatory requirements. If we fail to comply with the regulatory

requirements of the FDA, EMA and other applicable domestic and foreign regulatory authorities or previously unknown problems with any approved product, manufacturer, or manufacturing process are discovered, we could be subject to administrative or judicially imposed sanctions, including:

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

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

Even if any of our product candidates obtain regulatory approval, they may not gain market acceptance among physicians, patients, and third-party payers. Physicians may decide not to prescribe our 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;
- limited or no coverage by third-party payers;
- convenience and ease of administration;
- prevalence and severity of adverse side effects;
- restrictions in the label of the drug;
- other potential advantages of alternative treatment methods; and
- ineffective marketing and distribution support of our products.

If any of our product candidates is approved, but fails to achieve market acceptance, we may not be able to generate significant revenue and our business would suffer.

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

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

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the Medicare Modernization Act, or MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation established Medicare Part D, which expanded Medicare coverage for outpatient prescription drug purchases by the elderly but provided authority for limiting the number of drugs that will be covered in any therapeutic class. The MMA also introduced a new reimbursement methodology based on average sales prices for physician-administered drugs.

The United States and several foreign jurisdictions are considering, or have already enacted, a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payers in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access to healthcare. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. We expect to experience pricing pressures in connection with the sale of any products that we develop due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative proposals.

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

More recently, the current U.S. presidential administration has made statements suggesting plans to seek repeal of all or portions of the ACA, and the U.S. Congress is considering such repeal or partial repeal and replacement. There is uncertainty regarding the impact that the President's administration may have on matters currently governed by the ACA, if any, and any regulatory or legislative changes will likely take time to unfold. These changes could have an impact on coverage and reimbursement for healthcare items and services covered by plans that were authorized by the ACA. However, we cannot predict the ultimate content, timing or effect of any healthcare reform legislation or the impact of potential legislation on us. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability, or commercialize our products.

Unfavorable global economic conditions could adversely affect our business, financial condition or results of operations.

Our operations and the financial results of our operations could be adversely affected by general conditions in the global economy and in the global financial markets. Global financial concerns have caused, and may continue to cause, extreme volatility and disruptions in the capital and credit markets. A severe or prolonged economic downturn could result in a variety of risks to our business, including our ability to raise additional capital when needed on acceptable terms, if at all. We cannot currently anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

Our business and operations could suffer in the event of system failures.

Despite the implementation of security measures, our internal computer systems and those of our third-party CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Furthermore, we have little or no control over the security measures and computer systems of our third-party CROs and other contractors and consultants. While we have not experienced any material system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a

material disruption of our programs. For example, the loss of clinical trial data for our product candidates could result in delays in our marketing approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach results in a loss of or damage to our data or applications or other data or applications relating to our technology or product candidates, or inappropriate disclosure of confidential or proprietary information, we could incur liabilities and the further development of our product candidates could be delayed.

Our employees, principal investigators, CROs and consultants may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk that our employees, principal investigators, CROs and consultants may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violate the regulations of the FDA and other regulatory authorities, including those laws requiring the reporting of true, complete and accurate information to such authorities; healthcare fraud and abuse laws and regulations in the United States and abroad; or laws that require the reporting of financial information or data accurately. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. Activities subject to these laws also involve the improper use of information obtained in the course of clinical trials or creating fraudulent data in our preclinical studies or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation.

We have a code of conduct applicable to all of our employees, but it is not always possible to identify and deter misconduct by employees and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. Additionally, we are subject to the risk that a person could allege such fraud or other misconduct, even if none occurred. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

We, or the third parties upon whom we depend, may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Earthquakes or other natural disasters could severely disrupt our operations and have a material adverse effect on our business, results of operations, financial condition and prospects. If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as the manufacturing facilities of our third-party contract manufacturers, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place may prove inadequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which could have a material adverse effect on our business.

The price of our common stock is volatile, and is likely to continue to fluctuate due to reasons beyond our control; a limited public trading market may cause volatility in the price of our common stock.

The market price of our common stock has been, and likely will continue to be, highly volatile. Factors, including our financial results or our competitors' financial results, clinical trial and research development announcements and government regulatory action affecting our potential products in both the United States and foreign countries, have had, and may continue to have, a significant effect on our results of operations and on the market price of our common stock. We cannot assure you that an investment in our common stock will not

fluctuate significantly. One or more of these factors could significantly harm our business and cause a decline in the price of our common stock in the public market. Substantially all of the shares of our common stock issuable upon exercise of outstanding options and warrants have been registered or are likely to be registered for resale or are available for sale pursuant to Rule 144 under the Securities Act, and may be sold from time to time. Such sales, as well as future sales of our common stock by existing stockholders, or the perception that sales may occur at any time, could adversely affect the market price of our common stock.

Our common stock is currently quoted on the OTCQX marketplace. The quotation of our common stock on the OTCQX marketplace does not assure that a meaningful, consistent and liquid trading market currently exists, and in recent years such market has experienced extreme price and volume fluctuations that have particularly affected the market prices of many smaller companies like us. Our common stock is subject to this volatility. Sales of substantial amounts of common stock, or the perception that such sales might occur, could adversely affect prevailing market prices of our common stock and our stock price may decline substantially in a short time and our stockholders could suffer losses or be unable to liquidate their holdings.

We may not be able to achieve secondary trading of our stock in certain states because our common stock is no longer nationally traded, which could subject our stockholders to significant restrictions and costs.

Our common stock is not currently eligible for trading on the NASDAQ Capital Market or on a national securities exchange. Therefore, our common stock is subject to the securities laws of the various states and jurisdictions of the United States in addition to federal securities law. While we may register our common stock or qualify for exemptions for our common stock in one of more states, if we fail to do so the investors in those states where we have not taken such steps may not be allowed to purchase our stock or those who presently hold our stock may not be able to resell their shares without substantial effort and expense. These restrictions and potential costs could be significant burdens on our stockholders.

If we fail to maintain an effective system of internal controls over financial reporting, we may not be able to accurately report our financial results. As a result, current and potential stockholders could lose confidence in our financial reporting, which could harm our business and the trading price of our stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports. If we cannot maintain effective controls and reliable financial reports, our business and operating results could be harmed. For example, during the third quarter of 2013, our management determined that we had a material weakness related to the operation of our controls over financial reporting associated with a complex non-routine financing transaction in the second quarter of 2013. We conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2016 based on the criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2016. We continue to work on maintaining effective internal controls over financial reporting; however, there can be no assurance that another material weakness will not occur in the future. Any failure to implement and maintain controls over our financial reporting or difficulties encountered in the implementation of improvements in our controls, could cause us to fail to meet our reporting obligations. Any failure to maintain our internal controls over financial reporting or to address identified weaknesses in the future, if they were to occur, could also cause investors to lose confidence in our reported financial information, which could have a negative impact on the trading price of our stock.

Issuance of additional equity securities may adversely affect the market price of our common stock.

We are currently authorized to issue up to 70,000,000 shares of our common stock and 15,000,000 shares of preferred stock. As of December 31, 2016, we had approximately 26,545,000 shares of common stock issued and outstanding, and we had no shares of preferred stock outstanding. As of December 31, 2016, we also had approximately 9,842,000 warrants and 4,177,000 options outstanding.

To the extent that shares of common stock are issued or options and warrants are exercised, holders of our common stock will experience dilution. In addition, in the event of any future issuances of equity securities or securities convertible into or exchangeable for common stock, holders of our common stock may experience dilution.

Moreover, our board of directors is authorized to issue preferred stock without any action on the part of our stockholders. Our board of directors also has the power, without stockholder approval, to set the terms of any such preferred stock that may be issued, including voting rights, conversion rights, dividend rights, preferences over our common stock with respect to dividends or if we liquidate, dissolve or wind up our business and other terms. If we issue preferred stock in the future that has preference over our common stock with respect to the payment of dividends or upon our liquidation, dissolution or winding up, or if we issue preferred stock with voting rights that dilute the voting power of our common stock, the market price of our common stock could decrease. Any provision permitting the conversion of any such preferred stock into our common stock could result in significant dilution to the holders of our common stock.

We also consider from time to time various strategic alternatives that could involve issuances of additional common stock, including but not limited to acquisitions and business combinations, but do not currently have any definitive plans to enter into any of these transactions.

We have no plans to pay dividends on our common stock, and you may not receive funds without selling your common stock.

We have not declared or paid any cash dividends on our common stock, nor do we expect to pay any cash dividends on our common stock for the foreseeable future. We currently intend to retain any future earnings, if any, to finance our operations and growth and, potentially, for future stock repurchases and, therefore, we have no plans to pay cash dividends on our common stock. Any future determination to pay cash dividends on our common stock will be at the discretion of our board of directors and will be dependent on our earnings, financial condition, operating results, capital requirements, any contractual restrictions, and other factors that our board of directors deems relevant.

Accordingly, you may have to sell some or all of your common stock in order to generate cash from your investment in Mateon Therapeutics, Inc. You may not receive a gain on your investment when you sell our common stock and may lose the entire amount of your investment.

ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

ITEM 2. *PROPERTIES*

Mateon's corporate headquarters is located in South San Francisco, California where we lease 5,275 square feet of general office space. The lease for this space, as amended, expires on June 30, 2019. We believe that these facilities will meet our needs for the foreseeable future.

ITEM 3. *LEGAL PROCEEDINGS*

Not applicable.

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*

Effective December 8, 2016, the Company's common stock began trading on the OTCQX Market, operated by OTC Markets, under the symbol "MATN". From June 20, 2016 to December 8, 2016, the Company's common stock was traded on The NASDAQ Capital Market under the symbol "MATN". Prior to June 20, 2016, the Company's common stock was traded on The NASDAQ Capital Market under the symbol "OXGN". The following table sets forth, for the periods indicated, the high and low sales prices of our common stock, rounded

to the nearest cent, on the OTCQX Market and on The NASDAQ Capital Market, as applicable, as reported by each of the markets, for each quarterly period during the two most recent fiscal years.

	2016		2015	
	High	Low	High	Low
First Quarter	$0.89	$0.49	$1.97	$1.34
Second Quarter	$1.02	$0.52	$1.68	$1.31
Third Quarter	$0.80	$0.55	$1.47	$0.87
Fourth Quarter	$0.63	$0.27	$1.09	$0.65

As of March 30, 2017, there were approximately 41 stockholders of record of the 26,544,934 outstanding shares of the Company's common stock.

The Company has not declared or paid any cash dividends on its common stock since its inception in 1988, and does not intend to pay cash dividends in the foreseeable future. The Company presently intends to retain future earnings, if any, to finance the growth and development of its business.

Information relating to compensation plans under which our equity securities are authorized for issuance is presented in Part III, Item 12 of this Form 10-K.

Unregistered Sales of Securities

None.

ITEM 6. *SELECTED FINANCIAL DATA*

Not applicable

ITEM 7. *MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS*

Our management's discussion and analysis of financial condition and results of operations contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks and uncertainties that may cause our actual results or outcomes to be materially different from those anticipated and discussed herein. Important factors that we believe may cause such differences are discussed in the "Risk Factors" section of this Annual Report and in the "Safe Harbor for Forward-Looking Statements Under the Private Securities Litigation Reform Act of 1995" section of this Annual Report. In assessing forward-looking statements contained herein, readers are urged to read carefully all Risk Factors and cautionary statements contained in this Annual Report. Further, we operate in an industry sector where securities prices are volatile and may be influenced by regulatory and other factors beyond our control.

We are a biopharmaceutical company focused on the development of vascular disrupting agents, or VDAs, for the treatment of cancer. VDAs selectively target the vasculature of cancer tumors and obstruct a tumor's blood supply without disrupting the blood supply to normal tissues. Treatment with VDAs has been shown to lead to significant central tumor necrosis, which refers to the death of cancer cells. Unlike most other drugs used for the treatment of cancer, our investigational drugs have consistently shown a stronger treatment effect in larger tumors than in smaller tumors.

VDAs are in a class of drugs called vascular targeted therapies, or VTTs, which also includes anti-angiogenic agents, or AAs. Bevacizumab (marketed under the brand name Avastin ® by Roche/Genentech) and other currently-approved AA drugs work by preventing the growth of new blood vessels which can supply nutrients to tumor cells. We are seeking to realize the full potential of VTTs in oncology by using the combination of VDAs and AAs to treat cancer tumors. The aim of using a VDA and an AA in combination is for the VDA to directly cut-off the blood supply to the majority of the tumor, while the AA indirectly inhibits angiogenesis, which is the process by which new blood vessels form and re-vascularize the tumor. Our current

VDA development plans are focused on this combination so that the mechanism of action of each drug would complement that of the other — disrupting tumor blood supply in two different ways instead of just one.

We have two clinical stage investigational drugs, both VDAs, that we are currently developing — CA4P and OXi4503. Our lead compound is CA4P. The largest clinical trial of CA4P conducted to date was a phase 2 clinical trial in recurrent ovarian cancer sponsored by the Gynecologic Oncology Group, or GOG, which was completed in 2014 and met its primary endpoint by demonstrating an improvement in progression-free survival for the patients who received CA4P. This trial, referred to as GOG-0186I, compared treatment with CA4P plus bevacizumab to treatment with bevacizumab alone. Based on the positive results of this clinical trial, we are conducting a two-stage, phase 2/3 clinical trial in platinum-resistant ovarian cancer, which will compare treatment with CA4P, bevacizumab and chemotherapy, or the active treatment arm, to treatment with bevacizumab and chemotherapy, or the control arm. CA4P is also being studied in combination with pazopanib in an on-going phase 2 clinical trial in recurrent ovarian cancer, called PAZOFOS, that is sponsored by The Christie Hospital NHS Foundation Trust in the United Kingdom. Our second compound, OXi4503, is being studied in combination with cytarabine in a phase 1/2 clinical trial in the United States in patients with relapsed or refractory acute myelogenous leukemia (AML) or myelodysplastic syndromes (MDS).

During 2016, our resources were focused primarily on initiating our two-stage, phase 2/3 clinical trial of CA4P in platinum-resistant ovarian cancer, called FOCUS, activating clinical sites for the FOCUS study and enrolling patients into both our FOCUS study and our phase 1/2 OXi4503 study in AML. In addition, we completed a phase 2 study of CA4P in neuroendocrine tumors, or NETs and supported the advancement of PAZOFOS into its phase 2 portion. During 2015, our resources were focused primarily on evaluating the potential clinical pathways for CA4P in ovarian cancer and other cancers, planning a phase 2/3 clinical trial in platinum-resistant ovarian cancer, and continuation of a phase 2 clinical trial in NETs.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of our financial statements in accordance with U.S. generally accepted accounting principles requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances at the time we make such estimates. Actual results and outcomes may differ materially from our estimates, judgments and assumptions. We periodically review our estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates are reflected in the financial statements prospectively from the date of the change in estimate. Our significant accounting policies are more fully described in Note 1 to our financial statements included elsewhere in this report.

We define our critical accounting policies as those accounting principles that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. We believe the critical accounting policies used in the preparation of our financial statements that require significant estimates and judgments are the following:

Research and development expenses

Research and development expenses consist of costs we incur for the development of our investigational drugs and, to a lesser extent, for preclinical research activities. Research and development costs are expensed as incurred. Research and development expenses include clinical trial costs, salaries and benefits of employees, including associated stock-based compensation, payments to clinical investigators, drug manufacturing costs, laboratory supplies and facility costs. Clinical trial costs are a significant component of our research and development expenses, and these can be difficult to accurately estimate. Included in clinical trial costs are fees paid to other entities that conduct certain research and development activities on our behalf, such as clinical research organizations, or CROs. We estimate clinical trial expenses based on the services performed pursuant to contracts with research institutions such as CROs and the actual clinical investigators. These estimates are based

on actual time and expenses incurred by the CRO and the clinical investigators. Also included in clinical trial expenses are costs based on the level of patient enrollment into the clinical trial and the actual services performed under the related clinical trial agreement. Changes in clinical trial assumptions, such as the length of time estimated to enroll all patients, rate of screening failures, patient drop-out rates, number and nature of adverse event reports and the total number of patients enrolled can impact the average and expected cost per patient and the overall cost of the clinical trial. Based on patient enrollment reports and services provided, we may periodically adjust estimates for the clinical trial costs. If we do not identify costs that we have begun to incur or if we underestimate or overestimate the level of services performed, the length of time for these services or the costs of these services, our actual expenses could differ from our estimates. Although we have not experienced significant changes in our estimates of clinical trial accruals to date, investors should be aware that our FOCUS clinical trial in platinum-resistant ovarian cancer is expected to be larger than any other clinical trial that we have conducted previously.

Share-based compensation

We record the estimated fair value of all share-based payments issued to employees and other service providers. Share-based payments consist primarily of stock options. The valuation of stock options is an inherently subjective process, since market values are not available for long-term, non-transferable stock options in our equity securities. Accordingly, we use a Black-Scholes option pricing model to derive an estimated fair value of the stock options which we issue. The Black-Scholes option pricing model requires certain input assumptions, including the expected term of the options and the expected volatility of our common stock. Changes in these assumptions could have a material impact on the estimated fair value that we record for share-based payments that we issue. We determine the term of the options based on the simplified method, which averages the vesting period and the contractual life of the stock option. We determine the expected volatility based on the historical volatility of our common stock over a period commensurate with the option's expected term. The Black-Scholes option pricing model also requires assumptions for risk-free interest rates and the expected dividend yield of our common stock, but we feel that these values are more objective and note that changes in these values do not have a significant impact on the estimated value of the options when compared to the volatility and term assumptions.

We are also required to estimate the level of award forfeitures expected to occur and record compensation expense only for those awards that are ultimately expected to vest. Accordingly, we perform a historical analysis of option awards that are forfeited prior to vesting, and record total stock option expense that reflects this estimated forfeiture rate.

RESULTS OF OPERATIONS

Years ended December 31, 2016 and 2015

Research and Development expenses

The table below summarizes the most significant components of our research and development expenses for the periods indicated and provides the amount and percentage change in these components (in thousands):

	Years ended December 31,		Change	
	2016	2015	Amount	%
Clinical studies	$ 3,967	$ 3,693	$ 274	7%
Employee compensation and related	2,868	2,520	348	14%
Employee stock-based compensation	404	513	(109)	-21%
Consulting and professional services	757	1,450	(693)	-48%
Drug manufacturing	476	452	24	5%
Other	292	458	(166)	-36%
Total research and development	**$ 8,764**	**$ 9,086**	**$ (322)**	**-4%**

In 2016 research and development expenses decreased approximately 4% compared to 2015, mostly due to lower costs paid for consulting and professional services, partially offset by higher employee compensation and clinical study expenses.

Higher expenses were incurred for clinical studies in 2016 as compared to 2015 primarily due to the mid-2016 initiation of the phase 2/3 FOCUS study of CA4P in platinum-resistant ovarian cancer. FOCUS currently represents the most advanced clinical study for our lead investigational drug. There were no comparable costs for FOCUS in 2015. In addition, higher costs were incurred for OX1222, evaluating OXi4503 in AML, after this clinical trial was expanded in late 2015. Partially offsetting the higher costs incurred for FOCUS and OX1222 were lower expenses for the NET study, for which we completed patient visits in mid-2016 compared to a full year for 2015.

Employee compensation and related expenses increased in 2016 compared to 2015 primarily due to our mid-to-late 2015 hiring of additional research and development personnel to support our drug development programs, including the FOCUS study for CA4P. Expenses for these employees were incurred for all of 2016 compared to only a portion of 2015. In addition to supporting the FOCUS study, we hired these employees to reduce our reliance on outside consultants to conduct similar work. Employee stock-based compensation decreased in 2016 compared to 2015 primarily due to vesting of certain options during 2015.

The decrease in consulting and professional services for 2016 compared to 2015 is primarily due to a lower level of use of outside consultants after we hired additional research and development employees during the second half of 2015. In addition, during 2015 we incurred a higher level of consulting costs as we sought additional outside expertise as we evaluated various development strategies for CA4P.

Timing of drug manufacturing costs is variable and is impacted by the timing of when drug product is needed for clinical trials, product expiration or re-test requirements, potential regulatory filings and scheduling of production batches based on the drug manufacturer's generally long lead time requirements. During 2016 and 2015, we did not need to manufacture any new batches of our investigational drugs. Costs for both years were generally limited to required packaging and labeling for clinical trials, drug stability and other work to support our investigational drugs.

Other expenses include facility related expenses and licensing fees which decreased in 2016 compared to 2015 primarily due to lower licensing fees paid for rights to our drug product candidates.

Because we plan to continue our FOCUS study of CA4P in platinum-resistant ovarian cancer and continue with our OX1222 study of OXi4503 in AML in 2017, subject to available funding to continue those trials, we expect research and development expenses to increase in 2017, particularly for clinical studies.

General and administrative expenses

The table below summarizes the most significant components of our general and administrative expenses for the periods indicated and the amount and percentage change in these components (in thousands):

	Years ended December 31,		Change	
	2016	2015	Amount	%
Employee compensation and related	$ 2,039	$ 1,928	$ 111	6%
Employee stock-based compensation	399	154	245	159%
Consulting and professional services	2,082	1,927	155	8%
Other	475	587	(112)	-19%
Total general and administrative	**$ 4,995**	**$ 4,596**	**$ 399**	**9%**

In 2016 general and administrative expenses increased approximately 9% compared to 2015, mostly due to higher costs for stock-based compensation.

Employee compensation and related expenses increased in 2016 compared to 2015 as a result of several positons converting from part-time to full time in the latter half of 2015, resulting in a full year of full-time costs

for 2016 compared to only a portion of 2015, as well as higher housing costs associated with employee relocation in 2016, partially offset by lower severance expense in 2016.

The increase in employee stock-based compensation in 2016 compared to 2015 was due to the 2016 vesting of stock options granted shortly after stockholder approval of a new option plan in mid-2015, higher levels of stock options granted during 2016 and options granted during 2016 to new directors appointed to our board.

Consulting and professional services expenses increased in 2016 compared to 2015 due to higher legal and business development costs.

Other expenses, which include facility related expenses, insurance expenses and taxes that are not based on income decreased for 2016 compared to 2015 due to lower fees paid in several different areas, none of which were individually significant.

We expect general and administrative expenses to increase in 2017 to support our planned increase in clinical development activities, as well as for additional business development and investor relations efforts.

LIQUIDITY AND CAPITAL RESOURCES

We are developing two investigational drugs, both VDAs, for the treatment of cancer and currently have no sources of revenue. We measure liquidity by the cash and other capital we have available to fund our operations, which are primarily focused on the advancement of our VDAs. To date, we have financed our operations principally through proceeds received from the sale of equity. We have experienced net losses in each year since our inception, and negative cash flows from operations in nearly every year. As of December 31, 2016, we had an accumulated deficit of over $278 million, including a net loss of approximately $13.7 million in 2016, and cash, cash equivalents and short-term investments of approximately $12.0 million, which we expect to be sufficient to fund our operations into approximately October 2017. If we are unable to secure additional funding prior to that date, we may be required to scale back or conclude our development activities altogether.

If we are able to secure additional funding to continue our operations, we expect to incur significant additional costs and expenses over at least the next several years as a result of our plans to develop VDAs for the treatment of cancer, including continuing our existing clinical trials as well as conducting new, additional clinical trials and anticipated research and development expenditures. We anticipate that our development will include continuing our current clinical trials as well as new clinical trials and additional research and development expenditures.

No cash was provided by financing activities in 2016. Cash provided by financing activities of $9.2 million in 2015 represents proceeds from the issuance of common stock and warrants. We will require additional capital before we can complete all planned clinical trials and development of CA4P and OXi4503. Additional funding may not be available to us on acceptable terms, or at all. If we are unable to access additional funds when needed we may not be able to continue the development of our product candidates or we could be required to delay, scale back or eliminate some or all of our development programs and operations. Any additional equity financing, if available, may not be available on favorable terms and would be dilutive to our current stockholders. Debt financing, if available, may involve restrictive covenants and could also be dilutive to our current stockholders. If we are able to access funds through collaborative or licensing arrangements, we may be required to relinquish rights to some of our technologies or product candidates that we would otherwise seek to develop or commercialize on our own, on terms that are not favorable to us.

Our ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm our business, financial condition and results of operations. Our ability to raise additional capital was significantly impaired following our delisting from The NASDAQ Capital Market in December 2016.

Contractual Obligations

The following table presents information regarding our non-cancelable contractual obligations, which consists of our facility lease, as of December 31, 2016:

	Amount (in thousands)
2017	215
2018	221
2019	112
Total lease obligations	**$ 548**

Our current drug development programs are based on a series of compounds called combretastatins, which we have exclusively licensed from Arizona State University, or ASU. If our current drug candidates are approved, we will be required to pay low to mid-single-digit royalties on future net sales of products associated with the ASU patent rights until these patent rights expire.

We also have an exclusive license from Bristol-Myers Squibb, or BMS, for certain patent rights to particular combretastatins, including CA4P. If CA4P is approved, we will be required to pay low-single-digit royalties on future net sales of products associated with the BMS patent rights until these patent rights expire.

ITEM 7A. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

We have adopted an Investment Policy, the primary objectives of which are to preserve principal, maintain proper liquidity to meet operating needs and maximize yields while preserving principal. Although our investments are subject to credit risk, we follow procedures to limit the amount of credit exposure in any single issue, issuer or type of investment. Our investments are also subject to interest rate risk and will decrease in value if market interest rates increase. However, due to the generally conservative nature of our investments and relatively short duration, we believe that interest rate risk is mitigated. Our cash and cash equivalents are maintained in U.S. dollar accounts. Although we may from time to time manufacture drugs and conduct trials and studies outside of the United States, we believe our exposure to foreign currency risk to be immaterial.

ITEM 8. *FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA*

See Item 15 for a list of our Financial Statements and Schedules and any supplementary financial information filed as part of this Annual Report.

ITEM 9. *CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE*

Not applicable

ITEM 9A. *CONTROLS AND PROCEDURES*

Evaluation of our Disclosure Controls and Procedures

The Securities and Exchange Commission requires that as of the end of the period covered by this Annual Report on Form 10-K, the Chief Executive Officer, or CEO, and the Chief Financial Officer, or CFO, evaluate the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) and report on the effectiveness of the design and operation of our disclosure controls and procedures. Based upon that evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective, as of December 31, 2016, to ensure that we record, process, summarize and report the information we must disclose in reports that we file or submit under the Exchange Act, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting, identified in connection with the evaluation of such control that occurred during the fourth quarter of our fiscal year ended December 31, 2016, which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2016 based on the criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on that evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2016.

This Annual Report does not include an attestation report of the Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to rules of the SEC.

Important Considerations

The effectiveness of our disclosure controls and procedures and our internal control over financial reporting is subject to various inherent limitations, including cost limitations, judgments used in decision making, assumptions about the likelihood of future events, the soundness of our systems, the possibility of human error, and the risk of fraud. Moreover, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions and the risk that the degree of compliance with policies or procedures may deteriorate over time. Because of these limitations, there can be no assurance that any system of disclosure controls and procedures or internal control over financial reporting will be successful in preventing all errors or fraud or in making all material information known in a timely manner to the appropriate levels of management. Because we are not an accelerated filer, as defined by Rule 12b-2 of the Exchange Act, OUM & Co., LLP was not required to issue an opinion on our internal control over financial reporting and, therefore, did not perform for the fiscal year ended December 31, 2016 an audit of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002.

ITEM 9B. *OTHER INFORMATION*

None.

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 "Proposal 1 — Election of Directors," "Management and Corporate Governance," "Section 16(a) Beneficial Ownership Reporting Compliance," "Executive Officers of the Company" and "Corporate Code of Conduct and Ethics" to be included in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 11. *EXECUTIVE COMPENSATI ON*

The response to this item is incorporated by reference from the discussion responsive thereto under the caption "Executive Compensation," to be included in the Company's Proxy Statement for the 2017 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" to be included in the Company's Proxy Statement for the 2017 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," "Board and Committee Meetings" and "Executive Compensation" to be included in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

ITEM 14. ***PRINCIPAL ACCOUNTING FEES AND SERVICES***

The response to this item is incorporated by reference from the discussion responsive thereto under the caption "Audit Fees" to be included in the Company's Proxy Statement for the 2017 Annual Meeting of Stockholders.

PART IV

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

(a) The following documents are filed as part of this Annual Report on Form 10-K.

(1) *Financial Statements*

See financial statements listed in the accompanying "Index to Financial Statements" covered by the Report of Independent Registered Public Accounting Firm.

(2) *Financial Statement Schedule*

No schedules are submitted because they are not applicable, not required or because the information is included in the Financial Statements as Notes to Financial Statements.

(3) *Exhibits*

The following is a list of exhibits filed as part of this Annual Report on Form 10-K.

		Incorporated by Reference			
Exhibit Number	Description	Form	Filing Date	Exhibit Number	Filed Herewith
3.1	Restated Certificate of Incorporation of the Registrant, as amended by Certificates of Amendment dated June 22, 1995, November 15, 1996, July 14, 2005, June 2, 2009, February 8, 2010, August 5, 2010, February 22, 2011, May 29, 2012, December 27, 2012, July 17, 2013 and June 16, 2016.				x
3.2	Amended and Restated By-Laws of the Registrant.	8-K	6/17/2016	3.2	
4.1	Specimen Common Stock Certificate. *	10-Q	8/2/2016	4.1	
4.2	Form of Series A/B Common Stock Purchase Warrant.	8-K	4/11/2013	4.1	
4.3	Form of Common Stock Purchase Warrant.	8-K	9/20/2013	4.1	
4.4	Form of Common Stock Purchase Warrant.	S-1/A	1/31/2014	4.9	
4.5	Form of Placement Agent Purchase Warrant.	S-1/A	1/31/2014	4.8	

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit Number	
4.6	Form of Common Stock Purchase Warrant.	8-K	2/14/2014	4.1	
4.7	Form of Placement Agent Purchase Warrant.	8-K	2/14/2014	4.2	
4.8	Form of Common Stock Purchase Warrant.	8-K	3/20/2015	4.1	
4.9	Form of Common Stock Purchase Warrant.	8-K	5/23/2014	4.1	
10.1	Technology Development Agreement, dated as of May 27, 1997, between the Registrant and the Arizona Board of Regents, acting for and on behalf of Arizona State University.	10-K	4/15/1998	10.9	
10.2	License Agreement No. 206-01.LIC by and between the Arizona Board of Regents, acting on behalf of and for Arizona State University, and OXiGENE Europe AB, dated August 2, 1999.	10-K/A	8/12/2003	10.27	
10.3	Amendment and Confirmation of License Agreement No. 206-01.LIC, dated as of June 10, 2002, between the Registrant and the Arizona Board of Regents, acting for and on behalf of Arizona State University.	10-Q	8/14/2002	10.29	
10.4	Research Collaboration and License Agreement, dated as of December 15, 1999, between OXiGENE Europe AB and Bristol-Myers Squibb Company. *	8-K	12/28/1999	99.1	
10.5	Termination Agreement by and between OXiGENE Europe AB and Bristol-Myers Squibb Company dated as of February 15, 2002.	10-Q	8/14/2002	10.14	
10.6	Research and License Agreement between the Registrant and Baylor University, dated June 1, 1999.	10-K/A	8/12/2003	10.28	
10.7	Agreement to Amend Research and License Agreement between the Registrant and Baylor University, dated April 23, 2002.	10-K/A	8/12/2003	10.29	
10.8	Addendum to Research and License Agreement between the Registrant and Baylor University, dated April 14, 2003.	10-K/A	8/12/2003	10.30	
10.9	Lease between Broadway 701 Gateway Fee LLC, a Delaware Limited Liability Company, as Landlord, and the Registrant, as Tenant, dated October 10, 2008.	10-K	3/30/2009	10.59	
10.10	Third Amendment to Lease, dated as of April 1, 2013, by and between the Registrant and DWF III Gateway, LLC, a Delaware limited liability company.	10-Q	5/9/2013	10.1	
10.11	Fourth Amendment to Lease, dated April 28, 2014, by and between the Registrant and DWF III Gateway, LLC.	10-Q	5/8/2014	10.1	
10.12	Mateon Therapeutics, Inc. 2005 Stock Plan (as amended and restated on January 12, 2017). +	8-K	1/13/2017	10.4	
10.13	Form of Incentive Stock Option Agreement under Mateon's 2005 Stock Plan. +	10-K	3/14/2006	10.29	

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit Number	
10.14	Form of Non-Qualified Stock Option Agreement under Mateon's 2005 Stock Plan. +	10-K	3/14/2006	10.30	
10.15	Form of Restricted Stock Agreement under Mateon's 2005 Stock Plan. +	10-K	3/14/2006	10.31	
10.16	Mateon Therapeutics, Inc. 2015 Equity Incentive Plan (as amended and restated on January 12, 2017). +	8-K	1/13/2017	10.3	
10.17	Form of Option Agreement under Mateon's 2015 Equity Incentive Plan. +	10-Q	8/6/2015	10.6	
10.18	Mateon Therapeutics, Inc. 2017 Equity Incentive Plan. +	8-K	1/13/2017	10.1	
10.19	Form of Option Agreement under Mateon's 2017 Equity Incentive Plan. +	8-K	1/13/2017	10.2	
10.20	Form of Indemnification Agreement. +	10-Q	8/13/2012	10.2	
10.21	Mateon Therapeutics, Inc. Amended and Restated Non-Employee Director Compensation Policy, effective July 2014. +	10-Q	8/8/2014	10.4	
10.22	Mateon Therapeutics, Inc. Amended and Restated Non-Employee Director Compensation Policy, effective October 25, 2016. +	8-K	10/28/2016	10.2	
10.23	Employment Agreement by and between the Registrant and William D. Schwieterman, dated as of May 12, 2015. +	10-Q	8/6/2015	10.1	
10.24	Amendment No. 1 to Employment Agreement by and between William D. Schwieterman, dated as of July 31, 2015. +	10-Q	8/6/2015	10.7	
10.25	Employment Agreement by and between the Registrant and David J. Chaplin, dated as of May 16, 2014. +	10-Q	8/8/2014	10.1	
10.26	Amended and Restated Employment Agreement by and between the Registrant and David J. Chaplin, dated as of May 12, 2015. +	10-Q	8/6/2015	10.3	
10.27	Second Amended and Restated Employment Agreement by and between the Registrant and David J. Chaplin, effective as of January 1, 2017. +	8-K	10/28/2016	10.1	
10.28	Employment Agreement by and between the Registrant and Matthew M. Loar, dated as of July 20, 2015. +	10-Q	8/6/2015	10.2	
10.29	Securities Purchase Agreement, dated as of March 20, 2015, by and among the Registrant and the purchasers named therein.	8-K	3/20/2015	10.1	
14.1	Corporate Code of Conduct and Ethics.	10-K	3/30/2015	14.1	
23.1	Consent of Independent Registered Public Accounting Firm.				x

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit Number	
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a).				x
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a).				x
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				x
101.1	Interactive Data Files for the fiscal years ended December 31, 2016 and December 31, 2015				x
101.INS	XBRL Instance Document				x
101.SCH	XBRL Taxonomy Extension Schema				x
101.CAL	XBRL Taxonomy Extension Calculation Linkbase				x
101.DEF	XBRL Taxonomy Extension Definition Linkbase				x
101.LAB	XBRL Taxonomy Extension Label Linkbase				x
101.PRE	XBRL Taxonomy Extension Presentation Linkbase				x

* Confidential treatment has been granted for portions of this Exhibit. Redacted portions filed separately with the Securities and Exchange Commission.
\+ Management contract or compensatory plan or arrangement.

ITEM 16. ***FORM 10-K SUMMARY.***

None.

SIGNATURES

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

MATEON THERAPEUTICS, INC.

By: /S/ WILLIAM D. SCHWIETERMAN
William D. Schwieterman
Chief Executive Officer

Date: March 30, 2017

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 and on the dates indicated.

Signature	Title	Date
/S/ WILLIAM D. SCHWIETERMAN William D. Schwieterman	President, Chief Executive Officer and Chairman of the Board and Director (Principal executive officer)	March 30, 2017
/S/ MATTHEW M. LOAR Matthew M. Loar	Chief Financial Officer (Principal financial and accounting officer)	March 30, 2017
/S/ DAVID J. CHAPLIN David J. Chaplin	Director	March 30, 2017
/S/ SIMON C. PEDDER Simon C. Pedder	Director	March 30, 2017
/S/ DONALD R. REYNOLDS Donald R. Reynolds	Director	March 30, 2017
/S/ BOBBY W. SANDAGE, JR. Bobby W. Sandage, Jr.	Director	March 30, 2017

MATEON THERAPEUTICS, INC.

Index to Financial Statements

The following financial statements of Mateon Therapeutics, Inc.:

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Mateon Therapeutics, Inc.

We have audited the accompanying balance sheets of Mateon Therapeutics, Inc. as of December 31, 2016 and 2015, and the related statements of comprehensive loss, stockholders' equity and cash flows for each of the two years in the period ended December 31, 2016. 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. The Company is not required to have, nor were we engaged to perform, an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Mateon Therapeutics, Inc. at December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has incurred recurring losses and negative cash flows from operations that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ OUM & CO. LLP

San Francisco, California
March 30, 2017

MATEON THERAPEUTICS, INC.

Balance Sheets
(in thousands, except per share data)

	December 31, 2016	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$ 3,535	$ 27,285
Short-term investments	8,512	—
Prepaid clinical trial expenses	1,946	38
Other prepaid expenses and current assets	77	67
Total current assets	14,070	27,390
Property and equipment, net	11	30
Other assets	33	33
Total assets	$ 14,114	$ 27,453
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 310	$ 287
Accrued compensation and employee benefits	842	636
Accrued clinical trial expenses	64	918
Other accrued liabilities	398	262
Total current liabilities	1,614	2,103
Commitments and contingencies (see Note 9)		
Stockholders' equity:		
Preferred stock, $0.01 par value, 15,000 shares authorized; No shares issued and outstanding	—	—
Common stock, $0.01 par value, 70,000 shares authorized; 26,545 shares issued and outstanding	265	265
Additional paid-in capital	290,698	289,894
Accumulated deficit	(278,463)	(264,809)
Total stockholders' equity	12,500	25,350
Total liabilities and stockholders' equity	$ 14,114	$ 27,453

See accompanying notes.

MATEON THERAPEUTICS, INC.

Statements of Comprehensive Loss
(in thousands, except per share data)

	2016	2015
Operating expenses:		
Research and development	$ 8,764	$ 9,086
General and administrative	4,995	4,596
Total operating expenses	13,759	13,682
Loss from operations	(13,759)	(13,682)
Interest income	106	27
Other income (expense)	(1)	1
Net loss and comprehensive loss	$(13,654)	$(13,654)
Basic and diluted net loss per share attributable to common stock	$ (0.51)	$ (0.54)
Weighted-average number of common shares outstanding	26,545	25,201

See accompanying notes.

MATEON THERAPEUTICS, INC.

Statements of Stockholders' Equity
(in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance December 31, 2014	20,705	$ 207	$279,952	$ (251,155)	$ 29,004
Net loss and comprehensive loss	—	—	—	(13,654)	(13,654)
Issuance of common stock in a private placement, net of issuance costs of $805	5,840	58	9,136	—	9,194
Stock based compensation expense	—	—	806	—	806
Balance December 31, 2015	26,545	$ 265	$289,894	$ (264,809)	$ 25,350
Net loss and comprehensive loss	—	—	—	(13,654)	(13,654)
Stock based compensation expense	—	—	804	—	804
Balance December 31, 2016	26,545	$ 265	$290,698	$ (278,463)	$ 12,500

See accompanying notes.

MATEON THERAPEUTICS, INC.

Statements of Cash Flows
(in thousands)

	2016	2015
Operating activities:		
Net loss	$(13,654)	$(13,654)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	19	20
Stock-based compensation	804	806
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,918)	217
Accounts payable and accrued expenses	(489)	684
Net cash used in operating activities	(15,238)	(11,927)
Investing activities:		
Purchase of short-term investments	(21,014)	—
Sale of short-term investments	12,502	—
Purchase of property and equipment	—	(13)
Net cash used in investing activities	(8,512)	(13)
Financing activities:		
Proceeds from issuance of common stock, net of issuance costs	—	9,194
Net cash provided by financing activities	—	9,194
Decrease in cash and cash equivalents	(23,750)	(2,746)
Cash and cash equivalents at beginning of year	27,285	30,031
Cash and cash equivalents at end of year	$ 3,535	$ 27,285

See accompanying notes.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements
December 31, 2016

1. Description of Business

Mateon Therapeutics, Inc. ("Mateon" or the "Company") is a clinical-stage biopharmaceutical company seeking to realize the full potential of vascular targeted therapy in oncology. Vascular targeted therapy includes vascular disrupting agents (VDAs), such as the investigational drugs that Mateon is developing, and anti-angiogenic agents (AAs), a number of which are approved and widely used in oncology indications. Mateon's VDAs selectively obstruct a tumor's blood supply without obstructing the blood supply to normal tissues, and treatment with Mateon's VDAs has been shown to lead to significant central tumor necrosis. The Company believes that the treatment of cancer would be significantly improved if VDAs and AAs were used together, due to their complementary mechanisms of action. In combination, the VDA would occlude the blood vessels in the interior of a tumor while the AA would prevent the formation of new tumor blood vessels. The Company has two VDA drug candidates currently being tested in clinical trials, CA4P (combretastatin A4 phosphate, or fosbretabulin) and OXi4503. The Company was originally incorporated under the name OXiGENE, Inc. in 1988 in the state of New York and reincorporated in 1992 in the state of Delaware. Effective June 17, 2016, the Company amended its Certificate of Incorporation to change its name to Mateon Therapeutics, Inc.

2. Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

Cash Equivalents

Highly liquid investments with original maturities of three months or less at the date of purchase are considered to be cash equivalents. Cash equivalents are stated at fair value.

Short-term Investments

All marketable securities have been classified as "available for sale" and are carried at fair value, based upon quoted market prices. The Company considers its available-for-sale portfolio to be available for use in current operations. Accordingly, the Company classifies certain investments as short-term marketable securities, even though the stated maturity date may be one year or more beyond the current balance sheet date. Unrealized gains and losses, if material, net of any related tax effects, are excluded from earnings and are included in other comprehensive income and reported as a separate component of stockholders' deficit until realized. Realized gains and losses and declines in value judged to be other than temporary, if any, on available-for-sale securities are included in other income (expense), net. The cost of securities sold is based on the specific-identification method.

Concentration of Credit Risk

The Company has no significant off balance sheet concentrations of credit risk. Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash and short-term investments, which consist of U.S. government treasury bills, corporate bonds and commercial paper. The Company holds its cash and short-term investments with one financial institution.

MATEON THERAPEUTICS, INC.
Notes to Financial Statements — (Continued)

Fair Value of Financial Instruments

The Company measures and reports its cash equivalents and investments at fair value. Fair value is defined as the exchange price that would be received for an asset or an exit price paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

Property and Equipment

Property and equipment, including leasehold improvements, are recorded and stated at cost. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets, which range from three to five years, or the applicable lease term, whichever is less.

Accrued Clinical Trial Expenses

The Company utilizes contract research organizations (CROs), independent clinical investigators, and other third-party service providers to assist with the execution of its clinical trials. The Company records costs for clinical trial activities based upon the estimated amount of services provided but not yet invoiced for each clinical trial, and includes these costs in accrued liabilities on its Balance Sheets and within research and development expenses on its Statements of Comprehensive Loss. Contracts for clinical trials vary significantly in length and are usually composed of a fixed management fee, variable indirect reimbursable costs, monthly costs and amounts owed on a per patient basis. The Company monitors both the activity and patient enrollment levels of each clinical trial to the extent possible through communication with each service provider, detailed invoice and task completion review, analysis of actual expenses against budget, pre-approval of any changes in scope, and review of contractual terms. As a result, accrued clinical trial expenses represent the Company's reasonably estimated contractual liability to outside service providers at any particular point in time. These estimates may or may not match the actual services performed by the service providers as determined by actual patient enrollment levels and other variable activity costs.

Research and Development Expenses

The Company charges all research and development costs, both internal and external, to expense when incurred. The Company's research and development expenses consist primarily of clinical trial expenses, personnel costs, including salaries, benefits and stock-based compensation, costs associated with manufacturing the Company's drug product for clinical use and required regulatory filings, licenses and fees, and overhead allocations consisting of various support and facility-related costs.

Clinical trial expenses represent a significant component of the Company's research and development expenses. A large portion of the costs for the Company's clinical trials are paid to or through CROs. The Company monitors levels of services provided under each significant contract including the extent of patient enrollment and other activities through communications with its CROs and with investigator sites. Costs are accrued for clinical studies performed by CROs over the service periods specified in the contracts and estimates are adjusted, if required, based upon ongoing review of the level of effort and costs actually incurred by the CROs.

The manufacturing of the Company's drug investigational drugs is outsourced to third-party manufacturers. The drug manufacturing costs are expensed as incurred.

Comprehensive Net Loss

For the periods presented, there are no components of other comprehensive income or accumulated comprehensive income and the net loss is equal to the comprehensive loss.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

Stock-based Compensation

The Company expenses the estimated fair value of all share-based payments issued to employees on a straight-line basis over the vesting period. The Company has equity incentive plans that provides for the award of stock options, restricted stock and stock appreciation rights to employees, directors and consultants to the Company.

Patents and Patent Applications

The Company has filed applications for patents in connection with various product candidates and technologies being developed. Costs associated with patent applications and maintaining patents are expensed as general and administrative expense as incurred.

Income Taxes

The Company accounts for income taxes using the liability method whereby tax rates are applied to cumulative temporary differences between carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes based on when and how they are expected to affect the tax return.

Subsequent Events

The Company reviews all activity subsequent to year end but prior to the issuance of the financial statements for events that could require disclosure or which could impact the carrying value of assets or liabilities as of the balance sheet date.

Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-2, “Leases.” This ASU requires substantially all leases, including operating leases, to be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability. This ASU is effective for the Company’s interim and annual reporting periods beginning January 1, 2019 and early adoption is permitted. The Company is currently evaluating the impact that the adoption of this ASU will have on its financial statements.

In March 2016, the FASB issued ASU No. 2016-09, “Improvements to Employee Share-Based Payment Accounting,” which simplifies several aspects of the accounting for share-based payments, including immediate recognition of all excess tax benefits and deficiencies in the income statement, changing the threshold to qualify for equity classification up to the employees’ maximum statutory tax rates, allowing an entity-wide accounting policy election to either estimate the number of awards that are expected to vest or account for forfeitures as they occur, and clarifying the classification on the statement of cash flows for the excess tax benefit and employee taxes paid when an employer withholds shares for tax-withholding purposes. This ASU is effective for the Company’s interim and annual reporting periods beginning January 1, 2017 and early adoption is permitted. The Company does not expect the adoption of this standard to have a material impact on its financial statements.

Going Concern Evaluation

The Company has experienced net losses every year since inception and, as of December 31, 2016, had an accumulated deficit of over $278 million. The company has no source of revenue and does not expect to receive any product revenue in the near future. The Company expects to incur significant additional operating losses over at least the next several years, principally as a result of the Company’s continuing clinical trials for its investigational drugs. The principal source of the Company’s working capital to date has been the proceeds from the sale of equity. As of December 31, 2016, the Company had approximately $12 million in cash and short-term

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

investments. Based on the Company's planned operations, Management expects Mateon's existing cash and short-term investments to support operations into October 2017. Prior to this time, the Company will need to secure additional funding or could be forced to curtail or terminate operations. Because the Company does not currently have a guaranteed source of working capital that will sustain operations past October 2017, Management has determined that there is substantial doubt about the Company's ability to continue as a going concern. The Company will need to raise capital in order to fund its operations beyond this date. If the Company is unable to access additional funds when needed, it may not be able to continue the development of its investigational drugs and the Company could be required to delay, scale back or eliminate some or all of its development programs and other operations. Any additional equity financing, if available to the Company, may not be available on favorable terms, would most likely be dilutive to its current stockholders and debt financing, if available, and may involve restrictive covenants. If the Company accesses funds through collaborative or licensing arrangements, it may be required to relinquish rights to some of its technologies or product candidates that it would otherwise seek to develop or commercialize on its own, on terms that are not favorable to the Company. The Company's ability to access capital when needed is not assured and, if not achieved on a timely basis, will materially harm its business, financial condition and results of operations.

3. Cash, Cash Equivalents, and Short-Term Investments

Cash, cash equivalents and short-term investments consisted of the following (in thousands):

	December 31, 2016			
	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Estimated Fair Value
Cash	$ 671	$ —	$ —	$ 671
Money market funds	2,864	—	—	2,864
U.S. government treasury bills	3,008	—	—	3,008
Corporate bonds and commercial paper	5,504	—	—	5,504
	$ 12,047	$ —	$ —	$ 12,047
Reported as:				
Cash and cash equivalents				$ 3,535
Short-term investments				8,512
Total cash, cash equivalents and short-term investments				$ 12,047

As of December 31, 2016, the Company's cash equivalents and short-term investments had a weighted-average time to maturity of less than one year, and the Company has the ability to hold its investments through their maturity dates. There have been no significant realized gains or losses on investments for the period presented.

4. Fair Value Measurements

Fair value is defined as the price at which an asset could be exchanged or a liability transferred in a transaction between knowledgeable, willing parties in the principal or most advantageous market for the asset or liability. Where available, fair value is based on observable market prices or parameters or derived from such prices or parameters. Where observable prices or parameters are not available, valuation models are applied.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

Assets and liabilities recorded at fair value are categorized based upon the level of judgment associated with the inputs used to measure their fair value. Hierarchical levels directly related to the amount of subjectivity associated with the inputs to fair valuation of these assets and liabilities are as follows:

Level 1 — Inputs are unadjusted, quoted prices in active markets for identical assets at the reporting date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide reasonably accurate pricing information on an ongoing basis.

Level 2 — Inputs, other than quoted prices included in Level 1, that are either directly or indirectly observable for the asset or liability through correlation with market data at the reporting date and for the duration of the instrument's anticipated life.

The Company utilizes third party pricing services in developing fair value measurements where fair value is based on observable market inputs, including benchmark yields, reported trades, broker/dealer quotes, bids, offers and other reference data. The Company uses quotes from external pricing service providers and other on-line quotation systems to verify the fair value of investments provided by third party pricing service providers.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities reflect management's best estimate of what market participants would use in pricing the asset or liability at the reporting date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

Financial assets measured at fair value on a recurring basis are categorized in the tables below based upon the lowest level of significant input to the valuations (in thousands):

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
Money market funds	$2,864	$ —	$ —	$ 2,864
U.S. government treasury bills	—	3,008	—	3,008
Corporate bonds and commercial paper	—	5,504	—	5,504
Total	$2,864	$8,512	$ —	$11,376

5. Property and equipment

Property and equipment consists of the following (in thousands):

	December 31,	
	2016	2015
Equipment	$ 226	$ 226
Furniture and fixtures	36	36
Leasehold improvements	6	6
Total assets	268	268
Less accumulated depreciation	(257)	(238)
Total property and equipment, net	**$ 11**	**$ 30**

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

6. Stockholders' Equity

March 2015 Financing

On March 25, 2015, the Company completed a financing with institutional investors in which it raised $10.0 million, or approximately $9.2 million after deducting placement agent fees and other offering expenses. Investors purchased shares of the Company's common stock at a price of $1.7125 per share and received one warrant to purchase one half of a share of the Company's common stock at the same exercise price per share as each share of common stock purchased. A total of 5,839,420 shares of common stock and warrants for the purchase of 2,919,710 shares of common stock were issued. The warrants were exercisable immediately after issuance and expire 5 years from the date of issuance. Also, in connection with the financing, the Company issued to its placement agent and related persons warrants to purchase 233,577 shares of the Company's common stock, which were exercisable immediately after issuance, have an exercise price of $2.13 per share and expire on March 20, 2020.

Warrants

The following is a summary of the Company's outstanding common stock warrants:

Expiration Date	Exercise Price	December 31, (in thousands) 2016	2015
04/16/18	$ 3.40	1,460	1,460
09/23/18	$ 2.80	147	147
02/18/19	$ 2.75	1,872	1,872
02/11/19	$ 2.56	293	293
08/28/19	$ 2.90	2,700	2,700
06/14/17	$ 3.70	216	216
03/25/20	$ 1.71	2,920	2,920
03/20/20	$ 2.13	234	234
Total Warrants Outstanding		**9,842**	**9,842**

No warrants were exercised during the years ended December 31, 2016 and 2015.

All warrants outstanding at December 31, 2016 and 2015 were recorded by the Company as equity at the time of issuance.

Options and restricted stock

As of December 31, 2016, options to purchase common stock were outstanding under two stockholder-approved plans — the 2015 Equity Incentive Plan (the "2015 Plan") and the 2005 Stock Plan (the "2005 Plan"). Options to purchase common stock may no longer be made under the 2005 Plan, although options previously granted remain outstanding in accordance with their terms. Under the 2015 Plan, up to 4,000,000 shares of the Company's common stock may be issued pursuant to awards granted in the form of incentive stock options, nonqualified stock options, restricted and unrestricted stock awards, and other stock-based awards to employees, consultants, and directors. The 2015 Plan also allows additional shares of the Company's common stock to be issued if awards previously authorized or outstanding under the Company's 2005 Stock Plan are cancelled, forfeited, surrendered, or terminated. Under the 2005 Plan, up to 726,000 shares of the Company's common may be issued or transferred to the 2015 Plan.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

The following is a summary of the Company's stock option activity under its 2015 and 2005 Plans:

	Options Available for Grant	Options Outstanding	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value
	(in thousands)			(years)	(in thousands)
Balance at December 31, 2014	54	672	$ 3.63	8.49	
Options granted	(1,842)	1,842	$ 1.95		
Options forfeited	483	(483)	$ 1.93		
Options authorized	4,000	—			
Balance at December 31, 2015	2,695	2,031	$ 2.01	8.44	
Options granted	(2,569)	2,569	$ 0.70		
Options forfeited	423	(423)	$ 1.74		
Balance at December 31, 2016	549	4,177	$ 1.47	8.14	$ —
Vested and exercisable at December 31, 2016		1,053	$ 2.20	6.96	$ —
Vested and expected to vest at December 31, 2016		3,226	$ 1.33	8.00	$ —
Unvested at December 31, 2016		3,124	$ 1.23		

As of December 31, 2016 there was approximately $1.3 million of unrecognized compensation cost related to stock option awards that is expected to be recognized as expense over a weighted average period of approximately 2.6 years.

The weighted average fair value of stock options issued in 2016 and 2015 was $0.51 and $1.05, respectively.

The fair values for the stock options granted were estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Year ended December 31,	
	2016	2015
Risk-free interest rate	1.5%	1.7%
Expected life (years)	6.0	6.0
Expected volatility	88%	92%
Dividend yield	0%	0%

In calculating the estimated fair value of its stock options, the Company used the Black-Scholes option pricing model which requires the consideration of the following variables for purposes of estimating fair value:

- the stock option exercise price,
- the grant date price of the Company's common stock,
- the expected term of the option,
- the expected volatility of the Company's common stock,
- the expected dividends on the Company's common stock, and
- the risk-free interest rate for the expected option term.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

Stock Option Exercise Price and Grant Date Price of the Company's common stock — The closing market price of the Company's common stock on the date of grant.

Expected Term — The expected term of options represents the period of time for which the options are expected to be outstanding, and is calculated based on the average of the vesting period and the option term.

Expected Volatility — The expected volatility is a measure of the amount by which the Company's stock price is expected to fluctuate during the term of the option granted. The Company determines the expected volatility based on the historical volatility of its common stock over a period commensurate with the option's expected term.

Expected Dividends — Because the Company has never declared or paid any cash dividends on any of its common stock and does not expect to do so in the foreseeable future, the Company uses an expected dividend yield of zero to calculate the grant date fair value of a stock option.

Risk-Free Interest Rate — The risk-free interest rate is the implied yield available on U.S. Treasury issues with a remaining life consistent with the option's expected term on the date of grant.

The Company estimates the level of award forfeitures expected to occur and records compensation expense only for those awards that are ultimately expected to vest.

7. Net Loss Per Share

Basic and diluted net loss per share was calculated by dividing the net loss per share attributed to the Company's common shares by the weighted-average number of common shares outstanding. Diluted net loss per share includes the effect of all dilutive, potentially issuable common equivalent shares as defined using the treasury stock method. All of the Company's common stock equivalents are anti-dilutive due to the Company's net loss position for all periods presented. Accordingly, common stock equivalents of approximately 4,177,000 stock options and 9,842,000 warrants at December 31, 2016 and 2,031,000 stock options and 9,842,000 warrants at December 31, 2015, were excluded from the calculation of weighted average shares for diluted net loss per share.

8. Income Taxes

The components of the Company's deferred tax assets are as follows (in thousands):

	December 31,	
	2016	2015
Net operating loss carryforwards	$ 85,148	$ 83,558
Stock based compensation	435	333
Research and development credits	2,925	2,628
Fixed assets	2,617	1
Accruals	391	239
Total Deferred tax assets	91,516	86,759
Valuation allowance	(91,516)	(86,759)
Net deferred tax asset	**$ —**	**$ —**

After consideration of the available evidence, both positive and negative, the Company has determined that a full valuation allowance at December 31, 2016 and 2015 is necessary to reduce the deferred tax assets to the amount that will more likely than not be realized. The valuation allowance increased by approximately $4,757,000 and $4,300,000 for the years ended December 31, 2016 and 2015, respectively. As all of the

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

Company's deferred tax assets have been reserved for in a valuation allowance, no provision for (benefit from) income taxes has been recorded in the accompanying financial statements.

At December 31, 2016, the Company had net operating loss carry-forwards of approximately $241,832,000 for Federal income tax purposes which will begin to expire in 2020, and net operating loss carry-forwards for California state income tax purposes of $50,135,000 which will begin to expire in 2017. The Company had federal research and development tax credits of $3,148,000 which will begin to expire in 2021. The Company also had state research and development tax credits in California of $1,139,000 which have no expiration.

The utilization of the Company's net operating losses and credits may be subject to a substantial annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

A reconciliation of the federal statutory rate to the Company's effective tax rate is as follows:

	Years ended December 31,	
	2016	2015
Federal statutory rate	34.00%	34.00%
State income taxes	0.42	(0.49)
Federal NOL adjustment	—	(0.43)
State NOL expired or adjusted	—	(0.07)
Permanent items	(0.97)	(3.26)
Stock compensation	(0.37)	(0.11)
Federal research credits	1.75	1.86
State rate change	—	—
Miscellaneous	—	—
(Increase)/ Decrease in Valuation Allowance	(34.83)	(31.50)
Provision for income taxes	**0.00%**	**0.00%**

At December 31, 2016, the Company had $1,072,000 of unrecognized tax benefits related to research and development credits.

The change in unrecognized tax benefits from December 31, 2014 is as follows (in thousands):

Unrecognized tax benefits as of December 31, 2014	$1,093
Increase in prior year unrecognized tax benefits	195
Increase in current year unrecognized tax benefits	122
Unrecognized tax benefits as of December 31, 2015	1,410
Decrease in prior year unrecognized tax benefits	(447)
Increase in current year unrecognized tax benefits	109
Unrecognized tax benefits as of December 31, 2016	**$1,072**

The Company does not expect its unrecognized tax benefits to change significantly over the next twelve months. As of December 31, 2016, due to a valuation allowance against the Company's deferred tax assets, none of the unrecognized tax benefits, if recognized, would affect the Company's effective tax rate.

MATEON THERAPEUTICS, INC.

Notes to Financial Statements — (Continued)

There are currently no federal or state audits in progress. Tax years still subject to examination for Federal and the State authorities include all prior years due to the existence of net operating loss carry-forwards.

It is the Company's practice to recognize interest and penalties related to income tax matters in income tax expense. As of December 31, 2016 the Company has no accrued interest and penalties related to uncertain tax positions.

9. Commitments and Contingencies

The Company has a lease for its corporate headquarters which expires on June 30, 2019. The lease is for a total of 5,275 square feet of office space located in South San Francisco, California. Rental expense for the years ended December 31, 2016 and 2015 was $208,000 and $210,000, respectively. The future minimum lease payments required under the lease are as follows:

	Amount (in thousands)
2017	215
2018	221
2019	112
Total lease obligations	**$ 548**

10. Retirement Savings Plan

The Company sponsors a savings plan available to all employees, which qualifies under Section 401(k) of the Internal Revenue Code. Employees may contribute from 1% to 99% of their pre-tax salary to the plan, subject to statutory limitations. The Company is able to match participant contributions, although to date the Company has not provided any matching payments to participants.

11. Related Party Transactions

A portion of the compensation paid to David Chaplin, Ph.D., the Company's Chief Scientific Officer and former Chief Executive Officer, was paid to Aston Biopharma Ltd. for services Dr. Chaplin performed for the Company while in the United Kingdom. The amounts paid to Aston Biopharma Ltd. aggregated $137,000 and $190,000 in 2016 and 2015, respectively.

Dr. Chaplin and his wife beneficially own 33% of Angiogene Pharmaceuticals Ltd. ("Angiogene"), a company from which Mateon had previously licensed certain rights to patent applications. In 2016, the Company terminated its agreement with Angiogene and no payments were made to Angiogene. In 2015, in accordance with the terms of the agreement, the Company paid Angiogene $75,000.

12. Subsequent Events

On January 12, 2017, the Company's board of directors adopted the Mateon Therapeutics, Inc. 2017 Equity Incentive Plan (the "2017 Plan"). Under the 2017 Plan, up to 2,000,000 shares of the Company's common stock may be issued pursuant to awards granted in the form of nonqualified stock options, restricted and unrestricted stock awards, and other stock-based awards to employees, consultants, and directors.

Exhibit 3.1

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 04/27/1993
931205111 – 2303211

RESTATED CERTIFICATE OF INCORPORATION

OF

OXiGENE, INC.

OXiGENE, INC., a corporation organized and existing under the General Corporation Law of the State of Delaware, hereby certifies as follows:

1. The name under which the Corporation was originally incorporated in OXiGENE, INC., and the date of filing of the original Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware is July 9, 1992.

2. This Restated certificate of Incorporation has been duly adopted by the Stockholders of the Corporation in accordance with Section 245 and Section 242 of the General Corporation Law of the State of Delaware. Prompt written notice of the adoption of this Restated Certificate of Incorporation has been given to those stockholders who have not consented in writing thereto, as provided in Section 228 of the General corporation Law of the State of Delaware.

3. The Certificate of Incorporation of the Corporation is hereby amended and restated so as to read in its entirety as follows:

FIRST: The name of the corporation is OXiGENE, INC. (hereinafter called the "Corporation").

SECOND: The registered office of the Corporation is to be located at 32 Loockerman Square, Suite L-100, in the City of Dover, in the County of Kent, in the State of Delaware. The name of its registered agent at that address is The Prentice-Hall Corporation System, Inc.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity, without limitation, for which a corporation may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The aggregate number of shares of all classes of stock which the Corporation is authorised to issue is Ten Million (10,000,000) shares, designated Common Stock, of the par value of One Cent ($0.01) per share.

FIFTH: The election of directors need not be by written ballot unless the By-laws so provide.

SIXTH: The Board of Directors of the Corporation is authorised and empowered from time to time in its discretion to make, alter, amend or repeal the By-laws of the Corporation, except as such power may be restricted or limited by the General Corporation Law of the State of Delaware.

SEVENTH: Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of Title 9 of the General Corporation Law of the State of Delaware or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of Section 279 of Title 8 of the General Corporation Law of the State of Delaware, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors class of creditors, and/or of the stockholders or class or stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as a consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

EIGHTH: The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation in the manner now or hereafter prescribed by law, and all rights and powers conferred herein on stockholders, directors and officers are subject to this reserved power.

NINTH: To the fullest extent permitted by the General Corporation Law of the State of Delaware, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law or the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. Any repeal or modification of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification with respect to acts or omissions occurring prior to such repeal or modification.

IN WITNESS WHEREOF, the Corporation has caused this Restated Certificate of Incorporation to be signed and attested to by its undersigned officers this 26 th day of April, 1993.

/s/ Yuval Rinur

Yuval Rinur,
Executive Vice President-Financial

Attest:

/s/ Lisa Powell

Lisa Powell, Assistant Secretary

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 01:30 PM 06/22/1995
950139458 – 2303211

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

OF

OXiGENE, INC.

Adopted in accordance with the provisions
of Section 242 of the General Corporation
Law of the State of Delaware

I, Richard A. Brown, Chairman of the Board of OXiGENE, INC., a corporation existing under the laws of the State of Delaware, do hereby certify as follows:

FIRST: The name of the corporation is OXiGENE, INC. (hereinafter called the "Corporation").

SECOND: The Certificate of Incorporation of the Corporation has been amended as follows:

By striking out the whole of Article FOURTH thereof as it now exists and inserting in lieu and instead thereof a new Article FOURTH to the Certificate of Incorporation:

> "FOURTH: The aggregate number of
> shares of all classes of stock
> which the Corporation is authorized
> to issue is Fifteen Million
> (15,000,000) shares, designated
> Common Stock, of the par value of
> One Cent ($0.01) per share."

THIRD: This amendment has been duly adopted in accordance with the provisions of the General Corporation Law of the State of Delaware by the affirmative vote of a majority of the stockholders entitled to vote in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, I have signed this certificate this 21st day of June, 1995.

OXiGENE, INC.

By: /s/ Richard A. Brown
Richard A. Brown
Chairman of the Board

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 11/15/1996
960333343 – 2303211

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

OF

OXiGENE, INC.

Adopted in accordance with the provisions
of Section 242 of the General Corporation
Law of the State of Delaware

I, M. Andica Kunst, Vice President of OXiGENE, INC., a corporation existing under the laws of the State of Delaware, do hereby certify as follows:

FIRST: The name of the corporation is OXiGENE, INC. (hereinafter called the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation is hereby being amended as follows:

By striking out the whole of Article FOURTH thereof as it now exists and inserting in lieu and instead thereof a new Article FOURTH to the Certificate of Incorporation:

> "FOURTH: The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is Sixty Million (60,000,000) shares, designated Common Stock, of the par value of One Cent ($0.01) per share."

THIRD: This amendment has been duly adopted in accordance with the provisions of the General Corporation Law of the State of Delaware by the affirmative vote of a majority of the stockholders entitled to vote in accordance with the provisions of Sections 228 and 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, I have signed this certificate this 14th day of November, 1996.

OXiGENE, INC.

By: /s/ M. Andica Kunst
M. Andica Kunst
Vice President

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 01/19/1999
991025310 – 2303211

CERTIFICATE OF CHANGE OF LOCATION OF REGISTERED OFFICE
AND OF REGISTERED AGENT

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is OXIGENE, INC.

2. The registered office of the Corporation within the State of Delaware is hereby changed to 9 East Loockerman Street, City of Dover 19901, County of Kent.

3. The registered agent of the Corporation within the State of Delaware is hereby changed to National Registered Agents, Inc., the business office of which is identical with the registered office of the corporation as hereby changed.

4. The Corporation has authorized the changes hereinbefore set forth by resolution of its Board of Directors.

Signed on January 13, 1999.

Bo Hagland
Bo Hagland, Secretary

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:07 AM 07/14/2005
FILED 10:07 AM 07/14/2005
SRV 050581870 – 2303211 FILE

CERTIFICATE OF AMENDMENT
OF
RESTATED CERTIFICATE OF INCORPORATION
OF
OXiGENE, INC.

It is hereby certified that:

FIRST : The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND : The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Article Fourth in its entirety and by substituting in lieu of the following:

> "FOURTH: The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred Million (100,000,000) shares, designated Common Stock, of the par value of One Cent ($0.01) per share."

THIRD : The amendment of the Restated Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 228 and Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, effective as of this 14 th day of July 2005.

OXiGENE, Inc.

By: /s/ James B. Murphy
James B. Murphy
Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 01:37 PM 06/02/2009
FILED 01:32 PM 06/02/2009
SRV 090579444 – 2303211 FILE

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST : The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND : The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Article Fourth in its entirety and by substituting in lieu thereof the following:

"FOURTH:

A. Designation and Number of Shares.

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred Sixty-Five Million (165,000,000) shares, of which One Hundred Fifty Million (150,000,000) shares are designated common stock, of the par value of One Cent ($0.01) per share (the "Common Stock"), and Fifteen Million (15,000,000) shares are designated preferred stock, of the par value of One Cent ($0.01) per share (the "Preferred Stock").

B. Preferred Stock.

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

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

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

C. Common Stock.

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

THIRD : The amendment of the Restated Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 228 and Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, effective as of this 2 nd day of June 2009.

OXiGENE, Inc.

By: /s/ James B. Murphy
James B. Murphy
Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 05:51 PM 12/08/2009
FILED 05:51 PM 12/08/2009
SRV 091080255 – 2303211 FILE

STATE OF DELAWARE
CERTIFICATE OF OWNERSHIP

SUBSIDIARY INTO PARENT
Section 253

CERTIFICATE OF OWNERSHIP
MERGING
Symphony ViDA, Inc.

INTO

OXiGENE, Inc.

(Pursuant to Section 253 of the General Corporation Law of Delaware) OXiGENE, Inc., a corporation incorporated on the 9th day of July, 1992, pursuant to the provisions of the General Corporation Law of the State of Delaware;

DOES HEREBY CERTIFY that this corporation owns 90% of the capital stock of Symphony ViDA, Inc., a corporation incorporated on the 31st day of July, 2008 A.D., pursuant to the provisions of the General Corporation Law of the State of Delaware, and that this corporation, by a resolution of its Board of Directors duly adopted at a meeting held on the 8th day of December, 2009 A.D., determined to and did merge into itself said Symphony ViDA, Inc., which resolution is in the following words to wit:

WHEREAS this corporation lawfully owns 90% of the outstanding stock of Symphony ViDA, Inc., a corporation organized and exiting under the laws of the State of Delaware, and

WHEREAS this corporation desires to merge into itself the said Symphony ViDA, Inc., and to be possessed of all the estate, property, rights, privileges and franchises of said corporation,

NOW, THEREFORE, BE IT RESOLVED , that this corporation merge into itself said Symphony ViDA, Inc. and assumes all of its liabilities and obligations, and

FURTHER RESOLVED , that an authorized officer of this corporation be and he/she is hereby directed to make and execute a certificate of ownership setting forth a copy of the resolution to merge said Symphony ViDA, Inc. and assume its liabilities and obligations, and the date of adoption thereof, and to file the same in the office of the Secretary of State of Delaware, and a certified copy thereof in the office of the Recorder of Deeds of Kent County; and

FURTHER RESOLVED , that the officers of this corporation be and they hereby are authorized and directed to do all acts and things whatsoever, whether within or without the State of Delaware; which may be in any way necessary or proper to effect said merger.

IN WITNESS WHEREOF , said parent corporation has caused its corporate seal to be affixed and this certificate to be signed by an authorized officer this 8th day of December, 2009 A.D.

By: /s/ James B. Murphy
Authorized Officer

Name: James B. Murphy
Print or Type

Title: Vice President and Chief Financial Officer

(Insert if applicable)

FURTHER RESOLVED that _____relinquishes its corporate name and assumes in place thereof the name _____.

State of Delaware
Secretary of State
Division of Corporations
Delivered 08:49 AM 02/09/2010
FILED 04:20 PM 02/08/2010
SRV 100121128 – 2303211 FILE

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST: The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out the first paragraph of Article Fourth in its entirety and by substituting in lieu of the following:

> "FOURTH: The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred Ninety Million (190,000,000) shares, of which One Hundred Seventy-Five Million (175,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share"

THIRD: The amendment of the Restated Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 228 and Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, effective as of this 8th day of February 2010.

OXiGENE, Inc.

By: /s/ James B. Murphy
James B. Murphy
Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 08:49 AM 02/09/2010
FILED 04:20 PM 02/08/2010
SRV 100121128 – 2303211 FILE

STATE OF DELAWARE

WAIVER OF REQUIREMENT
FOR AFFIDAVIT OF EXTRAORDINARY CONDITION

It appears to the Secretary of State that an earlier effort to deliver this instrument and tender such taxes and fess was made in good faith on the file date stamped hereto. The Secretary of State has determined that an extraordinary condition (as reflected in the records of the Secretary of State) existed at such date and time and that such earlier effort was unsuccessful as a result of the existence of such extraordinary condition, and that such actual delivery and tender were made within a reasonable period (not to exceed two business days) after the cessation of such extraordinary condition and establishes such date and time as the filing date of such instrument.

/s/ Jeffrey W. Bullock
Jeffrey W. Bullock
Secretary of State

State of Delaware
Secretary of State
Division of Corporations
Delivered 04:58 PM 08/05/2010
FILED 04:52 PM 08/05/2010
SRV 100805852 – 2303211 FILE

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST : The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND : The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Article Fourth in its entirety and by substituting in lieu of the following:

"FOURTH: The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is Three Hundred Fifteen Million (315,000,000) shares, of which Three Hundred Million (300,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share."

THIRD : The amendment of the Restated Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 228 and Section 242 of the General Corporation Law of the State of Delaware.

EXECUTED, effective as of this 5 th day of August, 2010.

OXiGENE, Inc.

By: /s/ Peter J. Langecker
Peter J. Langecker
Chief Executive Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:07 AM 02/22/2011
FILED 10:02 AM 02/22/2011
SRV 110187894 – 2303211 FILE

CERTIFICATE OF AMENDMENT OF
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST: The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

"A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is Three Hundred and Fifteen Million (315,000,000) shares, of which Three Hundred Million (300,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share. Upon the effectiveness of the certificate of amendment to the restated certificate of incorporation containing this sentence, each twenty (20) shares of the Common Stock issued and outstanding as of the date and time immediately preceding February 22, 2011, the effective date of a reverse stock split (the "Split Effective Date"), shall be automatically changed and reclassified, as of the Split Effective Date and without further action, into one (1) fully paid and non-assessable share of Common Stock. There shall be no fractional shares issued. A holder of record of Common Stock on the Split Effective Date who would otherwise be entitled to a fraction of a share shall, in lieu thereof, be entitled to receive a cash payment in an amount equal to the fraction to which the stockholder would otherwise be entitled multiplied by the closing price of the Common Stock, as reported in the Wall Street Journal, on the Split Effective Date (or if such price is not available, the average of the last bid and asked prices of the Common Stock on such day or such other price as may be determined by the Corporation's Board of Directors)."

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

EXECUTED, this 22 nd day of February 2011.

OXiGENE, Inc.

By: /s/ James B. Murphy
James B. Murphy
Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 12:37 PM 02/23/2011
FILED 12:37 PM 02/23/2011
SRV 110197934 – 2303211 FILE

CERTIFICATE OF CORRECTION

OF

CERTIFICATE OF AMENDMENT TO RESTATED CERTIFICATE OF INCORPORATION

OF

OXiGENE, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is OXiGENE, Inc.

2. The Certificate of Incorporation of the Corporation was filed on July 9, 1992. Thereafter a Restated Certificate of Incorporation was filed on April 27, 1993. Certificates of Amendment to the Restated Certificate of Incorporation were filed on June 22, 1995, November 15, 1996, July 14, 2005, June 2, 2009, February 8, 2010, August 5, 2010 and February 22, 2011. The Certificate of Amendment to the Restated Certificate of Incorporation, as amended, filed on February 8, 2010 is hereby corrected.

3. The inaccuracy to be corrected in said instrument is as follows:

Article SECOND of the Certificate of Amendment erroneously referenced striking out the first paragraph of Article FOURTH in its entirety whereas it should have stated striking out Section A of Article FOURTH in its entirety.

4. The corrected Article SECOND of the Certificate of Amendment filed February 8, 2010 is as follows:

"SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred Ninety Million (190,000,000) shares, of which One Hundred Seventy-Five Million (175,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share."

Signed this 23 rd day of February, 2011.

OXiGENE, INC.

/s/ James B. Murphy

James B. Murphy
Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 12:37 PM 02/23/2011
FILED 12:38 PM 02/23/2011
SRV 110197951 – 2303211 FILE

CERTIFICATE OF CORRECTION

OF

CERTIFICATE OF AMENDMENT TO RESTATED CERTIFICATE OF INCORPORATION

OF

OXiGENE, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is OXiGENE, Inc.

2. The Certificate of Incorporation of the Corporation was filed on July 9, 1992. Thereafter a Restated Certificate of Incorporation was filed on April 27, 1993. Certificates of Amendment to the Restated Certificate of Incorporation were filed on June 22, 1995, November 15, 1996, July 14, 2005, June 2, 2009, February 8, 2010, August 5, 2010 and February 22, 2011. The Certificate of Amendment to the Restated Certificate of Incorporation, as amended, filed on August 5, 2010 is hereby corrected.

3. The inaccuracy to be corrected in said instrument is as follows:

Article SECOND of the Certificate of Amendment erroneously reference striking out Article FOURTH in its entirety whereas it should have only stricken Section A of Article FOURTH.

4. The corrected Article SECOND of the Certificate of Amendment filed August 5, 2010 is as follows:

"SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is Three Hundred and Fifteen Million (315,000,000) shares, of which Three Hundred Million (300,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share."

Signed this 23 rd day of February, 2011.

OXiGENE, INC.

/s/ James B. Murphy

James B. Murphy
Vice President and Chief Financial Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 07:13 PM 05/29/2012
FILED 07:06 PM 05/29/2012
SRV 120656228 – 2303211 FILE

CERTIFICATE OF AMENDMENT TO
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST: The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

"A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred and Fifteen Million (115,000,000) shares, of which One Hundred Million (100,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share."

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

EXECUTED, effective as of this 29 th day of May 2012.

OXiGENE, Inc.

By: /s/ Peter J. Langecker
Name: Peter J. Langecker, M.D., Ph.D.
Title: Chief Executive Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 12:37 PM 12/27/2012
FILED 12:34 PM 12/27/2012
SRV 121394906 – 2303211 FILE

CERTIFICATE OF AMENDMENT

OF
RESTATED CERTIFICATE OF INCORPORATION OF

OXiGENE, INC.

It is hereby certified that:

FIRST: The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

"A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is One Hundred and Fifteen Million (115,000,000) shares, of which One Hundred Million (100,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share. Upon the effectiveness of the certificate of amendment to the restated certificate of incorporation containing this sentence, each twelve (12) shares of the Common Stock issued and outstanding as of the date and time immediately preceding December 28, 2012, the effective date of a reverse stock split (the "Split Effective Date"), shall be automatically changed and reclassified, as of the Split Effective Date and without further action, into one (1) fully paid and non-assessable share of Common Stock. There shall be no fractional shares issued. A holder of record of Common Stock on the Split Effective Date who would otherwise be entitled to a fraction of a share of Common Stock shall, in lieu of such fractional share, be entitled to receive one whole share of Common Stock by virtue of rounding up such fractional share to the next highest whole share."

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

EXECUTED, as of this 27th day of December, 2012.

OXiGENE, Inc.

By: /s/ Peter J. Langecker
Peter J. Langecker
Chief Executive Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 09:42 AM 04/11/2013
FILED 09:37 AM 04/11/2013
SRV 130423718 – 2303211 FILE

OXiGENE, Inc.

CERTIFICATE OF DESIGNATION OF PREFERENCES,
RIGHTS AND LIMITATIONS
OF
SERIES A CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Peter J. Langecker and Barbara Riching, do hereby certify that:

1. They are the President and Secretary, respectively, of OXiGENE, Inc., a Delaware corporation (the " Corporation ").
2. The Corporation is authorized to issue 15,000,000 shares of preferred stock, none of which have been issued.
3. The following resolutions were duly adopted by the board of directors of the Corporation (the " Board of Directors"):

WHEREAS, the certificate of incorporation of the Corporation provides for a class of its authorized stock known as preferred stock, consisting of 15,000,000 shares, $0.01 par value per share, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized to fix the dividend rights, dividend rate, voting rights, conversion rights, rights and terms of redemption and liquidation preferences of any wholly unissued series of preferred stock and the number of shares constituting any series and the designation thereof, of any of them; and

WHEREAS, it is the desire of the Board of Directors, pursuant to its authority as aforesaid, to fix the rights, preferences, restrictions and other matters relating to a series of the preferred stock, which shall consist of, except as otherwise set forth in the Purchase Agreement, 5,000 shares of the preferred stock which the Corporation has the authority to issue, as follows:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors does hereby provide for the issuance of a series of preferred stock for cash or exchange of other securities, rights or property and does hereby fix and determine the rights, preferences, restrictions and other matters relating to such series of preferred stock as follows:

TERMS OF PREFERRED STOCK

Section 1 . Definitions . For the purposes hereof, the following terms shall have the following meanings:

" Affiliate " means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

" Alternate Consideration " shall have the meaning set forth in Section 7(e).

" Beneficial Ownership Limitation " shall have the meaning set forth in Section 6(d).

"Business Day " means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

" Buy-In " shall have the meaning set forth in Section 6(c)(iv).

" Change of Control Transaction " means the occurrence after the date hereof of any of (a) an acquisition after the date hereof by an individual or legal entity or "group" (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 40% of the voting securities of the Corporation (other than by means of conversion or exercise of Preferred Stock and the Securities issued together with the Preferred Stock), (b) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 40% of the aggregate voting power of the Corporation or the successor entity of such transaction, (c) the Corporation sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 60% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a one year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the Original Issue Date), or (e) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

" Closing " means the closing of the purchase and sale of the Securities pursuant to Section 2.1 of the Purchase Agreement.

" Closing Date " means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder's obligations to pay the Subscription Amount and (ii) the Corporation's obligations to deliver the Securities have been satisfied or waived.

" Commission " means the United States Securities and Exchange Commission.

" Common Stock " means the Corporation's common stock, par value $0.01 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

" Common Stock Equivalents " means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

" Conversion Amount " means the sum of the Stated Value at issue.

" Conversion Date " shall have the meaning set forth in Section 6(a).

" Conversion Price " shall have the meaning set forth in Section 6(b).

" Conversion Shares " means, collectively, the shares of Common Stock issuable upon conversion of the shares of Preferred Stock in accordance with the terms hereof.

" Conversion Shares Registration Statement " means a registration statement that registers the resale of the Conversion Shares of the Holders, who shall be named as "selling stockholders" therein and meets the requirements of the Registration Rights Agreement.

" Effective Date " means the date that the Conversion Shares Registration Statement filed by the Corporation pursuant to the Registration Rights Agreement is first declared effective by the Commission.

" Exchange Act " means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

" Fundamental Transaction " shall have the meaning set forth in Section 7(e).

" GAAP " means United States generally accepted accounting principles.

" Holder " shall have the meaning given such term in Section 2.

" Junior Securities " means the Common Stock and all other Common Stock Equivalents of the Corporation other than those securities which are explicitly senior or pari passu to the Preferred Stock in dividend rights or liquidation preference.

" Liens " means a lien, charge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

" Liquidation " shall have the meaning set forth in Section 4.

" New York Courts " shall have the meaning set forth in Section 8(d).

" Notice of Conversion " shall have the meaning set forth in Section 6(a).

" Original Issue Date " means the date of the first issuance of any shares of the Preferred Stock regardless of the number of transfers of any particular shares of Preferred Stock and regardless of the number of certificates which may be issued to evidence such Preferred Stock.

" Person " means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

" Preferred Stock " shall have the meaning set forth in Section 2.

" Purchase Agreement " means the Securities Purchase Agreement, dated April 10, 2013, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

" Registration Rights Agreement " means the Registration Rights Agreement, dated as of the date of the Purchase Agreement, among the Corporation and the original Holders, in the form of Exhibit B attached to the Purchase Agreement.

" Registration Statement " means a registration statement meeting the requirements set forth in the Registration Rights Agreement and covering the resale of the Underlying Shares by each Holder as provided for in the Registration Rights Agreement.

" Rule 144 " means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

" Rule 424 " means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

" Securities " means the Preferred Stock, the Warrants, the Warrant Shares and the Underlying Shares.

" Securities Act " means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

" Share Delivery Date " shall have the meaning set forth in Section 6(c).

" Stated Value " shall have the meaning set forth in Section 2, as the same may be increased pursuant to Section 3.

" Subscription Amount " shall mean, as to each Holder, the aggregate amount to be paid for the Preferred Stock purchased pursuant to the Purchase Agreement as specified below such Holder's name on the signature page of the Purchase Agreement and next to the heading "Subscription Amount," in United States dollars and in immediately available funds.

" Subsidiary " means any subsidiary of the Corporation as set forth on Schedule 3.1(a) of the Purchase Agreement and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

" Successor Entity " shall have the meaning set forth in Section 7(e).

" Trading Day " means a day on which the principal Trading Market is open for business.

" Trading Market " means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

" Transaction Documents " shall have the meaning set forth in the Purchase Agreement.

" Transfer Agent " means American Stock Transfer & Trust Company, the current transfer agent of the Corporation with a mailing address of 59 Maiden Lane, New York, New York and a facsimile number of 718-236-4588, and any successor transfer agent of the Corporation.

" Underlying Shares " means the shares of Common Stock issued and issuable upon conversion of the Preferred Stock and upon exercise of the Warrants.

" VWAP " means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the "Pink Sheets" published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Corporation, the fees and expenses of which shall be paid by the Corporation.

" Warrants " shall have the meaning set forth in the Purchase Agreement.

" Warrant Shares " means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2 . Designation, Amount and Par Value . The series of preferred stock shall be designated as its Series A Convertible Preferred Stock (the "Preferred Stock ") and the number of shares so designated shall be 5,000 (which shall not be subject to increase without the written consent of a majority of the holders of the Preferred Stock (each, a " Holder " and collectively, the "Holders ")). Each share of Preferred Stock shall have a par value of $0.01 per share and a stated value equal to $1,000, subject to increase set forth in Section 3 below (the " Stated Value ").

Section 3 . Dividends .

a) Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Preferred Stock equal (on an as-if-converted-to-Common-Stock basis) to and in the same form as dividends (other than dividends in the form of Common Stock) actually paid on shares of the Common Stock when, as and if such dividends (other than dividends in the form of Common Stock) are paid on shares of the Common Stock. Other than as set forth in the previous sentence, no other dividends shall be paid on shares of Preferred Stock; and the Corporation shall pay no dividends (other than dividends in the form of Common Stock) on shares of the Common Stock unless it simultaneously complies with the previous sentence.

b) Other Securities . So long as any Preferred Stock shall remain outstanding, the Corporation shall not redeem, purchase or otherwise acquire directly or indirectly more than a de minimis amount of any Junior Securities other than as to repurchases of Common Stock or Common Stock Equivalents from departing officers or directors, and provided that, while any of the Preferred Stock remains outstanding, such repurchases shall not exceed an aggregate of $100,000 in any fiscal year from all officers and directors.

Section 4 . Voting Rights . Except as otherwise provided herein or as otherwise required by law, the Preferred Stock shall have no voting rights. However, as long as any shares of Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Preferred Stock or alter or amend this Certificate of Designation, (b) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, that is senior to the Preferred Stock, (c) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of the Holders, (d) increase the number of authorized shares of Preferred Stock, or (e) enter into any agreement with respect to any of the foregoing.

Section 5 . Liquidation . Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), the Holders shall be entitled to receive distributions out of the assets, whether capital or surplus, of the Corporation on a pari passu basis with the holders of Common Stock. The Corporation shall mail written notice of any such Liquidation, not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6 . Conversion .

a) Conversions at Option of Holder . Each share of Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth in Section 6(d)) determined by dividing the Stated Value of such share of Preferred Stock by the Conversion Price. Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a "Notice of Conversion"). Each Notice of Conversion shall specify the number of shares of Preferred Stock to be converted, the number of shares of Preferred Stock owned prior to the conversion at issue, the number of shares of Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by facsimile such Notice of Conversion to the Corporation (such date, the " Conversion Date "). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed

delivered hereunder. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. To effect conversions of shares of Preferred Stock, a Holder shall not be required to surrender the certificate(s) representing the shares of Preferred Stock to the Corporation unless all of the shares of Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Preferred Stock promptly following the Conversion Date at issue. Shares of Preferred Stock converted into Common Stock or redeemed in accordance with the terms hereof shall be canceled and shall not be reissued.

b) Conversion Price . The conversion price for the Preferred Stock shall equal $3.63, subject to adjustment herein (the " Conversion Price ").

c) Mechanics of Conversion

i. Delivery of Certificate Upon Conversion . Not later than three (3) Trading Days after each Conversion Date (the " Share Delivery Date "), the Corporation shall deliver, or cause to be delivered, to the converting Holder (A) a certificate or certificates representing the Conversion Shares which, on or after the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of the Preferred Stock (including, if the Corporation has given continuous notice pursuant to Section 3(b) for payment of dividends in shares of Common Stock at least 20 Trading Days prior to the date on which the Notice of Conversion is delivered to the Corporation, shares of Common Stock representing the payment of accrued dividends otherwise determined pursuant to Section 3(a) but assuming that the Dividend Notice Period is the 20 Trading Days period immediately prior to the date on which the Notice of Conversion is delivered to the Corporation and excluding for such issuance the condition that the Corporation deliver the Dividend Share Amount as to such dividend payment prior to the commencement of the Dividend Notice Period), and (B) a bank check in the amount of accrued and unpaid dividends (if the Corporation has elected or is required to pay accrued dividends in cash). On or after the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, the Corporation shall use its best efforts to deliver any certificate or certificates required to be delivered by the Corporation under this Section 6 electronically through the Depository Trust Company or another established clearing corporation performing similar functions.

ii. Failure to Deliver Certificates . If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation the Common Stock certificates issued to such Holder pursuant to the rescinded Conversion Notice.

iii. Obligation Absolute; Partial Liquidated Damages . The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other person, and irrespective of any other circumstance which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided , however , that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. If the Corporation fails to deliver to a Holder such certificate or certificates pursuant to Section 6(c)(i) on the second Trading Day after the Share Delivery Date applicable to such conversion, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each $5,000 of Stated Value of Preferred Stock being converted, $50 per Trading Day (increasing to $100 per Trading Day on the third Trading Day and increasing to $200 per Trading Day on the sixth Trading Day after such damages begin to accrue) for each Trading Day after such second Trading Day after the Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare a Triggering Event pursuant to Section 10 hereof for the Corporation's failure to deliver Conversion Shares within the

period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

iv. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion . In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable certificate or certificates by the Share Delivery Date pursuant to Section 6(c)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a " Buy-In "), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Preferred Stock equal to the number of shares of Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted conversion of shares of Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of $10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder $1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver certificates representing shares of Common Stock upon conversion of the shares of Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion . The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Preferred Stock and payment of dividends on the Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Preferred Stock and payment of dividends hereunder. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable and, if the Conversion Shares Registration Statement is then effective under the Securities Act, shall be registered for public resale in accordance with such Conversion Shares Registration Statement (subject to such Holder's compliance with its obligations under the Registration Rights Agreement).

vi. Fractional Shares . No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share.

vii. Transfer Taxes and Expenses . The issuance of certificates for shares of the Common Stock on conversion of this Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holders of such shares of Preferred Stock and the Corporation shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

d) Beneficial Ownership Limitation . The Corporation shall not effect any conversion of the Preferred Stock, and a Holder shall not have the right to convert any portion of the Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates shall

include the number of shares of Common Stock issuable upon conversion of the Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Stated Value of Preferred Stock beneficially owned by such Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 6(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(d) applies, the determination of whether the Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates) and of how many shares of Preferred Stock are convertible shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates) and how many shares of the Preferred Stock are convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(d), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Corporation shall within two Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Preferred Stock, by such Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The " Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Preferred Stock held by the applicable Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(d) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Preferred Stock.

Section 7 . Certain Adjustments .

a) Stock Dividends and Stock Splits . If the Corporation, at any time while this Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, this Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) [RESERVED]

c) Subsequent Rights Offerings . In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the " Purchase Rights "), then the Holder of will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions . During such time as this Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a " Distribution "), at any time after the issuance of this Preferred Stock, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete Conversion of this Preferred Stock (without regard to any limitations on Conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided , however , to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction . If, at any time while this Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or

other business combination) (each a " Fundamental Transaction "), then, upon any subsequent conversion of this Preferred Stock, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Preferred Stock), the number of shares of Common Stock of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration ") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the " Successor Entity ") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 7(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the holder of this Preferred Stock, deliver to the Holder in exchange for this Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Preferred Stock (without regard to any limitations on the conversion of this Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such

Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g) Notice to the Holders.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of this Preferred Stock, and shall cause to be delivered to each Holder at its last address as it shall appear upon the stock books of the Corporation, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share

exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of this Preferred Stock (or any part hereof) during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8 . Miscellaneous.

a) Notices . Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at 701 Gateway Boulevard, Suite 201, South San Francisco, CA 94080, Attention: Chief Executive Officer, facsimile number 650-635-7001, or such other facsimile number or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 8. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of such Holder appearing on the books of the Corporation, or if no such facsimile number or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Absolute Obligation . Except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Preferred Stock Certificate . If a Holder's Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law . All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the " New York Courts "). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver . Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability . If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day . Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings . The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Redeemed Preferred Stock . Shares of Preferred Stock may only be issued pursuant to the Purchase Agreement. If any shares of Preferred Stock shall be converted, redeemed or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of preferred stock and shall no longer be designated as Series A Convertible Preferred Stock.

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ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES
OF PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series A Convertible Preferred Stock indicated below into shares of common stock, par value $0.01 per share (the " Common Stock "), of OXiGENE, Inc., a Delaware corporation (the " Corporation "), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Preferred Stock owned prior to Conversion: _____

Number of shares of Preferred Stock to be Converted: _____

Stated Value of shares of Preferred Stock to be Converted: _____

Number of shares of Common Stock to be Issued: _____

Applicable Conversion Price: _____

Number of shares of Preferred Stock subsequent to Conversion: _____

Address for Delivery: _____

or

DWAC Instructions:

Broker no: _____

Account no: _____

[HOLDER]

By: _____

Name:

Title:

RESOLVED, FURTHER, that the Chairman, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Certificate of Designation of Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

IN WITNESS WHEREOF, the undersigned have executed this Certificate this 11 th day of April, 2013.

/s/ Peter J. Langecker
Name: Peter J. Langecker
Title: President and Chief Executive Officer

/s/ Barbara Riching
Name: Barbara Riching
Title: Chief Financial Officer, Treasurer and Secretary

State of Delaware
Secretary of State
Division of Corporations
Delivered 04:40 PM 07/17/2013
FILED 04:06 PM 07/17/2013
SRV 130889331 – 2303211 FILE

CERTIFICATE OF AMENDMENT TO
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC.

It is hereby certified that:

FIRST: The name of the corporation is OXiGENE, Inc. (the "Corporation").

SECOND: The Restated Certificate of Incorporation of the Corporation, as amended to date, is hereby further amended by striking out Section A of Article Fourth in its entirety and by substituting in lieu thereof the following:

"A. Designation and Number of Shares .

The aggregate number of shares of all classes of stock which the Corporation is authorized to issue is Eighty Five Million (85,000,000) shares, of which Seventy Million (70,000,000) shares are designated Common Stock, of the par value of One Cent ($0.01) per share, and Fifteen Million (15,000,000) shares are designated Preferred Stock, of the par value of One Cent ($0.01) per share."

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

EXECUTED, effective as of this 17th day of July, 2013.

OXiGENE, Inc.

By: /s/ Peter J. Langecker
Peter J. Langecker, M.D., Ph.D.
Chief Executive Officer

State of Delaware
Secretary of State
Division of Corporations
Delivered 05:35 PM 09/19/2013
FILED 05:31 PM 09/19/2013
SRV 131109219—2303211 FILE

OXIGENE, INC.

CERTIFICATE OF DESIGNATION OF PREFERENCES,
RIGHTS AND LIMITATIONS
OF
SERIES B CONVERTIBLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Peter J. Langecker and Barbara Riching, do hereby certify that:

1. They are the President and Secretary, respectively, of OXiGENE, Inc., a Delaware corporation (the " Corporation ").

2. The Corporation is authorized to issue 5,800 shares of preferred stock, none of which have been issued.

3. The following resolutions were duly adopted by the board of directors of the Corporation (the " Board of Directors "):

WHEREAS, the certificate of incorporation of the Corporation provides for a class of its authorized stock known as preferred stock, consisting of 15,000,000 shares, $0.01 par value per share, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized to fix the dividend rights, dividend rate, voting rights, conversion rights, rights and terms of redemption and liquidation preferences of any wholly unissued series of preferred stock and the number of shares constituting any series and the designation thereof, of any of them; and

WHEREAS, it is the desire of the Board of Directors, pursuant to its authority as aforesaid, to fix the rights, preferences, restrictions and other matters relating to a series of the preferred stock, which shall consist of, except as otherwise set forth in the Purchase Agreement, up to 5,800 shares of the preferred stock which the Corporation has the authority to issue, as follows:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors does hereby provide for the issuance of a series of preferred stock for cash or exchange of other securities, rights or property and does hereby fix and determine the rights, preferences, restrictions and other matters relating to such series of preferred stock as follows:

TERMS OF PREFERRED STOCK

Section 1 . Definitions . For the purposes hereof, the following terms shall have the following meanings:

" Affiliate " means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 of the Securities Act.

" Alternate Consideration " shall have the meaning set forth in Section 7(e).

" Beneficial Ownership Limitation " shall have the meaning set forth in Section 6(d).

" Business Day " means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

" Buy-In " shall have the meaning set forth in Section 6(c)(iv).

" Change of Control Transaction " means the occurrence after the date hereof of any of (a) an acquisition after the date hereof by an individual or legal entity or "group" (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 40% of the voting securities of the Corporation (other than by means of conversion or exercise of Preferred Stock and the Securities issued together with the Preferred Stock), (b) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 40% of the aggregate voting power of the Corporation or the successor entity of such transaction, (c) the Corporation sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 60% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a one year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the Original Issue Date), or (e) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

" Closing " means the closing of the purchase and sale of the Securities pursuant to Section 2.1 of the Purchase Agreement.

" Closing Date " means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder's obligations to pay the Subscription Amount and (ii) the Corporation's obligations to deliver the Securities have been satisfied or waived.

" Commission " means the United States Securities and Exchange Commission.

" Common Stock " means the Corporation's common stock, par value $0.01 per share, and stock of any other class of securities into which such securities may hereafter be reclassified or changed.

" Common Stock Equivalents " means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

" Conversion Amount " means the sum of the Stated Value at issue.

" Conversion Date " shall have the meaning set forth in Section 6(a).

" Conversion Price " shall have the meaning set forth in Section 6(b).

" Conversion Shares " means, collectively, the shares of Common Stock issuable upon conversion of the shares of Preferred Stock in accordance with the terms hereof.

" Conversion Shares Registration Statement " means a registration statement that registers the resale of the Conversion Shares of the Holders, who shall be named as "selling stockholders" therein and meets the requirements of the Registration Rights Agreement.

" Effective Date " means the date that the Conversion Shares Registration Statement filed by the Corporation pursuant to the Registration Rights Agreement is first declared effective by the Commission.

" Exchange Act " means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

" Fundamental Transaction " shall have the meaning set forth in Section 7(e).

" GAAP " means United States generally accepted accounting principles.

" Holder " shall have the meaning given such term in Section 2.

" Junior Securities " means the Common Stock and all other Common Stock Equivalents of the Corporation other than those securities which are explicitly senior or pari passu to the Preferred Stock in dividend rights or liquidation preference.

" Liens " means a lien, charge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

" Liquidation " shall have the meaning set forth in Section 4.

" New York Courts " shall have the meaning set forth in Section 8(d).

" Notice of Conversion " shall have the meaning set forth in Section 6(a).

" Original Issue Date " means the date of the first issuance of any shares of the Preferred Stock regardless of the number of transfers of any particular shares of Preferred Stock and regardless of the number of certificates which may be issued to evidence such Preferred Stock.

" Person " means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

" Preferred Stock " shall have the meaning set forth in Section 2.

" Purchase Agreement " means the Securities Purchase Agreement, dated September 18, 2013, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

" Registration Rights Agreement " means the Registration Rights Agreement, dated as of the date of the Purchase Agreement, among the Corporation and the original Holders, in the form of Exhibit B attached to the Purchase Agreement.

" Registration Statement " means a registration statement meeting the requirements set forth in the Registration Rights Agreement and covering the resale of the Underlying Shares by each Holder as provided for in the Registration Rights Agreement.

" Rule 144 " means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

" Rule 424 " means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

" Securities " means the Preferred Stock, the Warrants, the Warrant Shares and the Underlying Shares.

" Securities Act " means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

" Share Delivery Date " shall have the meaning set forth in Section 6(c).

" Stated Value " shall have the meaning set forth in Section 2, as the same may be increased pursuant to Section 3.

" Subscription Amount " shall mean, as to each Holder, the aggregate amount to be paid for the Preferred Stock purchased pursuant to the Purchase Agreement as specified below such Holder's name on the signature page of the Purchase Agreement and next to the heading "Subscription Amount," in United States dollars and in immediately available funds.

" Subsidiary " means any subsidiary of the Corporation as set forth on Schedule 3.1(a) of the Purchase Agreement and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

" Successor Entity " shall have the meaning set forth in Section 7(e).

" Trading Day " means a day on which the principal Trading Market is open for business.

" Trading Market " means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

" Transaction Documents " shall have the meaning set forth in the Purchase Agreement.

" Transfer Agent " means American Stock Transfer & Trust Company, the current transfer agent of the Corporation with a mailing address of 59 Maiden Lane, New York, New York and a facsimile number of 718-236-4588, and any successor transfer agent of the Corporation.

" Underlying Shares " means the shares of Common Stock issued and issuable upon conversion of the Preferred Stock and upon exercise of the Warrants.

" VWAP " means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading

Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the "Pink Sheets" published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Securities then outstanding and reasonably acceptable to the Corporation, the fees and expenses of which shall be paid by the Corporation.

" Warrants " shall have the meaning set forth in the Purchase Agreement.

" Warrant Shares " means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2 . Designation, Amount and Par Value . The series of preferred stock shall be designated as its Series B Convertible Preferred Stock (the " Preferred Stock ") and the number of shares so designated shall be up to 5,800 (which shall not be subject to increase without the written consent of a majority of the holders of the Preferred Stock (each, a " Holder " and collectively, the " Holders ")). Each share of Preferred Stock shall have a par value of $0.01 per share and a stated value equal to $1,000, subject to increase set forth in Section 3 below (the " Stated Value ").

Section 3 . Dividends .

a) Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Preferred Stock equal (on an as-if-converted-to-Common-Stock basis) to and in the same form as dividends (other than dividends in the form of Common Stock) actually paid on shares of the Common Stock when, as and if such dividends (other than dividends in the form of Common Stock) are paid on shares of the Common Stock. Other than as set forth in the previous sentence, no other dividends shall be paid on shares of Preferred Stock; and the Corporation shall pay no dividends (other than dividends in the form of Common Stock) on shares of the Common Stock unless it simultaneously complies with the previous sentence.

b) Other Securities . So long as any Preferred Stock shall remain outstanding, the Corporation shall not redeem, purchase or otherwise acquire directly or indirectly more than a de minimis amount of any Junior Securities other than as to repurchases of Common Stock or Common Stock Equivalents from departing officers or directors, and provided that, while any of the Preferred Stock remains outstanding, such repurchases shall not exceed an aggregate of $100,000 in any fiscal year from all officers and directors.

Section 4 . Voting Rights . Except as otherwise provided herein or as otherwise required by law, the Preferred Stock shall have no voting rights. However, as long as any shares of Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Preferred Stock or alter or amend this Certificate of Designation, (b) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, that is senior to the Preferred Stock, (c) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of the Holders, (d) increase the number of authorized shares of Preferred Stock, or (e) enter into any agreement with respect to any of the foregoing.

Section 5 . Liquidation . Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a "Liquidation"), the Holders shall be entitled to receive distributions out of the assets, whether capital or surplus, of the Corporation on a pari passu basis with the holders of Common Stock. The Corporation shall mail written notice of any such Liquidation, not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6 . Conversion .

a) Conversions at Option of Holder . Each share of Preferred Stock shall be convertible, at any time and from time to time from and after the Original Issue Date at the option of the Holder thereof, into that number of shares of Common Stock (subject to the limitations set forth in Section 6(d)) determined by dividing the Stated Value of such share of Preferred Stock by the Conversion Price. Holders shall effect conversions by providing the Corporation with the form of conversion notice attached hereto as Annex A (a " Notice of Conversion "). Each Notice of Conversion shall specify the number of shares of Preferred Stock to be converted, the number of shares of Preferred Stock owned prior to the conversion at issue, the number of shares of Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers by facsimile such Notice of Conversion to the Corporation (such date, the " Conversion Date "). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion to the Corporation is deemed delivered hereunder. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. To effect conversions of shares of Preferred Stock, a Holder shall not be required to surrender the certificate(s) representing the shares of Preferred Stock to the Corporation unless all of the shares of Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Preferred Stock promptly following the Conversion Date at issue. Shares of Preferred Stock converted into Common Stock or redeemed in accordance with the terms hereof shall be canceled and shall not be reissued.

b) Conversion Price . The conversion price for the Preferred Stock shall equal **$2.365** , subject to adjustment herein (the " Conversion Price ").

c) Mechanics of Conversion

i. Delivery of Certificate Upon Conversion . Not later than three (3) Trading Days after each Conversion Date (the " Share Delivery Date "), the Corporation shall deliver, or cause to be delivered, to the converting Holder (A) a certificate or certificates representing the Conversion Shares which, on or after the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of the Preferred Stock (including, if the Corporation has given continuous notice pursuant to Section 3(b) for payment of dividends in shares of Common Stock at least 20 Trading Days prior to the date on which the Notice of Conversion is delivered to the Corporation, shares of Common Stock representing the payment of accrued dividends otherwise determined pursuant to Section 3(a) but assuming that the Dividend Notice Period is the 20 Trading Days period immediately prior to the date on which the Notice of Conversion is delivered to the Corporation and excluding for such issuance the condition that the Corporation deliver the Dividend Share Amount as to such dividend payment prior to the commencement of the Dividend Notice Period), and (B) a bank check in the amount of accrued and unpaid dividends (if the Corporation has elected or is required to pay accrued dividends in cash). On or after the earlier of (i) the six month anniversary of the Original Issue Date or (ii) the Effective Date, the Corporation shall use its best efforts to deliver any certificate or certificates required to be delivered by the Corporation under this Section 6 electronically through the Depository Trust Company or another established clearing corporation performing similar functions.

ii. Failure to Deliver Certificates . If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation the Common Stock certificates issued to such Holder pursuant to the rescinded Conversion Notice.

iii. Obligation Absolute; Partial Liquidated Damages . The Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a Holder to enforce

the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other person, and irrespective of any other circumstance which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided , however , that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or any one associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. If the Corporation fails to deliver to a Holder such certificate or certificates pursuant to Section 6(c)(i) on the second Trading Day after the Share Delivery Date applicable to such conversion, the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each $5,000 of Stated Value of Preferred Stock being converted, $50 per Trading Day (increasing to $100 per Trading Day on the third Trading Day and increasing to $200 per Trading Day on the sixth Trading Day after such damages begin to accrue) for each Trading Day after such second Trading Day after the Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare a Triggering Event pursuant to Section 10 hereof for the Corporation's failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

iv. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion . In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable certificate or certificates by the Share Delivery Date pursuant to Section 6(c)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a

sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a " Buy-In "), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Preferred Stock equal to the number of shares of Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted conversion of shares of Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of $10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder $1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Corporation's failure to timely deliver certificates representing shares of Common Stock upon conversion of the shares of Preferred Stock as required pursuant to the terms hereof.

v. Reservation of Shares Issuable Upon Conversion . The Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Preferred Stock and payment of dividends on the Preferred Stock, each as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Preferred Stock), not less than such aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 7) upon the conversion of the then outstanding shares of Preferred Stock and payment of dividends hereunder. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable and, if the Conversion Shares Registration Statement is then effective under the Securities Act, shall be registered for public resale in accordance with such Conversion Shares Registration Statement (subject to such Holder's compliance with its obligations under the Registration Rights Agreement).

vi. Fractional Shares . No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share.

vii. Transfer Taxes and Expenses . The issuance of certificates for shares of the Common Stock on conversion of this Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holders of such shares of Preferred Stock and the Corporation shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

d) Beneficial Ownership Limitation . The Corporation shall not effect any conversion of the Preferred Stock, and a Holder shall not have the right to convert any portion of the Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by such Holder and its Affiliates shall include the number of shares of Common Stock issuable upon conversion of the Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Stated Value of Preferred Stock beneficially owned by such Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Preferred Stock or the Warrants) beneficially owned by such Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 6(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(d) applies, the determination of whether the Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates) and of how many shares of Preferred Stock are convertible

shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates) and how many shares of the Preferred Stock are convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and the Corporation shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 6(d), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Corporation shall within two Trading Days confirm orally and in writing to such Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Corporation, including the Preferred Stock, by such Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The " Beneficial Ownership Limitation " shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of Preferred Stock held by the applicable Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(d) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of Preferred Stock.

Section 7 . Certain Adjustments .

a) Stock Dividends and Stock Splits . If the Corporation, at any time while this Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, this Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a

fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) [RESERVED]

c) Subsequent Rights Offerings . In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the " Purchase Rights "), then the Holder of will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of such Holder's Preferred Stock (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions . During such time as this Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a " Distribution "), at any time after the issuance of this Preferred Stock, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete Conversion of this Preferred Stock (without regard to any limitations on Conversion hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided , however , to the extent that the Holder's right

to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction . If, at any time while this Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Corporation or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Corporation, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Corporation, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a " Fundamental Transaction "), then, upon any subsequent conversion of this Preferred Stock, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Preferred Stock), the number of shares of Common Stock of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the " Alternate Consideration ") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of this Preferred Stock). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any

conversion of this Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the " Successor Entity ") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 7(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the holder of this Preferred Stock, deliver to the Holder in exchange for this Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Preferred Stock (without regard to any limitations on the conversion of this Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations . All calculations under this Section 7 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 7, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of the Corporation) issued and outstanding.

g) Notice to the Holders .

i. Adjustment to Conversion Price . Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder . If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of this Preferred Stock, and shall cause to be delivered to each Holder at its last address as it shall appear upon the stock books of the Corporation, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of this Preferred Stock (or any part hereof) during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8 . Miscellaneous .

a) Notices . Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the address set forth above **Attention:** Chief Executive Officer, facsimile number

650-635-7001, or such other facsimile number or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 9. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by facsimile, or sent by a nationally recognized overnight courier service addressed to each Holder at the facsimile number or address of such Holder appearing on the books of the Corporation, or if no such facsimile number or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Absolute Obligation . Except as expressly provided herein, no provision of this Certificate of Designation shall alter or impair the obligation of the Corporation, which is absolute and unconditional, to pay liquidated damages, accrued dividends and accrued interest, as applicable, on the shares of Preferred Stock at the time, place, and rate, and in the coin or currency, herein prescribed.

c) Lost or Mutilated Preferred Stock Certificate . If a Holder's Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation.

d) Governing Law . All questions concerning the construction, validity, enforcement and interpretation of this Certificate of Designation shall be governed by and construed and enforced in accordance with the internal laws of the State of Delaware, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the " New York Courts "). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the

jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Certificate of Designation and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Certificate of Designation or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Certificate of Designation, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys' fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding.

e) Waiver . Any waiver by the Corporation or a Holder of a breach of any provision of this Certificate of Designation shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Certificate of Designation or a waiver by any other Holders. The failure of the Corporation or a Holder to insist upon strict adherence to any term of this Certificate of Designation on one or more occasions shall not be considered a waiver or deprive that party (or any other Holder) of the right thereafter to insist upon strict adherence to that term or any other term of this Certificate of Designation on any other occasion. Any waiver by the Corporation or a Holder must be in writing.

f) Severability . If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law.

g) Next Business Day . Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

h) Headings . The headings contained herein are for convenience only, do not constitute a part of this Certificate of Designation and shall not be deemed to limit or affect any of the provisions hereof.

i) Status of Converted or Redeemed Preferred Stock . Shares of Preferred Stock may only be issued pursuant to the Purchase Agreement. If any shares of Preferred

Stock shall be converted, redeemed or reacquired by the Corporation, such shares shall resume the status of authorized but unissued shares of preferred stock and shall no longer be designated as Series B Convertible Preferred Stock.

****

RESOLVED, FURTHER, that the Chairman, the president or any vice-president, and the secretary or any assistant secretary, of the Corporation be and they hereby are authorized and directed to prepare and file this Certificate of Designation of Preferences, Rights and Limitations in accordance with the foregoing resolution and the provisions of Delaware law.

IN WITNESS WHEREOF, the undersigned have executed this Certificate this 19 th day of September 2013.

/s/ Peter J. Langecker
Name: Peter J. Langecker
Title: President and Chief Executive Officer

/s/ Barbara Riching
Name: Barbara Riching
Title: Chief Financial Officer, Treasurer and Secretary

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series B Convertible Preferred Stock indicated below into shares of common stock, par value $0.01 per share (the " Common Stock "), of OxiGene, Inc., a Delaware corporation (the " Corporation "), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as may be required by the Corporation in accordance with the Purchase Agreement. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____

Number of shares of Preferred Stock owned prior to Conversion: _____

Number of shares of Preferred Stock to be Converted: _____

Stated Value of shares of Preferred Stock to be Converted: _____

Number of shares of Common Stock to be Issued: _____

Applicable Conversion Price: _____

Number of shares of Preferred Stock subsequent to Conversion: _____

Address for Delivery: _____

or

DWAC Instructions:

Broker no: _____

Account no: _____

[HOLDER]

By: _____

Name:

Title:

State of Delaware
Secretary of State
Division of Corporations
Delivered 08:12 AM 06/16/2016
FILED 08:12 AM 06/16/2016
SR 20164487362 - File Number 2303211

CERTIFICATE OF AMENDMENT TO THE
RESTATED CERTIFICATE OF INCORPORATION OF
OXiGENE, INC., AS AMENDED

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

OXiGENE, INC. (hereinafter referred to as the "Corporation"), a corporation duly organized and existing under the Delaware General Corporation Law (the "DGCL"), does hereby certify as follows:

A: That the present name of the Corporation is OXiGENE, Inc., and that the date of filing of its Restated Certificate of Incorporation with the Secretary of the State of Delaware is April 27, 1993.

B. That, at a meeting of the Board of Directors of the Corporation on March 21, 2016, a resolution was duly adopted approving a proposed amendment of the Restated Certificate of Incorporation (the "Certificate of Incorporation") of the Corporation and declaring said amendment to be advisable. The amendment is as follows:

> RESOLVED, that the Certificate of Incorporation of the Corporation be amended by changing the Article First thereof, so that, as amended, said Article shall be and read as follows:
>
> " FIRST : The name of the Corporation is Mateon Therapeutics, Inc. (hereinafter called the "Corporation")."

C. The foregoing amendment was duly adopted in accordance with Section 242 of the DGCL.

D. The effective date of the amendment shall be June 17, 2016.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be duly executed in its name this 16th day of June, 2016.

OXiGENE, Inc.

By: /s/ William D. Schwieterman
William D. Schwieterman, M.D.
President and Chief Executive Officer

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

1. Registration Statement (Form S-8 Nos. 333-126636, 333-177628, 333-181810 and 333-190409) pertaining to the Mateon Therapeutics, Inc. 2005 Stock Plan, as amended,
2. Registration Statement (Form S-8 No. 333-159585) pertaining to the Mateon Therapeutics, Inc. 2005 Stock Plan and the Mateon Therapeutics, Inc. 2009 Employee Stock Purchase Plan, and
3. Registration Statement (Form S-8 No. 333-204500) pertaining to the Mateon Therapeutics, Inc. 2015 Equity Incentive Plan

of our report dated March 30, 2017 (which report expresses an unqualified opinion and includes an explanatory paragraph expressing substantial doubt about the Company's ability to continue as a going concern), with respect to the financial statements of Mateon Therapeutics, Inc., included in this Annual Report (Form 10-K) for the year ended December 31, 2016.

/s/ OUM & CO. LLP

San Francisco, California
March 30, 2017

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO RULE 13A-14(A) AND 15D-14(A)

I, William D. Schwieterman, certify that:

1. I have reviewed this annual report on Form 10-K of Mateon Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2017

By: /s/ WILLIAM D. SCHWIETERMAN

William D. Schwieterman
President and
Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO RULE 13A-14(A) AND 15D-14(A)

I, Matthew M. Loar, certify that:

1. I have reviewed this annual report on Form 10-K of Mateon Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2017

By: /s/ MATTHEW M. LOAR
Matthew M. Loar
Chief Financial Officer

Exhibit 32.1

Certification
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)

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 Mateon Therapeutics, Inc., a Delaware corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

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

Date: March 30, 2017 /s/ WILLIAM D. SCHWIETERMAN

William D. Schwieterman, President and Chief Executive Officer

Date: March 30, 2017 /s/ MATTHEW M. LOAR

Matthew M. Loar, Chief Financial Officer