

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

AMENDMENT NO. 1 TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ATOSSA GENETICS INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other
Jurisdiction of
incorporation or
organization)

26-4753208
(I.R.S. Employer
Identification No.)

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(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

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Approximate Date of Commencement of Proposed Sale to the Public: From time to time after this Registration Statement becomes effective, as determined by the registrant.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act Registration Statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act Registration Statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act Registration Statement number of the earlier effective registration statement for the same offering.

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," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, dated April 23, 2018

PRELIMINARY PROSPECTUS



**Subscription Rights to Purchase Up to 20,000 Units
Consisting of an Aggregate of Up to 20,000 Shares of Series B Convertible Preferred Stock
and Warrants to Purchase Up to 5,680,000 Shares of Common Stock
at a Subscription Price of \$1,000 Per Unit**

We are distributing to holders of our common stock and warrants we issued on December 22, 2017, at no charge, non-transferable subscription rights to purchase units. Each unit consists of one share of Series B Convertible Preferred Stock and 284 warrants. Each warrant will be exercisable for one share of our common stock. We refer to the offering that is the subject of this prospectus as the rights offering. In the rights offering, you will receive one subscription right for each share of common stock owned at 5:00 p.m., Eastern Time, on May 9, 2018, the record date of the rights offering. The Series B Convertible Preferred Stock and the warrants comprising the units will be separate upon the closing of the rights offering and will be issued separately, however, they may only be purchased as a unit, and the units will not trade as a separate security. The subscription rights will not be tradable. Holders of warrants as of the record date that we issued on December 22, 2017 will also receive subscription rights pursuant to the terms of those warrants.

Each subscription right will entitle you to purchase one unit, at a subscription price of \$1,000 per unit, which we refer to as the basic subscription right. Each warrant entitles you to purchase one share of common stock at an exercise price of \$4.05 per share from the date of issuance through its expiration four years after the date of issuance. The subscription price was determined by our board of directors after a review of recent historical trading prices of our common stock on the Nasdaq Capital Market. If you fully exercise your basic subscription right, you may also exercise an over-subscription privilege to purchase additional units that remain unsubscribed to at the expiration of the rights offering, subject to the availability and pro rata allocation of units among holders of common stock and warrants entitled to receive subscription rights pursuant to this rights offering (which we refer to as participating warrants) exercising this over-subscription privilege. If all the rights are exercised, the total purchase price of the units offered in the rights offering will be approximately \$20 million.

The subscription rights will expire if they are not exercised by 5:00 p.m., Eastern Time, on May 24, 2018, unless we extend the rights offering period. In our sole discretion, we may extend the rights offering and the period for exercising your subscription rights. You should carefully consider whether to exercise your subscription rights prior to the expiration of the rights offering. All exercises of subscription rights are irrevocable, even if the rights offering is extended by our board of directors.

We have not entered into any standby purchase agreement or other similar arrangement in connection with the rights offering. The rights offering is being conducted on a best-efforts basis and there is no minimum amount of proceeds necessary to be received in order for us to close the rights offering.

Our board of directors is making no recommendation regarding your exercise of the subscription rights. The subscription rights may not be sold, transferred or assigned and will not be listed for trading on any stock exchange or market or on the NASDAQ Capital Market. Our board of directors may cancel the rights offering at any time prior to the expiration of the rights offering for any reason. In the event the rights offering is cancelled, all subscription payments received by the subscription agent will be returned, without interest, as soon as practicable.

We have engaged Maxim Group LLC to act as dealer-manager for this offering.

Broadridge Corporate Issuer Solutions, Inc. will serve as the subscription agent for the rights offering. The subscription agent will hold in escrow the funds we receive from subscribers until we complete, abandon or terminate the rights offering. If you want to participate in this rights offering and as of the record date you are the record holder of your shares of common stock or December 22, 2017 warrants, we recommend that you submit your subscription documents to the subscription agent well before the deadline of the rights offering period. If you want to participate in this rights offering and you hold shares through your broker, dealer, custodian bank or other nominee, you should promptly contact your broker, dealer, custodian, bank or other nominee and submit your subscription documents in accordance with the instructions and within the time period provided by your nominee.

Our board of directors reserves the right to terminate the rights offering for any reason any time before the closing of the rights offering. If we terminate the rights offering, all subscription payments received will be returned within 10 business days, without interest or deduction. We expect the rights offering to expire on or about May 24, 2018, subject to our right to extend the rights offering as described above, and that we would close on subscriptions within five business days.

Our common stock is currently quoted on the NASDAQ Capital Market under the symbol "ATOS". On April 20, 2018, the last reported sale price per share of our common stock on the NASDAQ Capital Market was \$3.52. We do not currently intend to apply for listing of the Series B Convertible Preferred Stock or the warrants on any securities exchange or recognized trading system.

Our principal executive offices are located at 107 Spring Street, Seattle, Washington 98104.

	<u>Per Unit</u>	<u>Total (2)</u>
Subscription price	\$ 1,000	\$ 20,000,000
Dealer-manager fees and expenses (1)	\$ 70	\$ 1,400,000
Proceeds to us, before expenses	\$ 930	\$ 18,600,000

- (1) In connection with the rights offering, we have agreed to pay Maxim Group LLC as the dealer-manager a cash fee equal to 7.0% of the gross proceeds received by us directly from exercises of the subscription rights. We have also agreed to reimburse the dealer-manager for its expenses up to \$85,000. Please see "*Plan of Distribution*."
- (2) Assumes the rights offering is fully subscribed, but excludes proceeds from the exercise of warrants included in the units.

Investing in our securities involves risks. You should carefully consider the Risk Factors beginning on page 18 of this prospectus before you make an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Dealer-Manager

Maxim Group LLC

The date of this prospectus is , 2018

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Neither we nor the dealer-manager has authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the units offered hereby, but only under the circumstances and in the jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date. We are not, and the dealer-manager is not, making an offer of these securities in any jurisdiction where such offer is not permitted.

For investors outside the United States: Neither we nor the dealer-manager has done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of securities and the distribution of this prospectus outside the United States.

Unless the context otherwise requires, references in this prospectus to “Atossa” “the Company,” “we,” “us” and “our” refer to Atossa Genetics Inc. Solely for convenience, our trademarks and tradenames referred to in this registration statement, may appear without the ® or ™ symbols, but such references are not intended to indicate in any way that we will not assert, to the fullest extent under applicable law, our rights to these trademarks and tradenames. All other trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

You should read this prospectus, any applicable prospectus supplement and the information incorporated by reference in this prospectus before making an investment in the securities of Atossa Genetics Inc. See “*Where You Can Find Additional Information*” on page 53 for more information. You should rely only on the information contained in or incorporated by reference in this prospectus or a prospectus supplement. The Company has not authorized anyone to provide you with different information. This document may be used only in jurisdictions where offers and sales of these securities are permitted. You should assume that information contained in this prospectus, or in any document incorporated by reference, is accurate only as of any date on the front cover of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date. Unless indicated otherwise, all share numbers are expressed in this prospectus reflect the one-for-12 reverse stock split effected on April 20, 2018.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into it contain, in addition to historical information, certain information, assumptions and discussions that may constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We have made these statements in reliance on the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements are subject to certain risks and uncertainties, which could cause actual results to differ materially from those projected or anticipated. Although we believe our assumptions underlying our forward-looking statements are reasonable as of the date of this prospectus, we cannot assure you that the forward-looking statements set out in this prospectus will prove to be accurate. We typically identify these forward-looking statements by the use of forward-looking words such as “expect,” “potential,” “continue,” “may,” “will,” “should,” “could,” “would,” “seek,” “intend,” “plan,” “estimate,” “anticipate” or the negative version of those words or other comparable words. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- whether we can obtain approval from the U.S. Food and Drug Administration, or FDA, and foreign regulatory bodies, to commence our clinical studies and to sell, market and distribute our therapeutics and devices under development;
- our ability to successfully initiate and complete clinical trials of our pharmaceutical candidates under development, including endoxifen (Endoxifen; an active metabolite of Tamoxifen) and our intraductal microcatheters to administer therapeutics, including our study using fulvestrant;
- the success, cost and timing of our product and drug development activities and clinical trials, including whether the ongoing clinical study using our intraductal microcatheters to administer fulvestrant will enroll a sufficient number of subjects, if any, or be completed in a timely fashion or at all;
- our ability to contract with third-party suppliers, manufacturers and service providers, including clinical research organizations, and their ability to perform adequately;
- our ability to successfully develop and commercialize new therapeutics currently in development or that we might identify in the future and in the time frames currently expected;
- our ability to successfully defend litigation and other similar complaints that may be brought in the future, in a timely manner and within the coverage, scope and limits of our insurance policies;
- our ability to establish and maintain intellectual property rights covering our products;
- our expectations regarding, and our ability to satisfy, federal, state and foreign regulatory requirements;
- the accuracy of our estimates of the size and characteristics of the markets that our products and services may address;
- our expectations as to future financial performance, expense levels and capital sources;
- our ability to attract and retain key personnel; and
- our ability to raise capital.

This prospectus also contains estimates and other statistical data provided by independent parties and by us relating to market size and growth and other industry data. These and other forward-looking statements made in this prospectus are presented as of the date on which the statements are made. We have included important factors in the cautionary statements included in this prospectus, particularly in the section entitled “*Risk Factors*,” that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any new information, future events or circumstances that may affect our business after the date of this prospectus. Except as required by law, we do not intend to update any forward-looking statements after the date on which the statement is made, whether as a result of new information, future events or circumstances or otherwise.

PROSPECTUS SUMMARY

Our Company

We are a clinical-stage pharmaceutical company focused on developing novel, proprietary therapeutics and delivery methods for the treatment of breast cancer and other breast conditions. We are developing Endoxifen with two routes of delivery: a topical formulation, applied like a lotion, for the treatment of a condition called mammographic breast density (or, MBD) and a breast disorder in men called gynecomastia; and an oral formulation for breast cancer survivors who do not benefit from taking oral tamoxifen, a current FDA-approved standard of care. We are also developing our patented intraductal microcatheter technology to potentially target the delivery of therapies, including fulvestrant, immunotherapies and Chimeric Antigen Receptor T-cell therapies (CAR-T therapies), directly to the site of breast cancer.

In 2017, we completed a Phase 1 clinical study of our proprietary oral and topical formulations of Endoxifen. All objectives were met: there were no clinically significant safety signals and no clinically significant adverse events, and both the oral and topical Endoxifen were well tolerated. In the topical arm of the study, low but measurable Endoxifen levels were detected in the blood in a dose-dependent fashion. In the oral arm of the study, participants exhibited dose-dependent Endoxifen levels that met or exceeded the published therapeutic level. The median time for patients in the study to reach the steady-state serum levels of Endoxifen while taking daily doses of oral Endoxifen was 7 days. Published literature indicates that it takes approximately 50-200 days for patients to reach steady-state Endoxifen levels when taking daily doses of oral tamoxifen.

We are currently conducting a Phase 2 study at Montefiore Medical Center, Bronx, New York, using our intraductal microcatheter technology to deliver fulvestrant. Our program to use our intraductal microcatheters to deliver CAR-T and other immunotherapies is in the research and development phase

In March 2018, we expanded our breast health program by launching a mens' breast health initiative with enrollment opening in a Phase 1 study of our topical Endoxifen in men. The objectives of the placebo-controlled, repeat dose study of 24 healthy male volunteers are to assess the pharmacokinetics of proprietary topical Endoxifen dosage forms over 28 days, as well as to assess safety and tolerability. Depending on the results of this study, we plan to develop our topical Endoxifen for gynecomastia.

We plan to open enrollment in two Phase 2 studies of our proprietary Endoxifen in the first half of 2018: a study in Stockholm, Sweden using our topical Endoxifen to treat MBD and a study of our oral Endoxifen to treat patients who do not benefit from taking tamoxifen. We expect to complete enrollment in these studies in the second half of 2018.

Our key objectives are to advance our programs through Phase 2 trials and then evaluate further development independently or with partners.

Our common stock is currently quoted on the NASDAQ Capital Market under the symbol "ATOS."

Our Programs Under Development

Endoxifen - Background

Oral tamoxifen has been widely used for over 30 years to both treat and prevent breast cancer. Tamoxifen, however, has significant drawbacks. First, it can cause side effects including headaches, nausea and early menopausal symptoms as well as rare but serious side effects such as cataracts, strokes and cancer of the uterus. Second, tamoxifen is a "pro-drug," meaning that it must be processed by the liver in order to produce therapeutic metabolites. The metabolite in tamoxifen that accounts for most of its therapeutic activity is called Endoxifen. Unfortunately, up to 50% of breast cancer survivors who are taking tamoxifen do not produce therapeutic levels of Endoxifen (meaning they are "refractory") for a number of reasons including that they, due to their genotype, do not have the requisite liver enzymes. Additionally, it can take from 50-200 days for tamoxifen to reach "steady-state" meaning that the drug may be providing little or no benefit for up to several months after starting treatment. We are developing Endoxifen to address the shortcomings of tamoxifen.

Proprietary Endoxifen - Completed Phase 1 Study

We recently completed a comprehensive Phase 1 study in 49 healthy women in Australia using both the topical and oral forms of our proprietary Endoxifen. The objectives of this double-blinded, placebo-controlled, Phase 1 study were to assess the pharmacokinetics of our proprietary Endoxifen dosage forms as single (oral) and repeat (oral and topical) doses, as well as to assess safety and tolerability. The study was conducted in two parts based on route of administration.

In September 2017, we reported preliminary results for the topical arm of the study and in October 2017 we reported preliminary results for the oral arm of the study. We concluded that all objectives were successfully met in both arms of the study: there were no clinically significant safety signals and no clinically significant adverse events and both the oral and topical Endoxifen were well tolerated. In the topical arm of the study, there were low but measurable Endoxifen levels detected in the blood in a dose-dependent fashion and in the oral arm of the study participants exhibited dose-dependent Endoxifen levels in published reports of the therapeutic range. The median time for patients in the study to reach the steady-state serum levels of Endoxifen while taking daily doses of oral Endoxifen was 7 days. Published literature indicates that it takes approximately 50-200 days for patients to reach steady-state Endoxifen levels when taking daily doses of oral tamoxifen. Finally, the median time for patients in the study to reach the maximum serum level of Endoxifen after taking Atossa's oral Endoxifen ranged from 4 to 8 hours (depending on dose). The 4 mg dose of Endoxifen produced a maximum serum level of Endoxifen in 4 to 8 hours at levels above the generally accepted threshold for a therapeutic effect on estrogen-dependent breast cancer.

Proprietary Topical Endoxifen

We are developing topical, or "transdermal," Endoxifen for several potential indications. One potential indication is women with MBD. Legislation that has been recently enacted in approximately 30 states requires that women be notified if they have MBD and those notifications typically state that women with MBD have a higher risk of developing breast cancer, and that mammography may not be as effective in detecting breast cancer because the MBD can "mask" the detection of cancers. We estimate that approximately ten million women in the United States have MBD, for which there is no FDA-approved treatment. Although oral tamoxifen is approved to prevent breast cancer in "high-risk" women, it is used by less than 5% of women with an increased risk of developing breast cancer because of the actual or perceived side effects and risks of tamoxifen.

We believe our topical Endoxifen may provide an effective treatment for MBD because, unlike an oral medication, it is applied directly to the breast and penetrates the skin, it does not require metabolism by the liver, and it may produce fewer side effects than tamoxifen. Moreover, our topical Endoxifen may improve mammography accuracy and patient care by unmasking cancerous tumors that are otherwise hidden by breast density. In two separate reports of film-screen mammography, mammographic sensitivity decreased from a level of 85.7%–88.8% in patients with almost entirely fatty tissue to 62.2%–68.1% in patients with extremely dense breast tissue.

We are also developing our proprietary topical Endoxifen for gynecomastia. Gynecomastia is male breast enlargement and accompanying pain. It is the most common male breast disorder and is caused by a hormone imbalance where testosterone is low compared to estrogen. Gynecomastia is caused by, among other things, any number of commonly prescribed medications, such as androgen deprivation therapy to treat prostate enlargement and prostate cancer, anti-anxiety medications, cancer treatments (chemotherapy), and some heart medications. Gynecomastia is not only painful and embarrassing, it can also cause men to stop taking these important medications. In prostate cancer treatment, testosterone is suppressed resulting in higher estrogen levels that usually triggers gynecomastia. Prophylactic breast bud irradiation is commonly used in prostate cancer patients, but must often be repeated. One recent study indicates that up to 90% of men taking androgen deprivation therapy suffer from gynecomastia and breast pain (Handoo Rhee, et al., October 18, 2014, *BJU International*).

There are no FDA-approved therapeutics for gynecomastia. Breast-bud irradiation, use of compression garments and plastic surgery are the most common approaches used to treat gynecomastia.

Similar to women, the treatment for male breast cancer is typically surgery (with or without radiation) and chemotherapy. Breast cancer in men is deadlier than breast cancer in women: men with early-stage breast cancer have a lower five-year survival rate than women and breast cancer in men tends to be detected at a later stage of development than women (Jon M. Greif, DO, FACS, et al., May 2012, *American Society of Breast Surgeons*). Although tamoxifen is the standard of care for women to prevent new and recurrent breast cancer, there is no FDA-approved treatment for male breast cancer.

Proprietary Oral Endoxifen

We are also developing an oral form of Endoxifen for breast cancer patients who are refractory to tamoxifen. Approximately one million breast cancer patients take tamoxifen to prevent recurrent and new breast cancer; however, up to 50% of those patients are refractory to tamoxifen. We believe our oral Endoxifen may provide an effective treatment supplement or option for these refractory patients because Endoxifen, unlike tamoxifen, does not require liver metabolism.

Proprietary Endoxifen – Current and Future Clinical Studies

In September 2017, we contracted Stockholm South General Hospital in Sweden to conduct a Phase 2 study of our topical Endoxifen. The study will be led by principal investigator Dr. Per Hall, MD, Ph.D., Head of the Department of Medical Epidemiology and Biostatistics at Karolinska Institutet. We have applied for approval from the Institutional Review Board and Swedish regulatory authority (Medical Products Agency) to begin enrollment. The primary endpoint is MBD reduction, as well as safety and tolerability. We are planning to open this study in the first half of 2018 and to complete enrollment in the second half of 2018.

We plan to commence a Phase 2 clinical study using our oral Endoxifen for patients who are refractory to tamoxifen. We plan to open the study in the first half of 2018 and to complete it in the second half of 2018.

In March 2018, we opened enrollment in a Phase 1 study of our topical Endoxifen in men. The objectives of the placebo-controlled, repeat dose study of 24 healthy male volunteers are to assess the pharmacokinetics of proprietary topical Endoxifen dosage forms over 28 days, as well as to assess safety and tolerability. The study is being conducted on behalf of Atossa by CPR Pharma Services Pty Ltd., Thebarton, SA, Australia. CPR Pharma recently completed the successful Phase 1 study of our oral and topical Endoxifen in women.

Proprietary Intraductal Microcatheter Technology

We believe our patented intraductal microcatheters may be useful in delivering CAR-T, immunotherapies and a number of drugs to the ducts in the breast, the site of the majority of early breast cancers. Doing so is intended to provide a therapeutic directly to the breast tissue while at the same time reducing delivery of the drug to healthy tissue. We must obtain FDA approval of any therapy delivered via our intraductal microcatheters devices, which will require expensive and time-consuming studies in the current regulatory framework. For example, we must complete clinical studies to demonstrate the safety and tolerability of fulvestrant using our delivery method. We may not be successful in completing these studies or obtaining approval from the FDA or other applicable foreign regulatory authority.

Breast cancers and precancerous lesions are typically treated with systemically administered agents such as tamoxifen, Faslodex, Perjeta and Herceptin. However, these therapies can cause serious side effects which may lead to poor patient compliance with the treatment regimens. Providing therapies directly into the breast ducts targeting the site of the localized cancerous lesions could reduce the need for systemic anti-cancer therapies, and potentially reduce or eliminate the systemic side effects of the therapies and morbidity in such patients, and ultimately improve patient compliance and ultimately reduce mortality.

TRAP CAR-T

Much of the recent success in the field of chimeric antigen receptor therapy, or CAR-T, has relied on the systemic delivery (for example a needle injection into the blood stream) of the CAR-T which is intended to treat various non-solid tumor cancers, such as blood cancers. One concern with this systemic approach is that it does not target the location of the cancer and it can have adverse affects, including deadly “cytokine storms.” Moreover, CAR-T treatments delivered systemically can be as high as \$500,000 per patient.

We are developing a novel method to deliver CAR-T cells into the ducts of the breast for the potential targeted treatment of breast cancer. This approach uses our proprietary intraductal microcatheter technology for the potential transpapillary, or “TRAP,” delivery of either T-cells that have been genetically modified to attack breast cancer cells or various immune-therapies. We believe this method has several potential advantages including the reduction of toxicity by limiting systemic exposure of the T-cells or immunotherapy; improved efficacy by placing the T-cells or immunotherapy in direct contact with the target ductal epithelial cells that are undergoing malignant transformation; and, lymphatic migration of the CAR-T cells or immunotherapy potentially extending their cytotoxic actions into the regional lymph system, which could limit tumor cell dissemination. Moreover, our proprietary approach may be more cost effective if lower doses of therapy can be delivered compared to systemic CAR-T. Our approach is in the R&D stage and is currently not FDA approved. In 2018 we intend to commence studies that will help demonstrate safety and efficacy of this novel approach.

The TRAP delivery of therapeutics in breast cancer clinical trials have demonstrated “that cytotoxic drugs can be safely administered into breast ducts with minimal toxicity” (Zhang B, et al. *Chin J Cancer Res.* 2014 Oct;26(5):579-87; www.ncbi.nlm.nih.gov/pubmed/25400424). T cells are removed from a patient and modified so that they express receptors specific to the patient’s particular breast cancer. The T cells, which can then recognize and kill the cancer cells, are reintroduced into the patient using a microcatheter into the natural ducts of the breast. Chimeric antigen receptors (or, “CARs” and also known as chimeric immunoreceptors, chimeric T cell receptors, artificial T cell receptors or CAR-T) are engineered receptors, which graft an arbitrary specificity onto an immune effector cell (“T cell”). Typically, these receptors are used to graft the specificity of a monoclonal antibody onto a T cell, with transfer of their coding sequence facilitated by retroviral vectors. The receptors are called chimeric because they are composed of parts from different sources.

We have developed a foundational intellectual property position with respect to TRAP CAR-T, and we intend to continue research and development through partnership with leading investigators, institutions, and organizations around the world, bringing our technology and expertise in TRAP delivery together with experts in cancer immunology and T-cell biology.

Delivery of Drugs via our Microcatheters

The initial drug we are studying using our microcatheters for intraductal delivery is fulvestrant. Fulvestrant is FDA-approved for metastatic breast cancer. It is administered as a monthly injection of two shots, typically into the buttocks. In 2012 a published study documented that the single dose cost of intramuscular fulvestrant was approximately \$12,000.

We own several pending patent applications directed to the treatment of breast conditions, including cancer, by the intraductal administration of therapeutics including fulvestrant, and one issued patent directed to intraductal treatment of breast conditions following a diagnosis of breast conditions using ductal fluid.

We do not yet have the FDA’s input, but based on our preliminary analysis, subject to FDA feedback, we believe that the intraductal fulvestrant program could qualify for designation under the 505(b)(2) status. This would allow us to file with only clinical data and without having to perform additional, significant clinical or pre-clinical studies. So the path to market is potentially both faster and less expensive than a standard new drug application, or NDA, program.

We are currently conducting a Phase 2 study using our microcatheter technology to deliver fulvestrant at Montefiore Medical Center. This trial is a Phase 2 study in women with ductal carcinoma in situ (“DCIS”) or Stage 1 or 2 breast cancer (invasive ductal carcinoma) scheduled for mastectomy or lumpectomy within 30 to 45 days. This study is assessing the safety, tolerability, cellular activity and distribution of fulvestrant when delivered directly into breast milk ducts of these patients compared to those who receive the same drug by injection. Of the 30 patients required for full enrollment, six will receive the standard intramuscular injection of fulvestrant and 24 will receive fulvestrant with our microcatheter device.

The primary endpoint of the clinical trial is to compare the safety, tolerability and distribution of fulvestrant between the two routes of administration (intramuscular injection or through our microcatheters). The secondary endpoint of the study is to determine if there are changes in the expression of Ki67 (a measure of cellular proliferation that correlates with tumor growth) as well as estrogen and progesterone receptors between a pre-fulvestrant biopsy and post-fulvestrant surgical specimens. Digital breast imaging before and after drug administration in both groups will also be performed to determine the effect of fulvestrant on any lesions as well as breast density of the participant.

Other Studies of Intraductal Administration using our Microcatheters

An October 2011 peer-reviewed paper published in Science Translational Medicine reported the results of a study conducted at the Johns Hopkins Medical School demonstrating the prevention of breast cancer in rats with intraductal non-systemic chemotherapy, and a proof-of-principle Phase 1 clinical trial involving 17 women with breast cancer who subsequently received surgery. An accompanying editorial commented that “intraductal treatment could be especially useful for women with premalignant lesions or those at high risk of developing breast cancer, thus drastically improving upon their other, less attractive options of breast-removal surgery or surveillance (termed ‘watch and wait’).”

In a December 2012 peer-reviewed paper published in Cancer Prevention Research, Dr. Susan Love and her colleagues reported the results of a Phase I clinical trial of intraductal chemotherapy drugs administered into multiple ducts within one breast in women awaiting mastectomy for treatment of invasive cancer. Thirty subjects were enrolled in this dose escalation study conducted at a single center in Beijing, China. Under local anesthetic, one of two chemotherapy drugs, carboplatin or pegylated liposomal doxorubicin (PLD), was administered into five to eight ducts at three dose levels. Pharmacokinetic analysis has shown that carboplatin was rapidly absorbed into the bloodstream, whereas PLD, though more erratic, was absorbed after a delay. Pathologic analysis showed marked effects on breast duct epithelium in ducts treated with either drug compared with untreated ducts. The investigators concluded the study showed the safety and feasibility of intraductal administration of chemotherapy drugs into multiple ducts for the purpose of breast cancer prevention and that this was an important step towards implementing of this strategy as a “chemical mastectomy,” potentially eliminating the need for surgery.

Markets

Potential Market Opportunities

We believe that, based in part on a January 2017 study by Defined Health, a leading market research firm, the potential U.S. market for intraductal administration of fulvestrant or similar drugs in DCIS patients is up to \$800 million annually. This estimate includes treatment of DCIS patients prior to surgery as well as patients who would use intraductal treatment as an alternative to surgery. We believe that the potential U.S. market for endoxifen in the treatment and prevention settings is up to \$1 billion annually.

The Breast Cancer and Related Markets

The American Cancer Society (“ACS”) estimated that in 2018, 268,000 women will be diagnosed with breast cancer in the United States. Every two minutes an American woman is diagnosed with breast cancer and 41,000 die each year. Although about 100 times less common than in women, breast cancer also affects men. The ACS estimated that the lifetime risk of men getting breast cancer is about 1 in 1,000; 2,550 new cases of invasive breast cancer will be diagnosed; and 480 men will die from breast cancer in 2018.

Gynecomastia

According to the Mayo Clinic, although it can affect men at almost any age, gynecomastia is most prevalent in men ages 50-69, affecting at least 1 in 4 men in this age group.

We were incorporated in April of 2009 and our common stock is currently quoted on the NASDAQ Capital Market under the symbol "ATOS."

SUMMARY OF THE RIGHTS OFFERING

Securities to be Offered:	We are distributing to you, at no charge, one non-transferable subscription right to purchase one unit for each share of our common stock (or share of common stock issuable upon exercise of our December 22, 2017 warrants) that you owned as of the record date. Each unit consists of one share of Series B Convertible Preferred Stock and 284 warrants.
Size of Offering:	20,000 units.
Subscription Price:	\$1,000 per unit.
Series B Convertible Preferred Stock:	Each share of Series B Convertible Preferred Stock will be convertible, at our option at any time on or after the first anniversary of the closing of the rights offering or at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series B Convertible Preferred Stock by a conversion price of \$3.52 per share, subject to adjustment. The Series B Convertible Preferred Stock has certain conversion rights and dividend rights.
Warrants:	Each warrant entitles the holder to purchase one share of common stock at an exercise price of \$4.05 per share, subject to adjustment, through its expiration four years from the date of issuance. The warrants will be exercisable for cash, or, solely during any period when a registration statement for the exercise of the warrants is not in effect, on a cashless basis. We do not intend to apply to list the warrants on any securities exchange or recognized trading system. We may redeem the warrants for \$0.18 per warrant if the volume-weighted average price ("VWAP") of our common stock equals or exceeds \$10.56 per share for ten consecutive trading days, provided that we may not do so prior to the first anniversary of closing of the rights offering.
Record Date:	5:00 p.m., Eastern Time, on May 9, 2018.
Basic Subscription Rights:	Each subscription right entitles you to purchase one unit at the subscription price. You may not purchase a partial unit.
Over-Subscription Privilege:	If you exercise your basic subscription rights in full, you may also choose to purchase a portion of the units that are not purchased by our other holders of common stock and participating warrants through the exercise of their basic subscription rights, subject to proration and stock ownership limitations described elsewhere in this prospectus.
Expiration Date:	5:00 p.m., Eastern Time, on May 24, 2018.
Procedure for Exercising Subscription Rights:	<p>To exercise your subscription rights, you must take the following steps:</p> <p>If as of the record date you are a record holder of our common stock or warrants issued December 22, 2017, you must deliver payment and a properly completed rights certificate to the subscription agent to be received before 5:00 p.m., Eastern Time, on May 24, 2018. You may deliver the documents and payments by first class mail or courier service. If you use first class mail for this purpose, we recommend using registered mail, properly insured, with return receipt requested.</p> <p>If you are a beneficial owner of shares that are registered in the name of a broker, dealer, bank or other nominee, you should instruct your broker, dealer, bank or other nominee to exercise your subscription rights on your behalf. Please follow the instructions of your nominee, who may require that you meet a deadline earlier than 5:00 p.m., Eastern Time, on May 24, 2018.</p>

Delivery of Shares and Warrants:	As soon as practicable after the expiration of the rights offering, and within five business days thereof, we expect to close on subscriptions and for the subscription agent to arrange for the issuance of the shares of Series B Convertible Preferred Stock and warrants purchased pursuant to the rights offering. All shares and warrants that are purchased in the rights offering will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration, or DRS, account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares or warrants. If you hold your shares or participating warrants in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the rights offering.
Non-Transferability of Subscription Rights:	Subscription rights may not be sold, transferred, assigned or given away under any circumstances, and will not be listed for trading on any stock exchange or market.
Transferability of Warrants:	The warrants will be separately transferable following their issuance and through their expiration four years from the date of issuance.
No Board Recommendation:	Our board of directors is not making a recommendation regarding your exercise of the subscription rights. You are urged to make your decision to invest based on your own assessment of our business and financial condition, our prospects for the future, the terms of the rights offering, the information in this prospectus and other information relevant to your circumstances. Please see “ <i>Risk Factors</i> ” for a discussion of some of the risks involved in investing in our securities.
No Revocation:	All exercises of subscription rights are irrevocable.
Use of Proceeds:	Assuming the exercise of subscription rights to purchase all 20,000 units offered in the rights offering, after deducting dealer-manager fees and other fees and expenses, but excluding any proceeds received upon exercise of any warrants, we estimate the net proceeds from the rights offering will be approximately \$18.4 million. We intend to use the net proceeds for general corporate purposes, which include, but are not limited to, funding our ongoing and future development of our drugs and devices under development, and for general and administrative expenses. We may also use a portion of the net proceeds to pay off outstanding indebtedness, if any, and/or acquire or invest in complementary businesses, products and technologies. See “ <i>Use of Proceeds</i> .”
Material U.S. Federal Income Tax Consequences:	For U.S. federal income tax purposes, we do not believe you should recognize income or loss upon receipt or exercise of a subscription right. You should consult your own tax advisor as to the tax consequences of the rights offering in light of your particular circumstances. See “ <i>Material U.S. Federal Income Tax Consequences</i> .”
Extension and Termination:	We may extend the rights offering for additional time in our sole discretion, although we do not presently intend to do so. Our board of directors may also terminate the rights offering for any reason prior to its completion.
Subscription Agent Questions:	If you have any questions about the rights offering, please contact the subscription agent.
Subscription Agent	Broadridge Corporate Issuer Solutions, Inc.
Market for Common Stock:	Our common stock is listed on the NASDAQ Capital Market under the symbol “ATOS.”

Market for Preferred Stock: There is no established public trading market for the Series B Convertible Preferred Stock, and we do not expect a market to develop. In addition, we do not currently intend to apply for listing of the Series B Convertible Preferred Stock on any securities exchange or recognized trading system.

Market for Warrants There is no established trading market for the warrants, and the warrants may not be widely distributed. We do not intend to list the warrants for trading on any securities exchange or recognized trading system.

Dealer-Manager: Maxim Group LLC

QUESTIONS AND ANSWERS ABOUT THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the rights offering. The answers are based on selected information included elsewhere in this prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the rights offering. This prospectus and the documents incorporated by reference herein contain more detailed descriptions of the terms and conditions of the rights offering and provide additional information about us and about our business, including potential risks related to the rights offering, the units offered hereby, and our business.

Exercising the subscription rights and investing in our securities involve a high degree of risk. We urge you to carefully read the section entitled "Risk Factors" beginning on page 18 of this prospectus and all other information included in, or incorporated by reference into, this prospectus in its entirety before you decide whether to exercise your subscription rights.

What is the rights offering?

We are distributing to holders of shares of our common stock and holders of our December 22, 2017 warrants as of 5:00 p.m., Eastern Time, on May 9, 2018, which is the record date for the rights offering, at no charge, non-transferable subscription rights to purchase units, each consisting of one share of Series B Convertible Preferred Stock and 284 warrants. Each warrant will be exercisable for one share of our common stock. You will receive one subscription right for each share of common stock (including each share of common stock issuable upon exercise of warrants issued December 22, 2017) you owned as of 5:00 p.m., Eastern Time, on the record date. Each subscription right entitles the holder to a basic subscription right and an over-subscription privilege, which are described below. Upon closing of the rights offering, the Series B Convertible Preferred Stock and warrants will immediately separate. We do not intend to apply to list the warrants on any securities exchange or recognized trading system. The common stock to be issued upon conversion of the Series B Convertible Preferred Stock or exercise of the warrants, like our existing shares of common stock, will be traded on the NASDAQ Capital Market under the symbol "ATOS."

Why are we conducting the rights offering?

We are conducting the rights offering to provide for our general corporate purposes, which include, but are not limited to, funding our ongoing and future development of our drugs and devices under development and for general and administrative expenses. For a detailed discussion, see "*Use of Proceeds*."

Our Board of Directors (the "Board") has approved the rights offering and, based on information available to the Board and its subsequent analyses, believes that the rights offering is in the best interests of the Company and its stockholders. However, our Board is not making any recommendation regarding your exercise of the subscription rights.

What is the basic subscription right?

Each basic subscription right gives our stockholders and holders of our December 22, 2017 warrants the opportunity to purchase units consisting of one share of Series B Convertible Preferred Stock and 284 warrants at a subscription price of \$1,000 per unit, subject to the limits described below. We have granted to you, as a stockholder or warrant holder of record as of 5:00 p.m., Eastern Time, on the record date, one subscription right for each share of our common stock you owned at that time. For example, if you owned 1,000 shares of our common stock as of 5:00 p.m., Eastern Time, on the record date, you would have received 1,000 subscription rights and would have the right to purchase 1,000 units for \$1,000 per unit subject to certain limitations. You may exercise all or a portion of your basic subscription rights or you may choose not to exercise any subscription rights at all. However, if you exercise fewer than all of your basic subscription rights, you will not be entitled to purchase any additional shares pursuant to the over-subscription privilege.

If you hold ATOS stock certificates or participating warrants, the number of basic subscription rights you may exercise is indicated on the enclosed rights certificate. If you hold your shares or participating warrants in the name of a custodian bank, broker, dealer or other nominee, you will not receive a rights certificate. Instead, the Depository Trust Company (“DTC”) will issue one subscription right to the nominee record holder for each share of our common stock (including shares issuable upon exercise of participating warrants) that you own at the record date. If you are not contacted by your custodian bank, broker, dealer or other nominee, you should contact your nominee as soon as possible.

What is the over-subscription privilege?

We do not expect all of our stockholders and December 22, 2017 warrant holders to exercise all of such holder’s basic subscription rights. The over-subscription privilege provides each rights holder that exercises all of such rights holder’s basic subscription rights the opportunity to purchase the units that are not purchased by other holders of common stock and participating warrants. If you fully exercise your basic subscription right, the over-subscription privilege of each right entitles you to subscribe for additional units unclaimed by other holders of rights in the rights offering at the same subscription price per unit. If an insufficient number of units are available to fully satisfy all over-subscription privilege requests, the available units will be distributed proportionately among holders of common stock and participating warrants who exercise their over-subscription privileges based on the number of units each rights holder subscribed for under the basic subscription right.

In order to properly exercise your over-subscription privilege, you must deliver the subscription payment for exercise of your over-subscription privilege before the expiration of the rights offering. Because we will not know the total number of unsubscribed units before the expiration of the rights offering, if you wish to maximize the number of units you purchase pursuant to your over-subscription privilege, you will need to deliver payment in an amount equal to the aggregate subscription price for the maximum number of units available, assuming that no stockholder other than you has purchased any units pursuant to such stockholder’s basic subscription right and over-subscription privilege. The subscription agent will return any excess payments by mail without interest or deduction promptly after the expiration of the subscription period. See “*The Rights Offering—The Subscription Rights—Over-Subscription Privilege.*”

May the subscription rights that I exercise be reduced for any reason?

Yes. While we are distributing to holders of our common stock one subscription right for each share of common stock owned on the record date, we are only seeking to raise \$20 million dollars in gross proceeds in this rights offering. As a result, based on 2,651,895 shares of common stock outstanding as of April 20, 2018 and 883,333 shares of common stock issuable upon exercise of warrants issued December 22, 2017, we would grant subscription rights to acquire 3,535,228 units but will only accept subscriptions for 20,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If exercises of basic subscription rights exceed the number of units available in the rights offering, we will allocate the available units pro-rata among the record holders exercising the basic subscription rights in proportion to the number of shares of our common stock each of those record holders owned on the record date (including shares of common stock issuable upon exercise of the December 22, 2017 warrants), relative to the number of shares owned on the record date by all record holders exercising the basic subscription right. If this pro-rata allocation results in any record holders receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the basic subscription rights, then such record holder will be allocated only that number of units for which the record holder subscribed, and the remaining units will be allocated among all other record holders exercising their basic subscription rights on the same pro rata basis described above. The proration process will be repeated until all units have been allocated. Please also see the discussion under “*The Rights Offering—The Subscription Rights—Over-Subscription Privilege*” and “*The Rights Offering—Limitation on the Purchase of Units*” for a description of potential proration as to the over-subscription privilege and certain stock ownership limitations.

If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

Will fractional shares be issued upon exercise of subscription rights?

No. We will distribute subscription rights to acquire whole units, rounding down the underlying number of common shares giving rise to such subscription rights to the nearest share. Any excess subscription payments received by the subscription agent will be returned within 10 business days after expiration of the rights offering, without interest or deduction. No fractional shares will be issued upon the conversion of the Series B Convertible Preferred Stock or upon exercise of warrants.

What are the terms of the Series B Convertible Preferred Stock?

Each share of Series B Convertible Preferred Stock will be convertible, at our option at any time on or after the first anniversary of the closing of the rights offering or at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series B Convertible Preferred Stock by a conversion price of \$3.52 per share, subject to adjustment. The Series B Convertible Preferred Stock has certain conversion rights and dividend rights as described in more detail herein. We do not currently intend to list the Series B Convertible Preferred Stock on any securities exchange or recognized trading system.

What are the terms of the warrants?

Each warrant entitles the holder to purchase one share of common stock at an exercise price of \$4.05 per share from the date of issuance through its expiration four years from the date of issuance. The warrants will be exercisable for cash, or, solely during any period when a registration statement for the exercise of the warrants is not in effect, on a cashless basis. We may redeem the warrants for \$0.18 per warrant if the VWAP of our common stock equals or exceeds \$10.56 per share for ten consecutive trading days, provided that we may not do so prior to the first anniversary of closing of the rights offering. The warrants will be issued in registered form under a warrant agent agreement with VStock Transfer, LLC as warrant agent.

Are the warrants listed?

We do not intend to list the warrants on any securities exchange or recognized trading system.

Will fractional shares be issued upon the conversion of shares of Series B Convertible Preferred Stock or the exercise of warrants?

No fractional shares of common stock will be issued as a result of the conversion of shares of Series B Convertible Preferred Stock or the exercise of warrants. Instead, for any such fractional share that would otherwise have been issuable upon conversion of shares of Series B Convertible Preferred Stock, the Company may, at its election, pay a cash payment equal to such fraction multiplied by the conversion price or round up to the next whole share, and for any such fractional share that would have otherwise been issued upon exercise of warrants, the Company will round up such fraction to the next whole share.

How was the subscription price determined?

The Board determined the subscription price based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our stockholders and warrant holders as of December 22, 2017, to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Board also reviewed our history and prospects, including our past and present earnings, our prospects for future earnings, and the outlook for our industry, and our current financial condition.

The subscription price is not necessarily related to our book value, tangible book value, multiple of earnings or any other established criteria of value and may or may not be considered the fair value of our common stock to be offered in the rights offering. You should not consider the subscription price as an indication of value of the Company or our common stock. There is currently no market for our shares of Series B Convertible Preferred Stock and, unless we or you choose to convert such shares into shares of common stock, you will not be able to resell such shares. We cannot predict the price at which our shares of common stock will trade. You should obtain a current quote for our common stock before exercising your subscription rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of the rights offering.

If I am a holder of only stock options or warrants (other than warrants issued on December 22, 2017), may I participate in the rights offering?

Only holders of common stock issued and holders of warrants issued on December 22, 2017, as of the record date, may participate in the rights offering. Following the consummation of the rights offering, the Company may make an equitable adjustment to unexercised stock options to reflect the issuance of shares in the rights offering.

Am I required to exercise all of the subscription rights I receive in the rights offering?

No. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights. If you do not exercise any subscription rights, the number of shares of our common stock you own will not change; however, upon conversion of the Series B Convertible Preferred Stock and exercise of the warrants offered hereby, you will own a smaller proportional interest in the Company than if you had timely exercised all or a portion of your subscription rights. If you choose not to exercise your subscription rights or you exercise fewer than all of your subscription rights and other holders of common stock and participating warrants fully exercise their subscription rights or exercise a greater proportion of their subscription rights than you exercise, the percentage of our common stock owned by these other holders of common stock and participating warrants will increase relative to your ownership percentage, and your voting and other rights in the Company will likewise be diluted. In addition, if you do not exercise your basic subscription right in full, you will not be entitled to participate in the over-subscription privilege.

How soon must I act to exercise my subscription rights?

If you received a rights certificate and elect to exercise any or all of your subscription rights, the subscription agent must receive your completed and signed rights certificate and payment (and your payment must clear) prior to the expiration of the rights offering, which is May 24, 2018, at 5:00 p.m., Eastern Time. If you hold your shares or participating warrants in the name of a custodian bank, broker, dealer or other nominee, your nominee may establish a deadline prior to 5:00 p.m., Eastern Time, on May 24, 2018 by which you must provide it with your instructions to exercise your subscription rights and payment for your units. Our Board may, in its discretion, extend the rights offering one or more times. Our Board may cancel or amend the rights offering at any time before its expiration. In the event that the rights offering is cancelled, all subscription payments received will be returned promptly, without interest or penalty.

Although we will make reasonable attempts to provide this prospectus to holders of subscription rights, the rights offering and all subscription rights will expire at 5:00 p.m., Eastern Time, on May 24, 2018 (unless extended), whether or not we have been able to locate each person entitled to subscription rights.

All exercises of subscription rights are irrevocable, even if the rights offering is extended by our board of directors.

May I transfer my subscription rights?

No. You may not sell, transfer or assign your subscription rights to anyone. Subscription rights will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or market. Rights certificates may only be completed by the stockholder or holder of December 22, 2017 warrants who receives them.

Are we requiring a minimum subscription to complete the rights offering?

There is no aggregate minimum we must receive to complete the rights offering.

Has our Board made a recommendation to our holders of common stock and participating warrants regarding the rights offering?

No. Our Board is not making a recommendation regarding your exercise of the subscription rights. Holders of common stock and participating warrants who exercise subscription rights risk investment loss on new money invested. There is currently no market for our shares of Series B Convertible Preferred Stock and, unless we or you choose to convert your shares of Series B Convertible Preferred Stock into shares of common stock, you will not be able to resell such shares. We cannot predict the price at which our shares of common stock will trade. On April 20, 2018, the last reported sale price of our common stock on Nasdaq was \$3.52 per share. You are urged to make your decision based on your own assessment of our business and the rights offering. Please see “*Risk Factors*” in this prospectus and all other information included in, or incorporated by reference into, this prospectus for a discussion of some of the risks involved in investing in our common stock.

How do I exercise my subscription rights if I own shares in certificate form or if I own warrants issued in the December 22, 2017 financing?

If you hold an ATOS stock certificate or a December 22, 2017 warrant and you wish to participate in the rights offering, you must take the following steps:

- deliver a complete and executed rights certificate and related subscription documents to the subscription agent on or before 5:00 p.m. Eastern Time, on May 24, 2018; and
- deliver payment to the subscription agent on or before 5:00 p.m. Eastern Time, on May 24, 2018. Payment instructions will accompany your rights certificate.

In certain cases, you may be required to provide additional documentation or signature guarantees.

Please follow the delivery instructions on the rights certificate. Do not deliver documents to the Company. You are solely responsible for completing delivery to the subscription agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the subscription agent so that the subscription agent receives the materials before 5:00 p.m., Eastern Time, on May 24, 2018.

If you send a payment that is insufficient to purchase the number of units you requested, or if the number of units you requested is not specified in the forms, the payment received will be applied to exercise your subscription rights to the fullest extent possible based on the amount of the payment received, subject to the availability of units in the rights offering and the elimination of fractional shares. Any excess subscription payments received by the subscription agent will be returned promptly, without interest, following the expiration of the rights offering.

What should I do if I want to participate in the rights offering, but my shares or participating warrants are held in the name of a custodian bank, broker, dealer or other nominee?

If you hold your shares of common stock or participating warrants through a custodian bank, broker, dealer or other nominee, then your nominee is the record holder of the shares (or shares issuable upon exercise of participating warrants) you own. If you are not contacted by your nominee, you should contact your nominee as soon as possible. Your nominee must exercise the subscription rights on your behalf for the units you wish to purchase. You will not receive a rights certificate. Please follow the instructions of your nominee. Your nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date for the rights offering.

What form of payment is required to purchase units?

As described in the instructions accompanying the rights certificate, payments submitted to the subscription agent must be made in full United States currency by personal or certified check payable to Broadridge Corporate Issuer Solutions, Inc., the subscription agent, drawn upon a United States bank; U.S. Postal money order; or wire transfer.

If payment is issued by check, payment will be deemed to have been received by the subscription agent only upon the subscription agent's receipt of the check, receipt and clearance of such check.

Please note that funds paid by uncertified personal check may take at least seven business days to clear. Accordingly, if you wish to pay by means of an uncertified personal check, we urge you to make payment sufficiently in advance of the expiration date to ensure that the subscription agent receives cleared funds before that time.

When will I receive my new shares of Series B Convertible Preferred Stock and Warrants?

All shares that you purchase in the rights offering to which you are entitled will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the subscription rights holder of record. As soon as practicable after the expiration of the rights offering period, the subscription agent will arrange for the issuance of the shares of Series B Convertible Preferred Stock purchased in the rights offering. Subject to state securities laws and regulations, we have the discretion to delay distribution of any shares you may have elected to purchase by exercise of your rights in order to comply with state securities laws.

After I send in my payment and rights certificate, may I cancel my exercise of subscription rights?

No. All exercises of subscription rights are irrevocable unless the rights offering is terminated, even if you later learn information about us or the rights offering that you consider to be unfavorable to the exercise of your subscription rights. You should not exercise your subscription rights unless you are certain that you wish to purchase units in the rights offering.

Will our directors and officers participate in the rights offering?

All holders of our common stock and holders of our December 22, 2017 warrants as of the record date for the rights offering will receive, at no charge, the non-transferable subscription rights to purchase shares of Series B Convertible Preferred Stock and warrants as described in this prospectus. To the extent that our directors and officers held shares of our common stock (including shares of restricted common stock) as of the record date, they will receive the subscription rights and, while they are under no obligation to do so, will be entitled to participate in the rights offering. Our directors and officers have not indicated to us whether they will participate in the offering pursuant to their basic subscription rights.

Will the equity awards of our employees, officers and directors automatically convert into common stock in connection with the rights offering?

Holders of our equity awards to employees, officers and directors, including outstanding stock options, will not receive rights in the rights offering in connection with such equity awards, but will receive subscription rights in connection with any shares of our common stock held as of the record date.

How will the rights offering affect our outstanding common stock?

As of April 20, 2018, following a one-for-twelve reverse stock split approved by our stockholders on April 19, 2018, we had 2,651,895 shares of our common stock outstanding and 883,333 shares of common stock issuable upon exercise of December 22, 2017 warrants. Assuming no additional shares of common stock are issued by the Company prior to consummation of the rights offering and assuming all units are sold in the rights offering, we will have in addition to our previously issued and outstanding securities, 20,000 shares of Series B Convertible Preferred Stock outstanding, and warrants to purchase an additional 5,680,000 shares of our common stock outstanding.

The issuance of Series B Convertible Preferred Stock and warrants exercisable for shares of our common stock in the rights offering will dilute, and thereby reduce, your proportionate ownership in the Company unless you fully exercise your basic subscription rights.

How much will the Company receive in net proceeds from the rights offering?

We expect the aggregate proceeds, net of dealer-manager fees and other fees and expenses, from the rights offering will be approximately \$18.4 million, assuming all rights are exercised. We intend to use the net proceeds to provide for our general corporate purposes. Please see “*Use of Proceeds*.”

Are there risks in exercising my subscription rights?

Yes. The exercise of your subscription rights involves risks. Exercising your subscription rights involves the purchase of our securities and should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the heading “*Risk Factors*” in this prospectus and all other information included in, or incorporated by reference into, this prospectus.

Can the Board terminate or extend the rights offering?

Yes. Our Board may decide to terminate the rights offering at any time and for any reason before the expiration of the rights offering. We also have the right to extend the rights offering for additional periods in our sole discretion. We do not presently intend to extend the rights offering. We will notify holders of common stock and participating warrants and the public if the rights offering is terminated or extended by issuing a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the rights offering.

If the rights offering is not completed, will my subscription payment be refunded to me?

Yes. The subscription agent will hold all funds it receives in a designated bank account until the rights offering is completed. If the rights offering is not completed, all subscription payments received by the subscription agent will be returned promptly, without interest or penalty. If your shares or participating warrants are held in the name of a custodian bank, broker, dealer or other nominee, it may take longer for you to receive the refund of your subscription payment than if you were a record holder of your shares because the subscription agent will return payments through the record holder of your shares.

Will I receive interest on any funds I deposit with the subscription agent?

No. You will not be entitled to any interest on any funds that are deposited with the subscription agent pending completion or cancellation of the rights offering. If the rights offering is cancelled for any reason, the subscription agent will return this money to subscribers, without interest or penalty, as soon as practicable.

How do I exercise my rights if I live outside of the United States?

The subscription agent will hold rights certificates for holders of common stock and participating warrants having addresses outside of the United States. In order to exercise subscription rights, foreign holders of common stock and participating warrants must notify the subscription agent and timely follow the procedures described in “*The Rights Offering—Foreign Stockholders*.”

What are the U.S. federal income tax consequences of exercising my subscription rights?

We believe that the receipt and exercise of subscription rights by holders of shares of our common stock and holders of participating warrants should generally not be taxable for U.S. federal income tax purposes. You should seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See “*Material U.S. Federal Income Tax Consequences*.”

What fees or charges apply if I purchase units in the rights offering?

We are not charging any fee or sales commission to issue subscription rights to you or to issue units to you if you exercise your subscription rights (other than the subscription price). If you exercise your subscription rights through a custodian bank, broker, dealer or other nominee, you are responsible for paying any fees your nominee may charge you.

Whom should I contact if I have other questions?

If you have other questions regarding the rights offering, please contact the subscription agent, Broadridge Corporate Issuer Solutions, Inc., toll free at (855) 793-5068, or by mail at Broadridge Corporate Issuer Solutions, Inc., Attn: BCIS Re-Organization Dept., P.O. Box 1317, Brentwood, New York, 11717-0693.

To whom should I send my forms and payment?

If your shares or participating warrants are held in the name of a broker, dealer, custodian bank or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, or subscription payment to the address provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent. Do not send or deliver these materials to the Company.

By Mail

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, New York 11717-0693
(855) 793-5068 (toll free)

By Hand or Overnight Courier

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, New York 11717
(855) 793-5068 (toll free)

You, or, if applicable, your nominee, are solely responsible for ensuring the subscription agent receives your subscription documents, rights certificate, and subscription payment. You should allow sufficient time for delivery of your subscription materials to the subscription agent and clearance of payment before the expiration of the rights offering period.

Who is the dealer-manager?

Maxim Group LLC will act as dealer-manager for the rights offering. Under the terms and subject to the conditions contained in the dealer-manager agreement, the dealer-manager will use its best efforts to solicit the exercise of subscription rights. We have agreed to pay the dealer-manager certain fees for acting as dealer-manager and to reimburse the dealer-manager for certain out-of-pocket expenses incurred in connection with this offering. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of Series B Convertible Preferred stock or warrants being issued in the rights offering and is not making any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), shares of Series B Convertible Preferred Stock or warrants.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making an investment decision with respect to our securities, we urge you to carefully consider the risks described in the “Risk Factors” section of our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference into this prospectus. These risk factors relate to our business, intellectual property, regulatory matters, and ownership of our common stock. In addition, the following risk factors present material risks and uncertainties associated with the rights offering. The risks and uncertainties incorporated by reference into this prospectus or described below are not the only ones we face. Additional risks and uncertainties not presently known or which we consider immaterial as of the date hereof may also have an adverse effect on our business. If any of the matters discussed in the following risk factors were to occur, our business, financial condition, results of operations, cash flows or prospects could be materially adversely affected, the market price of our securities could decline and you could lose all or part of your investment in our securities.

Risks Related to the Rights Offering

Future sales of our common stock may depress our share price.

As of April 20, 2018, following a one-for-12 reverse stock split that was approved by our stockholders on April 19, 2018, we had 2,651,895 shares of our common stock outstanding. Sales of a number of shares of common stock in the public market, or the issuance of additional shares upon exercise of outstanding warrants, could cause the market price of our common stock to decline. We may also sell additional common stock or securities convertible into or exercisable or exchangeable for common stock in subsequent public or private offerings or other transactions, which may adversely affect the market price of our common stock.

We presently do not intend to pay cash dividends on our common stock.

We have never paid cash dividends in the past, and we currently anticipate that no cash dividends will be paid on the common stock in the foreseeable future.

Our stockholders may experience substantial dilution in the value of their investment if we issue additional shares of our capital stock.

Our charter allows us to issue up to 175,000,000 shares of our common stock, par value \$0.18 per share, and to issue and designate the rights of, without stockholder approval, up to 10,000,000 shares of preferred stock, par value \$0.001 per share. On April 19, 2018, our stockholders approved an increase in the authorized number of shares of our common stock from 75,000,000 to 175,000,000, as well as a one-for-twelve reverse stock split. To raise additional capital, we may in the future sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that are lower than the prices paid by existing stockholders, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders, which could result in substantial dilution to the interests of existing stockholders.

We may issue debt and equity securities or securities convertible into equity securities, any of which may be senior to our common stock as to distributions and in liquidation, which could negatively affect the value of our common stock.

In the future, we may attempt to increase our capital resources by entering into debt or debt-like financing that is unsecured or secured by up to all of our assets, or by issuing additional debt or equity securities, which could include issuances of secured or unsecured commercial paper, medium-term notes, senior notes, subordinated notes, guarantees, preferred stock, hybrid securities, or securities convertible into or exchangeable for equity securities. In the event of our liquidation, our lenders and holders of our debt and preferred securities would receive distributions of our available assets before distributions to the holders of our common stock. Because our decision to incur debt and issue securities in future offerings may be influenced by market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing or nature of our future offerings or debt financings. Further, market conditions could require us to accept less favorable terms for the issuance of our securities in the future.

Our management will have broad discretion over the use of the net proceeds from this offering, you may not agree with how we use the proceeds and the proceeds may not be invested successfully.

Our management will have broad discretion as to the use of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of commencement of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest the net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.

Your interest in our company may be diluted as a result of this rights offering.

Holders of common stock and participating warrants who do not fully exercise their subscription rights should expect that they will, at the completion of this offering, own a smaller proportional interest in our company than would otherwise be the case had they fully exercised their subscription rights. Further, the shares issuable upon the exercise of the warrants to be issued pursuant to the rights offering will dilute the ownership interest of stockholders not participating in this offering or holders of warrants who have not exercised them.

Further, if you purchase units in this offering at the subscription price, you may suffer immediate and substantial dilution in the net tangible book value of our common stock. See “*Dilution*” in this prospectus for a more detailed discussion of the dilution which may incur in connection with this offering.

We may be or become the target of securities litigation, which is costly and time-consuming to defend.

In the past, following periods of market volatility in the price of a company’s securities or the reporting of unfavorable news, security holders have often instituted class action litigation. If the market value of our securities experience adverse fluctuations and we become involved in this type of litigation, regardless of the outcome, we could incur substantial legal costs and our management’s attention could be diverted from the operation of our business, causing our business to suffer.

There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock.

We are generally not restricted from issuing additional common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock. The market price of our common stock could decline as a result of sales of common stock or securities that are convertible into or exchangeable for, or that represent the right to receive, common stock after this rights offering or the perception that such sales could occur. For example, we have a currently effective registration statement that permits us to sell shares of our common stock from time to time at prevailing market prices, which could result in dilution to investors in the rights offering.

Completion of the rights offering is not subject to us raising a minimum offering amount.

Completion of the rights offering is not subject to us raising a minimum offering amount and, therefore, proceeds may be insufficient to meet our objectives, thereby increasing the risk to investors in this offering, including investing in a company that continues to require capital. See “*Use of Proceeds*.”

This rights offering may cause the trading price of our common stock to decrease.

The subscription price, together with the number of shares of common stock issuable upon conversion of the Series B Convertible Preferred Stock and warrants issuable in this rights offering, may result in an immediate decrease in the market price of our common stock. This decrease may continue after the completion of this rights offering. If that occurs, you may have committed to buy shares of our Series B Convertible Preferred Stock which are convertible into shares of our common stock at a price greater than the prevailing market price. We cannot predict the effect, if any, that the availability of shares for future sale represented by the warrants issued in connection with the rights offering will have on the market price of our common stock from time to time. Further, if a substantial number of subscription rights are exercised and the holders of the shares received upon exercise of those subscription rights or the related warrants choose to sell some or all of the shares underlying the subscription rights or the related warrants, the resulting sales could depress the market price of our common stock.

Holders of our warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Until holders of warrants acquire shares of our common stock upon exercise of the warrants, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

If we terminate this offering for any reason, we will have no obligation other than to return subscription monies within 10 business days.

We may decide, in our sole discretion and for any reason, to cancel or terminate the rights offering at any time prior to the expiration date. If this offering is cancelled or terminated, we will have no obligation with respect to subscription rights that have been exercised except to return within 10 business days, without interest or deduction, all subscription payments deposited with the subscription agent. If we terminate this offering and you have not exercised any subscription rights, such subscription rights will expire and be worthless.

The subscription price determined for this offering is not an indication of the fair value of our common stock.

In determining the subscription price, our board of directors considered a number of factors, including, but not limited to, our need to raise capital in the near term to continue our operations, the current and historical trading prices of our common stock, a price that would increase the likelihood of participation in the rights offering, the cost of capital from other sources, the value of the Series B Convertible Preferred Stock and warrants being issued as components of the unit, comparable precedent transactions, an analysis of stock price trading multiples for companies similar to us that, among other things, did not need to raise capital in the near-term, and our most recently forecasted revenue relative to our peer group. The subscription price does not necessarily bear any relationship to any established criteria for value. No valuation consultant or investment banker has opined upon the fairness or adequacy of the subscription price. You should not consider the subscription price as an indication of the value of our company or our common stock.

If you do not act on a timely basis and follow subscription instructions, your exercise of subscription rights may be rejected.

Holders of subscription rights who desire to purchase shares of our Series B Convertible Preferred Stock and warrants in this offering must act on a timely basis to ensure that all required forms and payments are actually received by the subscription agent prior to 5:00 p.m., Eastern Time, on the expiration date, unless extended. If you are a beneficial owner of shares of common stock and you wish to exercise your subscription rights, you must act promptly to ensure that your broker, dealer, bank, trustee or other nominee acts for you and that all required forms and payments are actually received by your broker, dealer, bank, trustee or other nominee in sufficient time to deliver such forms and payments to the subscription agent to exercise the subscription rights granted in this offering that you beneficially own prior to 5:00 p.m., Eastern Time on the expiration date, as may be extended. We will not be responsible if your broker, dealer, bank, trustee or other nominee fails to ensure that all required forms and payments are actually received by the subscription agent prior to 5:00 p.m., Eastern Time, on the expiration date.

If you fail to complete and sign the required subscription forms, send an incorrect payment amount, or otherwise fail to follow the subscription procedures that apply to your exercise in this rights offering, the subscription agent may, depending on the circumstances, reject your subscription or accept it only to the extent of the payment received. Neither we nor the subscription agent undertakes to contact you concerning an incomplete or incorrect subscription form or payment, nor are we under any obligation to correct such forms or payment. We have the sole discretion to determine whether a subscription exercise properly follows the subscription procedures.

You may not receive all of the units for which you subscribe.

While we are distributing to holders of our common stock and holders of our December 22, 2017 warrants one subscription right for each share of common stock owned on the Record Date (including shares of common stock issuable upon exercise of the December 22, 2017 warrants), we are only seeking to raise \$20 million dollars in gross proceeds in this rights offering. As a result, based on 2,651,895 shares of common stock outstanding and 883,333 shares of common stock issuable upon exercise of warrants issued December 22, 2017 as of April 20, 2018, we would grant subscription rights to acquire 3,535,228 units but will only accept subscriptions for 20,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If excess units are available after the exercise of basic subscription rights, holders who fully exercise their basic subscription rights will be entitled to subscribe for an additional number of units. Over-subscription privileges will be allocated pro rata among holders of common stock and participating warrants who over-subscribed, based on the number of over-subscription units to which they have subscribed. We cannot guarantee that you will receive any or the entire amount of units for which you subscribed. If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

Unless we otherwise agree in writing, a person or entity, together with related persons or entities, may not exercise subscription rights (including over-subscription privileges) to purchase units that, when aggregated with their existing ownership, would result in such person or entity, together with any related persons or entities, owning in excess of 19.99% of our issued and outstanding shares of common stock following the closing of the transactions contemplated by this rights offering. If the amount of units allocated to you is less than your subscription request, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

If you make payment of the subscription price by personal check, your check may not clear in sufficient time to enable you to purchase units in this rights offering.

Any personal check used to pay for shares and warrants to be issued in this rights offering must clear prior to the expiration date of this rights offering, and the clearing process may require five or more business days. If you choose to exercise your subscription rights, in whole or in part, and to pay for shares and warrants by personal check and your check has not cleared prior to the expiration date of this rights offering, you will not have satisfied the conditions to exercise your subscription rights and will not receive the shares and warrants you wish to purchase.

The receipt of subscription rights may be treated as a taxable distribution to you.

We believe the distribution of the subscription rights in this rights offering should be a non-taxable distribution to holders of shares of our common stock and holders of participating warrants under Section 305(a) of the Internal Revenue Code of 1986, as amended, or the Code. Please see the discussion on the “*Material U.S. Federal Income Tax Consequences*” below. This position is not binding on the IRS, or the courts, however. If this rights offering is deemed to be part of a “disproportionate distribution” under Section 305 of the Code, your receipt of subscription rights in this offering may be treated as the receipt of a taxable distribution to you equal to the fair market value of the subscription rights. Any such distribution would be treated as dividend income to the extent of our current and accumulated earnings and profits, if any, with any excess being treated as a return of capital to the extent thereof and then as capital gain. Each holder of shares of common stock and each holder of participating warrants is urged to consult his, her or its own tax advisor with respect to the particular tax consequences of this rights offering.

Exercising the subscription rights limits your ability to engage in certain hedging transactions that could provide you with financial benefits.

By exercising the subscription rights, you are representing to us that you have not entered into any short sale or similar transaction with respect to our common stock since the record date for the rights offering. In addition, the subscription rights provide that, upon exercise of the subscription right, you agree not to enter into any short sale or similar transaction with respect to our common stock for so long as you continue to hold warrants issued in connection with the exercise of the subscription right. These requirements prevent you from pursuing certain investment strategies that could provide you greater financial benefits than you might have realized if the subscription rights did not contain these requirements.

The subscription rights are not transferable, and there is no market for the subscription rights.

You may not sell, transfer, assign or give away your subscription rights. Because the subscription rights are non-transferable, there is no market or other means for you to directly realize any value associated with the subscription rights. You must exercise the subscription rights to realize any potential value from your subscription rights.

Absence of a public trading market for the warrants may limit your ability to resell the warrants.

There is no established trading market for the warrants to be issued pursuant to this offering, and the warrants may not be widely distributed. We do not intend to list the warrants for trading on any securities exchange or recognized trading system. Even if a market for the warrants does develop, the price of the warrants may fluctuate and liquidity may be limited. Future trading prices of the warrants will depend on many factors, including:

- our operating performance and financial condition;
- our ability to continue the effectiveness of the registration statement, of which this prospectus is a part, covering the warrants and the common stock issuable upon exercise of the warrants;
- the interest of securities dealers in making a market; and
- the market for similar securities.

There is no public market for the Series B Convertible Preferred Stock in this offering.

There is no established public trading market for the Series B Convertible Preferred Stock, and we do not expect a market to develop. In addition, we do not currently intend to apply for listing of the Series B Convertible Preferred Stock on any securities exchange or recognized trading system.

The market price of our common stock may never exceed the exercise price of the warrants issued in connection with this offering.

The warrants being issued in connection with this offering become exercisable upon issuance and will expire four years from the date of issuance. The market price of our common stock may never exceed the exercise price of the warrants prior to their date of expiration. Any warrants not exercised by their date of expiration will expire worthless and we will be under no further obligation to the warrant holder.

The warrants contain features that may reduce your economic benefit from owning them.

The warrants contain features that allow us to redeem the warrants and that prohibit you from engaging in certain investment strategies. We may redeem the warrants for \$0.18 per warrant once the VWAP of our common stock equals or exceeds \$10.56 per share for ten consecutive trading days, provided that we may not do so prior to the first anniversary of closing of the rights offering, and only upon not less than 30 days' prior written notice of redemption. If we give notice of redemption, you will be forced to sell or exercise your warrants or accept the redemption price. The notice of redemption could come at a time when it is not advisable or possible for you to exercise the warrants. As a result, you may be unable to benefit from owning the warrants being redeemed. In addition, for so long as you continue to hold warrants, you will not be permitted to enter into any short sale or similar transaction with respect to our common stock. This could prevent you from pursuing investment strategies that could provide you greater financial benefits from owning the warrant.

The dealer-manager is not underwriting, nor acting as placement agent of, the subscription rights or the securities underlying the subscription rights.

Maxim Group LLC will act as dealer-manager for this rights offering. As provided in the dealer-manager agreement, the dealer-manager will provide marketing assistance in connection with this offering. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of our Series B Convertible Preferred Stock or warrants being issued in this offering and is not making any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), shares or warrants. The dealer-manager will not be subject to any liability to us in rendering the services contemplated by the dealer-manager agreement except for any act of bad faith or gross negligence by the dealer-manager. The rights offering may not be successful despite the services of the dealer-manager to us in this offering.

Since the warrants are executory contracts, they may have no value in a bankruptcy or reorganization proceeding.

In the event a bankruptcy or reorganization proceeding is commenced by or against us, a bankruptcy court may hold that any unexercised warrants are executory contracts that are subject to rejection by us with the approval of the bankruptcy court. As a result, holders of the warrants may, even if we have sufficient funds, not be entitled to receive any consideration for their warrants or may receive an amount less than they would be entitled to if they had exercised their warrants prior to the commencement of any such bankruptcy or reorganization proceeding.

Risks Related to Our Business

Investors should carefully consider the risks and uncertainties and all other information contained or incorporated by reference in this prospectus, including the risks and uncertainties discussed under “*Risk Factors*” in our most recent Annual Report on Form 10-K, as may be amended from time to time, and in subsequent filings that are incorporated herein by reference. All of these risk factors are incorporated by reference herein in their entirety. These risks and uncertainties are not the only ones facing us. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. This prospectus and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned in this prospectus.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of our securities offered hereby. Except as described in any prospectus supplement, we currently anticipate using the net proceeds from the sale of our securities offered hereby primarily for general corporate purposes, which include, but are not limited to, funding our ongoing and future development of our drugs and devices under development, and for general and administrative expenses. We may also use a portion of the net proceeds to pay off outstanding indebtedness, if any, and/or acquire or invest in complementary businesses, products and technologies. Further, from time to time we may evaluate acquisition opportunities and engage in related discussions with other companies. Pending the use of the net proceeds, we intend to invest the net proceeds in short-term, interest-bearing, investment-grade securities.

MARKET PRICE OF OUR COMMON STOCK AND RELATED STOCKHOLDER MATTERS

Our common stock is traded on the NASDAQ Capital Market under the symbol "ATOS." Our common stock has, from time to time, traded on a limited, sporadic or volatile basis. The following tables show the high and low sales prices for our common stock for the periods indicated, as reported on the NASDAQ Capital Market. These prices do not reflect retail markups, markdowns or commissions.

	Price Ranges	
	High	Low
<i>Fiscal Year ended December 31, 2018</i>		
First Quarter	\$ 10.68	\$ 3.00
Second Quarter (April 1, 2018 – April 20, 2018)	\$ 5.64	\$ 3.40
<i>Fiscal Year ended December 31, 2017</i>		
First Quarter	\$ 22.20	\$ 9.12
Second Quarter	\$ 9.72	\$ 4.80
Third Quarter	\$ 11.16	\$ 3.84
Fourth Quarter	\$ 19.08	\$ 2.64
<i>Fiscal Year ended December 31, 2016</i>		
First Quarter	\$ 127.80	\$ 25.20
Second Quarter	\$ 73.80	\$ 45.00
Third Quarter	\$ 59.40	\$ 24.00
Fourth Quarter	\$ 31.20	\$ 15.60

The closing price of our common stock on April 20, 2018 was \$3.52 per share. As of March 12, 2018, we had approximately 20,000 record holders of our common stock. Because so many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of individual stockholders represented by these record holders.

DIVIDEND POLICY

We have never, and do not anticipate that we will, declare or pay a cash dividend. We expect to retain future earnings, if any, for our business and do not anticipate paying dividends on common stock or our Series B Convertible Preferred Stock at any time in the foreseeable future. Because we do not anticipate paying dividends in the future, the only opportunity for our stockholders to realize the creation of value in our common stock or our Series B Convertible Preferred Stock will likely be through a sale of those shares.

DILUTION

Purchasers of our common stock, which is issuable upon conversion of the Series B Convertible Preferred Stock and upon exercise of the warrants contained in the units, will experience an immediate dilution of the net tangible book value per share of our common stock. Our net tangible book value as of December 31, 2017 was approximately \$6,863,001, or \$2.59 per share of our common stock (based upon 2,651,895 shares of our common stock then outstanding). Net tangible book value per share is equal to our total tangible assets less our total liabilities, divided by the number of shares of our outstanding common stock.

Dilution per share of common stock equals the difference between the subscription price per unit paid by purchasers in the rights offering (ascribing no value to the warrants contained in the units) and the net tangible book value per share of our common stock immediately after the rights offering.

Based on the sale by us in this rights offering of a maximum of 20,000 units (consisting of 20,000 shares of Series B Convertible Preferred Stock and warrants to purchase an aggregate of 5,680,000 shares of common stock upon exercise), at the subscription price of \$1,000 per unit, and after deducting estimated offering expenses and dealer-manager fees and expenses payable by us and assuming no exercise of the warrants, our pro forma net tangible book value as of December 31, 2017 would have been approximately \$25,229,511, or \$3.03 per share. This represents an immediate increase in pro forma net tangible book value to existing stockholders of \$0.44 per share and an immediate dilution to purchasers in the rights offering of \$0.49 per share. The following table illustrates this per-share dilution:

Subscription price	\$	1,000.00
Net tangible book value per share as of December 31, 2017	\$	2.59
Increase in net tangible book value per share attributable to rights offering	\$	0.44
Pro forma net tangible book value per share as of December 31, 2017, after giving effect to rights offering	\$	3.03
Dilution in net tangible book value per share to purchasers in the rights offering	\$	0.49

THE RIGHTS OFFERING

All holders of our common stock and holders of December 22, 2017 warrants as of the record date are eligible to participate in the rights offering. Please read through the material terms of the rights offering described in this section. If you hold your shares or participating warrants in a brokerage account or through a broker, dealer, custodian bank or other nominee, please also refer to “—*Method of Exercising Subscription Rights—Subscription by Beneficial Owners.*”

The Subscription Rights

We will distribute to holders of shares of our common stock and warrants issued December 22, 2017 as of 5:00 p.m., Eastern Time on May 9, 2018, the record date for the rights offering, at no charge, non-transferable subscription rights to purchase units, with each unit consisting of one share of Series B Convertible Preferred Stock and 284 warrants at \$1,000 per unit. Each holder of record of our common stock or of December 22, 2017 warrants as of the record date will receive one subscription right for each share of common stock (including shares issuable upon exercise of the December 22, 2017 warrants). Each subscription right will entitle its holder to a basic subscription right and an over-subscription privilege. In the aggregate, the subscription rights entitle our holders of common stock and participating warrants to purchase a total of 20,000 units for a total price of approximately \$20 million. Shares of common stock issued upon conversion of the Series B Convertible Preferred Stock and warrants offered in the rights offering, like existing shares of our common stock, will be traded on the NASDAQ Capital Market under our stock symbol, “ATOS.”

Basic Subscription Right. As described in the foregoing paragraph, the basic subscription right entitles its holder to purchase units, with each unit consisting of one share of Series B Convertible Preferred Stock and 284 warrants at a subscription price of \$1,000 per unit. In order to exercise the basic subscription right, you must deliver the required documents and payment of the subscription price to the subscription agent prior to the expiration of the rights offering. If you choose to exercise your basic subscription rights, you may do so in part or in full. However, you may exercise your over-subscription privilege unless you exercise all of your basic subscription rights.

Over-Subscription Privilege. If you exercise your basic subscription rights in full, you may also choose to exercise your over-subscription privilege. Subject to proration and the limitations described in this prospectus, we will seek to honor the over-subscription requests in full. If over-subscription requests exceed the number of units available, however, we will allocate the available units pro rata among the stockholders as of the record date exercising the over-subscription privilege in proportion to the number of shares of our common stock each of those holders of common stock and participating warrants owned on the record date (including shares of common stock issuable upon conversion of the December 22, 2017 warrants), relative to the number of shares owned on the record date by all holders of common stock and participating warrants as of the record date exercising the over-subscription privilege. If this pro rata allocation results in any rights holder receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the over-subscription privilege, then such record holder will be allocated only that number of units for which the record holder oversubscribed, and the remaining units will be allocated among all other holders of common stock and participating warrants exercising the over-Subscription Privilege on the same pro rata basis described above. The proration process will be repeated until all units have been allocated.

Broadridge Corporate Issuer Solutions, Inc., the subscription agent for the rights offering, will determine the over-subscription allocation based on the formula described above.

To the extent the aggregate subscription payment of the actual number of unsubscribed units available to you pursuant to the over-subscription privilege is less than the amount you actually paid in connection with the exercise of the over-subscription privilege, you will be allocated only the number of unsubscribed Units available to you, and any excess subscription payments will be returned to you, without interest or deduction, with 10 business days after expiration of the rights offering.

We can provide no assurances that you will actually be entitled to purchase the number of units issuable upon the exercise of your over-subscription privilege in full at the expiration of the rights offering. We will not be able to satisfy any requests for units pursuant to the over-subscription privilege if all of our holders of common stock and participating warrants exercise their basic subscription rights in full, and we will only honor an over-subscription privilege to the extent sufficient units are available following the exercise of basic subscription rights.

Reasons for the Rights Offering

We are conducting the rights offering in order to raise capital for our general capital purposes. Our Board has considered the rights offering to be the best option for raising capital as compared to other alternatives, in part because it will give current holders of common stock and participating warrants the opportunity to limit ownership dilution by buying additional shares of common stock.

Our Board has approved the rights offering and, based on information available to the Board and its subsequent analyses, believes that the rights offering is in the best interests of the Company and its stockholders. However, our Board is not making any recommendation regarding your exercise of the subscription rights.

Determination of Subscription Price

The Board determined the subscription price, after reasonable consultation with the holders of common stock and participating warrants that have agreed to exercise their rights as described below, based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our holders of common stock and participating warrants to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Board also reviewed our history and prospects, including our past and present earnings, our prospects for future earnings, and the outlook for our industry, and our current financial condition.

The subscription price is not necessarily related to our book value, tangible book value, multiple of earnings or any other established criteria of value and may or may not be considered the fair value of our common stock to be offered in the rights offering. You should not consider the subscription price as an indication of value of the Company or our common stock. There is currently no market for our shares of Series B Convertible Preferred Stock and, unless we or you choose to convert such shares into shares of common stock, you will not be able to resell such shares. We cannot predict the price at which our shares of common stock will trade. You should obtain a current quote for our common stock before exercising your subscription rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of the rights offering.

No Short-Sales

By exercising the subscription rights, you are representing to us that you have not entered into any short sale or similar transaction with respect to our common stock since the record date for the rights offering. In addition, the subscription rights provide that, upon exercise of the subscription right, you represent that you have not since the record date and, for so long as you continue to hold warrants issued in connection with the exercise of the subscription right, agree to not to enter into any short sale or similar transaction with respect to our common stock. These requirements prevent you from pursuing certain investment strategies that could provide you greater financial benefits than you might have realized if the subscription rights did not contain these requirements.

No Recombination

The Series B Convertible Preferred Stock and warrants comprising the units will separate upon the exercise of the subscription rights, and the units will not trade as a separate security. Holders may not recombine shares of Series B Convertible Preferred Stock and warrants to receive a unit.

Non-Transferability of Subscription Rights

The subscription rights are non-transferable (other than by operation of law), and as a result, you may not sell, transfer, assign or give away your subscription rights to anyone. The subscription rights will not be listed for trading on any stock exchange or market.

Expiration Date

The subscription period, during which you may exercise your subscription rights, expires at 5:00 p.m., Eastern Time, on May 24, 2018, which is the expiration of the rights offering. If you do not exercise your subscription rights before that time, your subscription rights will expire and will no longer be exercisable. We will not be required to issue shares to you if the subscription agent receives your rights certificate or your subscription payment after that time. We have the option to extend the rights offering in our sole discretion, although we do not presently intend to do so. We may extend the rights offering by giving oral or written notice to the Subscription Agent before the rights offering expires. If we elect to extend the rights offering, we will issue a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the rights offering.

If you hold your shares of common stock or participating warrants in the name of a broker, dealer, bank or other nominee, the nominee will exercise the subscription rights on your behalf in accordance with your instructions. Please note that the nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on May 24, 2018, which is the expiration date that we have established for the rights offering.

Termination

We may terminate the rights offering for any reason at any time prior to the completion of the rights offering. If we terminate the rights offering, we will issue a press release notifying holders of common stock and participating warrants and the public of the termination.

Method of Exercising Subscription Rights

You will receive one non-transferable subscription right for each share of our common stock (including shares issuable upon exercise of December 22, 2017 warrants) that you owned as of 5:00 p.m., Eastern Time, on May 9, 2018, the record date for the rights offering. The exercise of subscription rights is irrevocable and may not be cancelled or modified. You may exercise your subscription rights as follows:

Subscription by Registered Holders. If you are a registered holder of shares of our common stock or December 22, 2017 warrants, the number of subscription rights you may exercise is indicated on your rights certificate. You may exercise your subscription rights by properly completing and executing the rights certificate and forwarding it, together with your full payment, to the subscription agent at the address set forth below under “—*Subscription Agent*,” to be received prior to 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date for the rights offering.

Subscription by Beneficial Owners. If you are a beneficial owner of shares of our common stock that are registered in the name of a custodian bank, broker, dealer or other nominee, you will not receive a rights certificate. Instead, one subscription right will be issued to the nominee record holder for each share of our common stock (including shares issuable upon exercise of warrants) that you own at the record date. If you are not contacted by your nominee, you should promptly contact your nominee in order to subscribe for shares of our common stock in the rights offering.

If you hold your shares of common stock or participating warrants in the name of a custodian bank, broker, dealer or other nominee, your nominee will exercise the subscription rights on your behalf in accordance with your instructions. Your nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date for the rights offering.

Payment Method

As described in the instructions accompanying the rights certificate, payments submitted to the subscription agent must be made in full United States currency by personal or certified check payable to Broadridge Corporate Issuer Solutions, Inc., the subscription agent, drawn upon a United States bank, U.S. Postal money order, or wire transfer.

If payment is issued by check, payment will be deemed to have been received by the subscription agent only upon the subscription agent's receipt of the check, receipt and clearance of such check.

Please note that funds paid by uncertified personal check may take at least seven business days to clear. Accordingly, if you wish to pay by means of an uncertified personal check, we urge you to make payment sufficiently in advance of the expiration date to ensure that the subscription agent receives cleared funds before that time.

Your subscription rights will not be successfully exercised unless the subscription agent actually receives from you, your custodian bank, broker, dealer or other nominee, as the case may be, all of the required documents and your full subscription price payment (and your payment has cleared) prior to 5:00 p.m., Eastern Time, on May 24, 2018, the scheduled expiration date of the rights offering.

You should read and follow the instructions accompanying the rights certificate carefully. As described in the instructions accompanying the rights certificate, in certain cases additional documentation or signature guarantees may be required.

The method of delivery of payments of the subscription amount to the subscription agent will be at the risk of the holders of subscription rights. If sent by mail, we recommend that you send those documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure timely delivery to the subscription agent. Do not send or deliver these materials to the Company.

There is no sales fee or commission payable by you in connection with the issuance of subscription rights or the issuance of shares of common stock if you exercise your subscription rights (other than the subscription price). We will pay all fees charged by the subscription agent. However, if you exercise your subscription rights through a custodian bank, broker, dealer or other nominee, you are responsible for paying any other commissions, fees, taxes or other expenses your nominee may charge you in connection with the exercise of the subscription rights.

Missing or Incomplete Subscription Information

If you fail to specify the number of units requested as an exercise of your basic subscription right or over-subscription privilege, or if you fail to include sufficient payment to purchase the number of units you requested, your payment will first be applied, to the fullest extent possible, to exercise your basic subscription rights. Any remaining payment amount will then be applied, to the fullest extent possible, to exercise your over-subscription privilege, to the extent over-subscription units are available for purchase.

After expiration of the rights offering, the subscription agent will promptly return, without interest or penalty, any excess subscription payments received.

In order for us to honor the exercise of your subscription rights, your rights certificate, any other required documents and payment must be received as set forth in this prospectus.

Issuance of Series B Convertible Preferred Stock and Warrants

The shares of Series B Convertible Preferred Stock and warrants that are purchased in the rights offering as part of the units will be issued in book-entry, or uncertificated, form meaning that you will receive a DRS account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of shares or warrants. If you hold your shares of common stock or participating warrants in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the rights offering.

Subscription Agent

The subscription agent for the rights offering is Broadridge Corporate Issuer Solutions, Inc. The address to which rights certificates and payments should be mailed or delivered by overnight courier is provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that you allow a sufficient number of days to ensure delivery to the subscription agent and clearance or payment before the rights offering expires. Do not send or deliver these materials to us.

By Mail

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, New York 11717-0693
(855) 793-5068 (toll free)

By Hand or Overnight Courier

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, New York 11717
(855) 793-5068 (toll free)

If you deliver the rights certificates in a manner different than as described herein, we may not honor your exercise of your subscription rights.

Please direct any questions or requests for assistance with exercise of your subscription rights to the subscription agent as follows:

Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)

Warrant Agent

The warrant agent for the warrants is VStock Transfer, LLC.

No Fractional Shares

We will not issue fractional shares of Series B Convertible Preferred Stock in the rights offering. Subscription holders of common stock and participating warrants will only be entitled to purchase a number of units representing a whole number of shares and warrants, rounded down to the nearest whole number that a holder would otherwise be entitled to purchase. Similarly, no fractional shares of common stock will be issued as a result of the conversion of shares of Series B Convertible Preferred Stock or the exercise of warrants. Instead, for any such fractional share that would otherwise have been issuable upon conversion of shares of Series B Convertible Preferred Stock, the Company may, at its election, pay a cash payment equal to such fraction multiplied by the conversion price or round up to the next whole share, and for any such fractional share that would have otherwise been issued upon exercise of warrants, the Company will round up such fraction to the next whole share.

Notice to Brokers and Nominees

If you are a broker, dealer, bank or other nominee holder that holds shares of our common stock for the account of others on the record date, you should notify the beneficial owners of the shares for whom you are the nominee of the rights offering as soon as possible to learn their intentions with respect to exercising their subscription rights. If a beneficial owner of our common stock so instructs, you should complete the rights certificate and submit it to the subscription agent with the proper subscription payment by the expiration date. You may exercise the number of subscription rights to which all beneficial owners in the aggregate otherwise would have been entitled had they been direct holders of our common stock on the record date, provided that you, as a nominee record holder, make a proper showing to the subscription agent by submitting the form entitled "Nominee Holder Certification," which is provided with your rights offering materials. If you did not receive this form, you should contact our subscription agent to request a copy.

Validity of Subscriptions

We will resolve all questions regarding the validity and form of the exercise of your subscription rights, including time of receipt and eligibility to participate in the rights offering. Our determination will be final and binding. Once made, subscriptions are irrevocable; we will not accept any alternative, conditional, or contingent subscriptions. We reserve the absolute right to reject any subscriptions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the expiration date of the rights offering, unless we waive them in our sole discretion. Neither we nor the subscription agent is under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to withdraw or terminate the rights offering, only when the subscription agent receives a properly completed and duly executed rights certificate and any other required documents and the full subscription payment including final clearance of any personal check. Our interpretations of the terms and conditions of the rights offering will be final and binding.

Stockholder Rights

You will have no rights as a holder of the shares of our common stock issuable upon conversion of the Series B Convertible Preferred Stock issued in the rights offering until such Series B Convertible Preferred Stock is converted to common stock and such shares of common stock are issued in book-entry form or your account at your broker, dealer, bank or other nominee is credited with the shares of our common stock. Holders of warrants issued in connection with the rights offering will not have rights as holders of our common stock until such warrants are exercised and the shares of common stock underlying the warrants are issued to the holder.

Foreign Holders of Common Stock and Participating Warrants

We will not mail this prospectus or rights certificates to holders of common stock and participating warrants with addresses that are outside the United States or that have an army post office or foreign post office address. The subscription agent will hold these rights certificates for their account. To exercise subscription rights, our foreign holders of common stock and participating warrants must notify the subscription agent prior to 5:00 p.m., Eastern Time, on May 21, 2018, the third business day prior to the expiration date, of your exercise of subscription rights and provide evidence satisfactory to us, such as a legal opinion from local counsel, that the exercise of such subscription rights does not violate the laws of the jurisdiction in which such holder resides and payment by a U.S. bank in U.S. dollars before the expiration of the offer. If no notice is received by such time or the evidence presented is not satisfactory to us, the subscription rights represented thereby will expire.

No Revocation or Change

Once you submit the rights certificate or have instructed your nominee of your subscription request, you are not allowed to revoke or change the exercise or request a refund of monies paid. All exercises of subscription rights are irrevocable, even if you learn information about us that you consider to be unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase shares at the subscription price.

U.S. Federal Income Tax Treatment of Rights Offering

For U.S. federal income tax purposes, we do not believe holders of shares of our common stock or participating warrants should recognize income or loss upon receipt or exercise of a subscription right. See “*Material U.S. Federal Income Tax Consequences.*”

No Recommendation to Rights Holders

Our board of directors is not making a recommendation regarding your exercise of the subscription rights. You are urged to make your decision to invest based on your own assessment of our business and financial condition, our prospects for the future, the terms of the rights offering, the information in this prospectus and other information relevant to your circumstances.

Fees and Expenses

We will pay all fees charged by the subscription agent, and by the dealer-manager. You are responsible for paying any other commissions, fees, taxes or other expenses incurred in connection with the exercise of your subscription rights.

Listing

The subscription rights may not be sold, transferred, assigned or given away to anyone, and will not be listed for trading on any stock exchange or market. There is no established public trading market for the Series B Convertible Preferred Stock and we do not currently intend to apply for listing of Series B Convertible Preferred Stock or the warrants on any securities exchange or recognized trading system. The shares of our common stock issuable upon conversion of the Series B Convertible Preferred Stock and underlying the warrants to be issued in the rights offering are traded on Nasdaq under the symbol "ATOS."

Distribution Arrangements

Maxim Group LLC is the dealer-manager for the rights offering. The dealer-manager will provide marketing assistance and advice to us in connection with the rights offering and will use its best efforts to solicit the exercise of subscription rights and participation in the over-subscription privilege. The dealer-manager is not underwriting or placing any of the subscription rights or the shares of our Series B Convertible Preferred Stock or warrants to be issued in the rights offering and does not make any recommendation with respect to such subscription rights (including with respect to the exercise or expiration of such subscription rights), shares or warrants. We have agreed to pay the dealer-manager certain fees and to reimburse the dealer-manager for certain out-of-pocket expenses incurred in connection with this offering. See "*Plan of Distribution*."

Other Matters

We are not making the rights offering in any state or other jurisdiction in which it is unlawful to do so, nor are we distributing or accepting any offers to purchase any units from subscription rights holders who are residents of those states or other jurisdictions or who are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights. We may delay the commencement of the rights offering in those states or other jurisdictions, or change the terms of the rights offering, in whole or in part, in order to comply with the securities laws or other legal requirements of those states or other jurisdictions. Subject to state securities laws and regulations, we also have the discretion to delay allocation and distribution of any shares you may elect to purchase by exercise of your subscription privileges in order to comply with state securities laws. We may decline to make modifications to the terms of the rights offering requested by those states or other jurisdictions, in which case, if you are a resident in those states or jurisdictions or if you are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights, you will not be eligible to participate in the rights offering. However, we are not currently aware of any states or jurisdictions that would preclude participation in the rights offering.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of the material U.S. federal income tax consequences of the receipt and exercise (or expiration) of the subscription rights acquired through the rights offering, the ownership and disposition of shares of our Series B Convertible Preferred Stock and warrants received upon exercise of the subscription rights and the ownership and disposition of the shares of common stock received upon the conversion of our Series B Convertible Preferred Stock or the exercise of the warrants, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a holder of the subscription rights, shares of our Series B Convertible Preferred Stock, warrants or shares of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the receipt of subscription rights through the rights offering by persons holding shares of our common stock and warrants entitled to receive subscription rights pursuant to this rights offering (which we refer to as participating warrants), the exercise (or expiration) of the subscription rights, the acquisition, ownership and disposition of shares of our Series B Convertible Preferred Stock, the acquisition, ownership and disposition (or expiration) of warrants acquired upon exercise of the subscription rights, and the acquisition, ownership and disposition of shares of our common stock acquired upon conversion of our Series B Convertible Preferred Stock or exercise of the warrants.

This discussion is limited to the subscription rights acquired through the rights offering, shares of our Series B Convertible Preferred Stock and warrants acquired upon exercise of subscription rights and shares of our common stock acquired upon conversion of our Series B Convertible Preferred Stock or exercise of the warrants, in each case, that are held as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a holder’s particular circumstances, including the impact of the alternative minimum tax or the unearned income Medicare contribution tax. In addition, it does not address consequences relevant to holders subject to particular rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding our common stock, participating warrants, the subscription rights, shares of our Series B Convertible Preferred Stock, warrants or shares of our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers or traders in securities or currencies or traders that elect to mark-to-market their securities;
- “controlled foreign corporations,” “passive foreign investment companies,” and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships or other pass-through entities for U.S. federal income tax purposes (and investors therein);
- real estate investment trusts, regulated investment companies, grantor trusts, tax-exempt organizations or governmental organizations;
- persons deemed to sell the subscription rights, shares of Series B Convertible Preferred Stock, or warrants or shares of our common stock under the constructive sale provisions of the Code;
- persons for whom our stock constitutes “qualified small business stock” within the meaning of Section 1202 of the Code;

- persons who received, hold or will receive shares of our common stock, participating warrants, the subscription rights, shares of our Series B Convertible Preferred Stock or warrants pursuant to the exercise of any employee stock option or otherwise as compensation and persons who hold restricted common stock;
- tax-qualified retirement plans; and
- U.S. holders (as defined below) that have a functional currency other than the U.S. dollar.

If an entity treated as a partnership for U.S. federal income tax purposes holds shares of our common stock, participating warrants, the subscription rights, shares of our Series B Convertible Preferred Stock and warrants acquired upon exercise of subscription rights or shares of our common stock acquired upon conversion of our Series B Convertible Preferred Stock or exercise of the warrants, as the case may be, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE RECEIPT, OWNERSHIP AND EXERCISE OF SUBSCRIPTION RIGHTS AND THE ACQUISITION, OWNERSHIP, AND DISPOSITION OF SHARES OF OUR SERIES B PREFERRED STOCK AND WARRANTS ACQUIRED UPON EXERCISE OF SUBSCRIPTION RIGHTS AND SHARES OF OUR COMMON STOCK ACQUIRED UPON CONVERSION OF SERIES B PREFERRED STOCK OR EXERCISE OF WARRANTS ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Tax Considerations Applicable to U.S. Holders

Definition of a U.S. Holder

For purposes of this discussion, a “U.S. holder” is any beneficial owner of shares of our common stock, participating warrants, our subscription rights, shares of our Series B Convertible Preferred Stock and warrants acquired upon exercise of subscription rights or shares of our common stock acquired upon conversion of our Series B Convertible Preferred Stock or exercise of warrants, as the case may be, that, for U.S. federal income tax purposes, is:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more United States persons (within the meaning of Section 7701(a)(30) of the Code), or (2) has made a valid election under applicable Treasury Regulations to continue to be treated as a United States person.

Receipt of Subscription Rights

Although the authorities governing transactions such as this rights offering are complex and do not speak directly to the consequences of certain aspects of this rights offering, including the inclusion of the right to purchase warrants in the subscription rights (rather than the right to purchase only shares of our Series B Convertible Preferred Stock), the distribution of subscription rights to holders of participating warrants and the effects of the over-subscription privilege, we do not believe a U.S. holder's receipt of subscription rights pursuant to the rights offering should be treated as a taxable distribution with respect to its existing shares of common stock or participating warrants, as applicable, for U.S. federal income tax purposes. Section 305(a) of the Code generally provides that the receipt by a stockholder, or a holder of rights to acquire stock, of a right to acquire stock or warrants is not included in the taxable income of the stockholder; however, the general non-recognition rule in Section 305(a) of the Code is subject to exceptions described in Section 305(b) of the Code, which include "disproportionate distributions." A disproportionate distribution is generally a distribution or a series of distributions, including deemed distributions, that has the effect of the receipt of cash or other property by some stockholders (including holders of rights to acquire stock and holders of debt instruments convertible into stock) and an increase in the proportionate interest of other stockholders (including holders of rights to acquire stock and holders of debt instruments convertible into stock) in a corporation's assets or earnings and profits. During the last 36 months, we have not made any distributions of cash or property (other than stock or rights to acquire stock) with respect to: (i) our common stock or (ii) our options or warrants to acquire common stock. Currently we do not intend to make any future distributions of cash or property (other than stock or rights to acquire stock) with respect to: (i) our common stock or (ii) our options or warrants to acquire common stock; however, there is no guarantee that we will not make such distributions in the future. In addition, we do not currently have any convertible debt outstanding nor do we currently intend to issue any convertible debt. We do not believe that a U.S. holder's receipt of subscription rights pursuant to the rights offering is a disproportionate distribution for purposes of Section 305(b) of the Code.

Our position regarding the tax-free treatment of the subscription right distribution is not binding on the IRS, or the courts. If this position is finally determined by the IRS or a court to be incorrect, whether because, contrary to our expectations, distributions of cash or property (other than stock or rights to acquire stock) are made with respect to our common stock, options or warrants, because the issuance of the subscription rights is a "disproportionate distribution" or otherwise, the fair market value of the subscription rights would be taxable to U.S. holders of our common stock as a dividend to the extent of the U.S. holder's pro rata share of our current and accumulated earnings and profits, if any, with any excess being treated as a return of capital to the extent thereof and then as capital gain. Although no assurance can be given, it is anticipated that we will not have current and accumulated earnings and profits through the end of 2018. Further, if our position is incorrect, the treatment of holders of participating warrants is not clear, and it may differ from, and may be more adverse than, the treatment of the subscription rights distribution to the holders of our common stock.

The following discussion is based upon the treatment of the subscription right issuance as a non-taxable distribution with respect to a U.S. holders' existing shares of common stock or participating warrants for U.S. federal income tax purposes.

Tax Basis in the Subscription Rights

If the fair market value of the subscription rights a U.S. holder receives is less than 15% of the fair market value of the U.S. holder's existing shares of common stock or participating warrants (in each case, with respect to which the subscription rights are distributed) on the date the U.S. holder receives the subscription rights, the subscription rights will be allocated a zero tax basis for U.S. federal income tax purposes, unless the U.S. holder elects to allocate the tax basis in the holder's existing shares of common stock or participating warrants between the existing shares of common stock or participating warrants and the subscription rights in proportion to the relative fair market values of the existing shares of common stock or participating warrants and the subscription rights determined on the date of receipt of the subscription rights. If a U.S. holder chooses to allocate tax basis between the holder's existing common shares or participating warrants and the subscription rights, the U.S. holder must make this election on a statement included with the holder's timely filed tax return (including extensions) for the taxable year in which the U.S. holder receives the subscription rights. Such an election is irrevocable. However, if the fair market value of the subscription rights a U.S. holder receives is 15% or more of the fair market value of the holder's existing shares of common stock or participating warrants on the date the U.S. holder receives the subscription rights, then the U.S. holder must allocate tax basis in the existing shares of common stock or participating warrants between those shares or warrants and the subscription rights the U.S. holder receives in proportion to their fair market values determined on the date the U.S. holder receives the subscription rights. Please refer to the discussion below regarding the U.S. tax treatment of a U.S. holder that, at the time of the receipt of the subscription right, no longer holds the common stock or participating warrants with respect to which the subscription right was distributed.

The fair market value of the subscription rights on the date that the subscription rights are distributed is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the subscription rights on that date. In determining the fair market value of the subscription rights, U.S. holders should consider all relevant facts and circumstances, including without limitation any difference between the subscription price of the subscription rights and the trading price of our shares of common stock on the date that the subscription rights are distributed, the fair market value and the conversion terms of the Series B Convertible Preferred Stock, the exercise price of the warrants, the length of the period during which the subscription rights may be exercised and the fact that the subscription rights are non-transferable.

Exercise of Subscription Rights

Generally, a U.S. holder will not recognize gain or loss upon the exercise of a subscription right in the rights offering. A U.S. holder's adjusted tax basis, if any, in the subscription right plus the subscription price should be allocated between the share of Series B Convertible Preferred Stock and the warrant acquired upon exercise of the subscription right. The basis in the stock or participating warrants upon which the subscription rights were issued which is allocated to the subscription rights under the prior section entitled "Tax Basis in the Subscription Rights" should be further allocated between the shares of Series B Convertible Preferred Stock and the warrant acquired upon exercise of the subscription right in proportion to their relative fair market values on the date the subscription rights were distributed. The subscription price should be allocated between the shares of Series B Convertible Preferred Stock and the warrant acquired upon exercise of the subscription right in proportion to their relative fair market values on the exercise date. These allocations will establish the U.S. holder's initial tax basis for U.S. federal income tax purposes in the shares of Series B Convertible Preferred Stock and warrants received upon exercise. The holding period of a share of Series B Convertible Preferred Stock or a warrant acquired upon exercise of a subscription right in the rights offering will begin on the date of exercise.

If, at the time of the receipt or exercise of the subscription right, the U.S. holder no longer holds the common stock or participating warrant with respect to which the subscription right was distributed, then certain aspects of the tax treatment of the receipt and exercise of the subscription right are unclear, including (1) the allocation of the tax basis between the shares of our common stock or participating warrants previously sold and the subscription right, (2) the impact of such allocation on the amount and timing of gain or loss recognized with respect to the shares of our common stock or participating warrants previously sold, and (3) the impact of such allocation on the tax basis of the shares of our Series B Convertible Preferred Stock and warrants acquired upon exercise of the subscription right. If a U.S. holder exercises a subscription right received in the rights offering after disposing of shares of our common stock or participating warrants with respect to which the subscription right is received, the U.S. holder should consult its tax advisor.

Expiration of Subscription Rights

If a U.S. holder allows subscription rights received in the rights offering to expire, the U.S. holder should not recognize any gain or loss for U.S. federal income tax purposes, and the U.S. holder should re-allocate any portion of the tax basis in its existing common shares or participating warrants previously allocated to the subscription rights that have expired to the existing common shares.

Sale or Other Disposition, Exercise or Expiration of Warrants

Upon the sale or other taxable disposition of a warrant (other than by exercise) received upon exercise of a subscription right, a U.S. holder will generally recognize capital gain or loss equal to the difference between the amount realized on the sale or other taxable disposition and the U.S. holder's tax basis in the warrant. This capital gain or loss will be long-term capital gain or loss if the U.S. holder's holding period in such warrant is more than one year at the time of the sale or other taxable disposition. The deductibility of capital losses is subject to certain limitations.

In general, a U.S. holder will not be required to recognize income, gain or loss upon exercise of a warrant received upon exercise of a subscription right for its exercise price in cash (except to the extent the U.S. holder receives a cash payment for any fractional share that would otherwise have been issuable upon exercise of the warrant). A U.S. holder's tax basis in a share of our common stock received upon exercise of the warrants for cash will be equal to the sum of (1) the U.S. holder's tax basis in the warrants exchanged therefor and (2) the exercise price of such warrants, decreased by the adjusted tax basis allocable to any fractional share that would otherwise have been issuance upon exercise of the warrant. A U.S. holder's holding period in the shares of our common stock received upon exercise will commence on the day after such U.S. holder exercises the warrants.

In certain circumstances, the warrants will be exercisable on a cashless basis. The U.S. federal income tax treatment of an exercise of a warrant on a cashless basis is not clear, and could differ from the consequences described above. It is possible that a cashless exercise could be a taxable event. U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to whether the exercise is a taxable event, and their holding period and tax basis in the common stock received.

If a warrant expires without being exercised, a U.S. holder will recognize a capital loss in an amount equal to such holder's adjusted tax basis in the warrant. Such loss will be long-term capital loss if, at the time of the expiration, the U.S. holder's holding period in such warrant is more than one year. The deductibility of capital losses is subject to certain limitations.

Constructive Dividends on Warrants

As described in the section entitled "*Dividend Policy*," we do not anticipate declaring or paying dividends to holders of our common stock or our Series B Convertible Preferred Stock in the foreseeable future. However, if at any time during the period in which a U.S. holder holds warrants received upon exercise of a subscription right, we were to pay a taxable dividend to our stockholders and, in accordance with the anti-dilution provisions of the warrants, the exercise price of the warrants were decreased, that decrease would be deemed to be the payment of a taxable dividend to a U.S. holder of the warrants to the extent of our earnings and profits, notwithstanding the fact that such holder will not receive a cash payment. If the exercise price is adjusted in certain other circumstances (or in certain circumstances, there is a failure to make adjustments), or there is an adjustment to the number of common shares that will be issued on exercise of the warrants, such adjustments may also result in the deemed payment of a taxable dividend to a U.S. holder. U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the exercise price of the warrants.

Distributions on Series B Convertible Preferred Stock and Common Stock

As described in the section entitled "*Dividend Policy*," we do not anticipate declaring or paying dividends to holders of our Series B Convertible Preferred Stock or common stock in the foreseeable future. However, if we do make distributions of cash or property on our Series B Convertible Preferred Stock or common stock, such distributions will constitute dividends to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. Dividends received by a corporate U.S. holder may be eligible for a dividends received deduction, subject to applicable limitations. Dividends received by certain non-corporate U.S. holders, including individuals, are generally taxed at the lower applicable capital gains rate provided certain holding period and other requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital and first be applied against and reduce a U.S. holder's adjusted tax basis in its Series B Convertible Preferred Stock or common stock, as the case may be, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our common stock.

Sale, Exchange or Other Disposition of Series B Convertible Preferred Stock and Common Stock

Upon a sale, exchange, or other taxable disposition of our Series B Convertible Preferred Stock (other than by conversion) or our common stock, a U.S. holder generally will recognize capital gain or loss equal to the difference between the amount realized (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and the U.S. holder's adjusted tax basis in our Series B Convertible Preferred Stock or our common stock. The U.S. holder's adjusted tax basis in our Series B Convertible Preferred Stock generally will equal its initial tax basis (discussed above under "*—Exercise of Subscription Rights*"), reduced by the amount of any cash distributions treated as a return of capital as described above. A U.S. holder's adjusted tax basis in our common stock generally will equal its initial tax basis in our common stock (discussed below under "*—Conversion of the Series B Convertible Preferred Stock into Our Common Stock*"), reduced by the amount of any cash distributions treated as a return of capital as described above. Such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for our Series B Convertible Preferred Stock or our common stock exceeded one year at the time of disposition (see the discussion below under "*—Conversion of Our Series B Convertible Preferred Stock into Our Common Stock*" regarding a U.S. holder's holding period for our common stock). Long-term capital gains recognized by certain non-corporate U.S. Holders, including individuals, generally are subject to reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Conversion of Our Series B Convertible Preferred Stock into Our Common Stock

Generally, a U.S. holder will not recognize any gain or loss in respect of the receipt of our common stock upon the conversion of our Series B Convertible Preferred Stock (except to the extent the U.S. holder receives a cash payment for any fractional share that would otherwise have been issuable upon conversion of the Series B Convertible Preferred Stock). The adjusted tax basis of our common stock that a U.S. holder receives on conversion will equal the adjusted tax basis of the Series B Convertible Preferred Stock converted (decreased by the adjusted tax basis allocable to any fractional share that would otherwise have been issuance upon conversion of the Series B Convertible Preferred Stock), and the holding period of such common stock received on conversion will include the period during which the U.S. holder held the Series B Convertible Preferred Stock prior to conversion.

In the event a U.S. holder's Series B Convertible Preferred Stock is converted pursuant to an election by such U.S. holder in the case of certain acquisitions or fundamental changes or pursuant to certain other transactions (including our consolidation or merger into another person), the tax treatment of such a conversion will depend upon the facts underlying the particular transaction triggering such a conversion. In this regard, it is possible that any related adjustments of the conversion rate would be treated as a constructive distribution to the U.S. holder as described below under "*—Tax Consequences Applicable to U.S. Holders—Constructive Dividends on Series B Convertible Preferred Stock.*" U.S. holders should consult their own tax advisors to determine the specific tax treatment of a conversion under such circumstances.

Constructive Dividends on Series B Convertible Preferred Stock

The conversion rate of our Series B Convertible Preferred Stock is subject to adjustment under certain circumstances, as described above under "*Description of Securities—Preferred Stock—Series B Convertible Preferred Stock.*" Section 305(c) of the Code and Treasury regulations thereunder may treat a U.S. holder of our Series B Convertible Preferred Stock as having received a constructive distribution includable in such U.S. holder's income in the manner as described above under "*—Tax Consequences Applicable to U.S. Holders—Distributions on Series B Convertible Preferred Stock and Common Stock,*" if and to the extent that certain adjustments in the conversion rate (or failures to make such an adjustment) increase the proportionate interest of such U.S. holder in our earnings and profits. In certain other circumstances, an adjustment to the conversion rate of our Series B Convertible Preferred Stock or a failure to make such an adjustment could potentially give rise to constructive distributions to U.S. holders of our common stock. Thus, under certain circumstances, U.S. holders may recognize income in the event of a constructive distribution even though they may not receive any cash or property.

Information Reporting and Backup Withholding

A U.S. holder will be subject to information reporting and may be subject to backup withholding when such holder receives dividend payments (including constructive dividends) or receives proceeds from the sale or other taxable disposition of the warrants, shares of our Series B Convertible Preferred Stock acquired through the exercise of subscription rights or shares of our common stock acquired through conversion of our Series B Convertible Preferred Stock or exercise of the warrants. Certain U.S. holders are exempt from backup withholding, including certain corporations and certain tax-exempt organizations. A U.S. holder will be subject to backup withholding if such holder is not otherwise exempt (or fails to properly establish an exemption) and such holder:

- fails to furnish the holder's taxpayer identification number, which for an individual is ordinarily his or her social security number;
- furnishes an incorrect taxpayer identification number;
- is notified by the IRS that the holder previously failed to properly report payments of interest or dividends; or
- fails to certify under penalties of perjury that the holder has furnished a correct taxpayer identification number and that the IRS has not notified the holder that the holder is subject to backup withholding.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS. U.S. holders should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption.

Tax Considerations Applicable to Non-U.S. Holders

For purposes of this discussion, a "non-U.S. holder" is a beneficial owner of shares of our common stock, participating warrants, our e subscription rights, shares of our Series B Convertible Preferred Stock and warrants acquired upon exercise of subscription rights or shares of our common stock acquired upon conversion of our Series B Convertible Preferred Stock or exercise of warrants, as the case may be, that is neither a U.S. holder nor an entity treated as a partnership for U.S. federal income tax purposes.

Receipt, Exercise and Expiration of the Subscription Rights

The discussion assumes that the receipt of subscription rights will be treated as a nontaxable distribution. See "*—Tax Consequences Applicable to U.S. Holders—Receipt of Subscription Rights*" above. In such case, non-U.S. holders will not be subject to U.S. federal income tax (or any withholding thereof) on the receipt, exercise or expiration of the subscription rights.

Exercise of Warrants

A non-U.S. holder generally will not be subject to U.S. federal income tax on the cash exercise of warrants into shares of our common stock (except to the extent the U.S. holder receives a cash payment for any fractional share that would otherwise have been issuable upon exercise of the warrant, which will be treated as a sale subject the rules described under "*Tax Considerations Applicable to Non-U.S. Holders—Sale or Other Disposition of Series B Convertible Preferred Stock, Common Stock or Warrants*"). As discussed above in "*—Tax Considerations Applicable to U.S. Holders—Sale or Other Disposition, Exercise or Expiration of Warrants*," the U.S. federal income tax treatment of an exercise of a warrant on a cashless basis is not clear. Non-U.S. holders are urged to consult their tax advisors as to the consequences of an exercise of a warrant on a cashless basis, including with respect to whether the exercise is a taxable event, and their holding period and tax basis in the common stock received.

Constructive Dividends on Warrants

As described in the section entitled “*Dividend Policy*,” we do not anticipate declaring or paying dividends to holders of our Series B Convertible Preferred Stock or common stock in the foreseeable future. However, if at any time during the period in which a non-U.S. holder holds warrants received on the exercise of subscription rights, we were to pay a taxable dividend to our stockholders and, in accordance with the anti-dilution provisions of the warrants, the exercise price of the warrants were decreased, that decrease would be deemed to be the payment of a taxable dividend to a non-U.S. holder to the extent of our earnings and profits, notwithstanding the fact that such holder will not receive a cash payment. If the exercise price is adjusted in certain other circumstances (or in certain circumstances, there is a failure to make adjustments), or there is an adjustment to the number of common shares that will be issued on exercise of the warrants, such adjustments may also result in the deemed payment of a taxable dividend to a non-U.S. holder. Any resulting withholding tax attributable to deemed dividends may be collected from other amounts payable or distributable to the non-U.S. holder. Non-U.S. holders should consult their tax advisors regarding the proper treatment of any adjustments to the warrants.

Distributions on Series B Convertible Preferred Stock and Common Stock

As described in the section entitled “*Dividend Policy*,” we do not anticipate declaring or paying dividends to holders of our Series B Convertible Preferred Stock or common stock in the foreseeable future. However, if we do make distributions of cash or property on our Series B Convertible Preferred Stock or common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a non-U.S. holder’s adjusted tax basis in its Series B Convertible Preferred Stock or common stock, as the case may be, but not below zero. Any excess will be treated as capital gain and will be treated as described below in the section relating to the sale or disposition of our Series B Convertible Preferred Stock, our common stock or warrants. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of the withholding rules discussed below we or the applicable withholding agent may treat the entire distribution as a dividend.

Subject to the discussion below on backup withholding and foreign accounts, dividends paid to a non- U.S. holder of our Series B Convertible Preferred Stock or common stock that are not effectively connected with the non-U.S. holder’s conduct of a trade or business within the United States will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty).

Non-U.S. holders will be entitled to a reduction in or an exemption from withholding on dividends as a result of either (a) an applicable income tax treaty or (b) the non-U.S. holder holding our Series B Convertible Preferred Stock or common stock in connection with the conduct of a trade or business within the United States and dividends being effectively connected with that trade or business. To claim such a reduction in or exemption from withholding, the non-U.S. holder must provide the applicable withholding agent with a properly executed (a) IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) claiming an exemption from or reduction of the withholding tax under the benefit of an income tax treaty between the United States and the country in which the non-U.S. holder resides or is established, or (b) IRS Form W-8ECI stating that the dividends are not subject to withholding tax because they are effectively connected with the conduct by the non-U.S. holder of a trade or business within the United States, as may be applicable. These certifications must be provided to the applicable withholding agent prior to the payment of dividends and must be updated periodically. Non-U.S. holders that do not timely provide the applicable withholding agent with the required certification, but that qualify for a reduced rate under an applicable income tax treaty, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If dividends paid to a non-U.S. holder are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such dividends are attributable), then, although exempt from U.S. federal withholding tax (provided the non-U.S. holder provides appropriate certification, as described above, and subject to the discussion below on backup withholding and foreign accounts), the non-U.S. holder will be subject to U.S. federal income tax on such dividends on a net income basis at the regular graduated U.S. federal income tax rates. In addition, a non-U.S. holder that is a corporation may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on its effectively connected earnings and profits for the taxable year that are attributable to such dividends, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

Sale or Other Disposition of Series B Convertible Preferred Stock, Common Stock or Warrants

Subject to the discussions below on backup withholding and foreign accounts, a non-U.S. holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our Series B Convertible Preferred Stock, warrants or our common stock unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the non-U.S. holder maintains a permanent establishment in the United States to which such gain is attributable);
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our Series B Convertible Preferred Stock, warrants or our common stock constitutes a U.S. real property interest, or USRPI, by reason of our status as a U.S. real property holding corporation, or USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on any gain derived from the disposition, which may be offset by U.S. source capital losses of the non-U.S. holder (even though the individual is not considered a resident of the United States), provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we are not currently and do not anticipate becoming a USRPHC. Because the determination of whether we are a USRPHC depends on the fair market value of our USRPIs relative to the fair market value of our other business assets and our non-U.S. real property interests, however, there can be no assurance we are not a USRPHC or will not become one in the future.

Non-U.S. holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Conversion of Our Series B Convertible Preferred Stock into Our Common Stock

A non-U.S. holder generally will not recognize any gain or loss in respect of the receipt of our common stock upon the conversion of our Series B Convertible Preferred Stock.

Constructive Dividends on Series B Convertible Preferred Stock

As described above under “—*Tax Consequences Applicable to U.S. Holders—Constructive Dividends on Series B Convertible Preferred Stock*,” in certain circumstances, a non-U.S. holder will be deemed to receive a constructive distribution from us. Adjustments in the conversion rate (or failures to adjust the conversion rate) that increase the proportionate interest of a non-U.S. holder in our earnings and profits could result in deemed distributions to the non-U.S. holder that are treated as dividends for U.S. federal income tax purposes. Any constructive dividend deemed paid to a non-U.S. holder will be subject to U.S. federal income tax or withholding tax in the manner described above under “—*Tax Consequences Applicable to Non-U.S. Holders—Distributions on Series B Convertible Preferred Stock and Common Stock*.” It is possible that U.S. federal tax on the constructive dividend would be withheld, if applicable, from subsequent payments on the Series B Convertible Preferred Stock or our common stock.

Information Reporting and Backup Withholding

A non-U.S. holder will not be subject to backup withholding with respect to distributions on our Series B Convertible Preferred Stock, warrants or common stock we make to the non-U.S. holder, provided the applicable withholding agent does not have actual knowledge or reason to know such holder is a United States person and the holder timely certifies its non-U.S. status, such as by providing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or other applicable certification. However, information returns generally will be filed with the IRS in connection with any distributions (including deemed distributions) made on our Series B Convertible Preferred Stock, warrants and our common stock to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

Information reporting and backup withholding may apply to the proceeds of a sale or other taxable disposition of our Series B Convertible Preferred Stock, warrants or our common stock within the United States, and information reporting may (although backup withholding generally will not) apply to the proceeds of a sale or other taxable disposition of our Series B Convertible Preferred Stock, warrants or our common stock outside the United States conducted through certain U.S.-related financial intermediaries, in each case, unless the beneficial owner timely certifies under penalty of perjury that it is a non-U.S. holder on IRS Form W-8BEN or W-8BEN-E, or other applicable form (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person) or such owner otherwise timely establishes an exemption. Proceeds of a disposition of our Series B Convertible Preferred Stock, warrants or our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder’s U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under the Foreign Account Tax Compliance Act, or FATCA, on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends (including deemed dividends) paid on our Series B Convertible Preferred Stock, common stock or warrants, or gross proceeds from the sale or other disposition of our Series B Convertible Preferred Stock, warrants or our common stock paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any “substantial United States owners” (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain “specified United States persons” or “United States-owned foreign entities” (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends (including deemed dividends), and will apply to payments of gross proceeds from the sale or other disposition of our Series B Convertible Preferred Stock, warrants or our common stock on or after January 1, 2019. Because we may not know the extent to which a distribution is a dividend for U.S. federal income tax purposes at the time it is made, for purposes of these withholding rules we or the applicable withholding agent may treat the entire distribution as a dividend. Prospective investors should consult their tax advisors regarding the potential application of these withholding provisions.

DESCRIPTION OF SECURITIES

Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. Under our certificate of incorporation, our board of directors has the authority, without further action by stockholders, to designate up to 10,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, qualifications and restrictions granted to or imposed upon the preferred stock, including dividend rights, conversion rights, voting rights, rights and terms of redemption, liquidation preference and sinking fund terms, any or all of which may be greater than the rights of the common stock.

If we issue preferred stock, we will fix the rights, preferences, privileges, qualifications and restrictions of the preferred stock of each series that we sell under this prospectus and applicable prospectus supplements in the certificate of designations relating to that series. If we issue preferred stock, we will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designations that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. We urge you to read the prospectus supplement related to any series of preferred stock we may offer, as well as the complete certificate of designations that contains the terms of the applicable series of preferred stock.

Series A Junior Participating Preferred Stock. In connection with our May 19, 2014 Shareholder Rights Plan, discussed below, the Company has designated 750,000 shares of Series-A Junior Participating Preferred Stock, par value \$0.001 per share through the filing of a certificate of designation with the Delaware Secretary of State. The shareholder rights agreement provides that all stockholders of record on May 26, 2014 received a non-taxable distribution of one preferred stock purchase right for each share of our common stock held by such stockholder. Each right is attached to and trades with the associated share of common stock. The rights will become exercisable only if one of the following occurs: (1) a person becomes an “Acquiring Person” by acquiring beneficial ownership of 15% or more of our common stock (or, in the case of a person who beneficially owned 15% or more of our common stock on the date the stockholder rights agreement was executed, by acquiring beneficial ownership of additional shares representing 2.0% of our common stock then outstanding (excluding compensatory arrangements)); or (2) a person commences a tender offer that, if consummated, would result in such person becoming an Acquiring Person. If a person becomes an Acquiring Person, each right will entitle the holder, other than the Acquiring Person and certain related parties, to purchase a number of shares of our common stock with a market value that equals twice the exercise price of the right. The initial exercise price of each right is \$15.00, so each holder (other than the Acquiring Person and certain related parties) exercising a right would be entitled to receive \$30.00 worth of our common stock. If the Company is acquired in a merger or similar business combination transaction at any time after a person has become an Acquiring Person, each holder of a right (other than the Acquiring Person and certain related parties) will be entitled to purchase a similar amount of stock of the acquiring entity.

Series A Convertible Preferred Stock. In connection with our April 2017 financing, we designated 4,000 shares of the 10,000,000 authorized shares of preferred stock as Series A Convertible Preferred Stock. As of the date of this prospectus, no shares of Series A Convertible Preferred Stock are outstanding.

Series B Convertible Preferred Stock. We will authorize the Series B Convertible Preferred Stock by filing a certificate of designation with the Secretary of State of Delaware. The certificate of designation may be authorized by our Board without approval by our stockholders.

Conversion. Each share of Series B Convertible Preferred Stock will be convertible at our option at any time on or after the first anniversary of the closing of the rights offering or at the option of the holder at any time, into the number of shares of our common stock determined by dividing the \$1,000 stated value per share of the Series B Convertible Preferred Stock by a conversion price of \$3.52 per share. In addition, the conversion price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations or reclassifications. Subject to limited exceptions, a holder of the Series B Convertible Preferred Stock will not have the right to convert any portion of the Series B Convertible Preferred Stock to the extent that, after giving effect to the conversion, the holder, together with its affiliates, would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to its conversion.

Fundamental Transactions. In the event we effect certain mergers, consolidations, sales of substantially all of our assets, tender or exchange offers, reclassifications or share exchanges in which our common stock is effectively converted into or exchanged for other securities, cash or property, we consummate a business combination in which another person acquires 50% of the outstanding shares of our common stock, or any person or group becomes the beneficial owner of 50% of the aggregate ordinary voting power represented by our issued and outstanding common stock, then, upon any subsequent conversion of the Series B Convertible Preferred Stock, the holders of the Series B Convertible Preferred Stock will have the right to receive any shares of the acquiring corporation or other consideration it would have been entitled to receive if it had been a holder of the number of shares of common stock then issuable upon conversion in full of the Series B Convertible Preferred Stock.

Dividends. Holders of Series B Convertible Preferred Stock shall be entitled to receive dividends (on an as-if-converted-to-common-stock basis) in the same form as dividends actually paid on shares of the common stock when, as and if such dividends are paid on shares of common stock.

Voting Rights. Except as otherwise provided in the certificate of designation or as otherwise required by law, the Series B Convertible Preferred Stock has no voting rights.

Liquidation Preference. Upon our liquidation, dissolution or winding-up, whether voluntary or involuntary, holders of Series B Convertible Preferred Stock will be entitled to receive out of our assets, whether capital or surplus, the same amount that a holder of Common Stock would receive if the Series B Convertible Preferred Stock were fully converted (disregarding for such purpose any conversion limitations under the certificate of designation) to Common Stock, which amounts shall be paid pari passu with all holders of Common Stock.

Redemption Rights. We are not obligated to redeem or repurchase any shares of Series B Convertible Preferred Stock. Shares of Series B Convertible Preferred Stock are not otherwise entitled to any redemption rights, or mandatory sinking fund or analogous provisions.

Warrants

Warrants Included in Units Issuable in the Rights Offering

The warrants to be issued as a part of this rights offering will be separately transferable following their issuance and through their expiration four years from the date of issuance. Each warrant will entitle the holder to purchase one share of common stock at an exercise price of \$4.05 per share from the date of issuance through its expiration. We do not intend to have the warrants listed for trading on any securities exchange or recognized trading system. The common stock underlying the warrants, upon issuance, will also be traded on Nasdaq under the symbol "ATOS."

Unless a physical certificate is requested, all warrants that are purchased in the rights offering as part of the units will be issued in book-entry, or uncertificated, form meaning that you will receive a DRS account statement from our transfer agent reflecting ownership of warrants if you are a holder of record of shares or warrants. The subscription agent will arrange for the issuance of the warrants as soon as practicable after the closing, which will occur as soon as practicable after the rights offering has expired but which may occur up to five business days thereafter. At closing, all prorating calculations and reductions contemplated by the terms of the rights offering will have been effected and payment to us for the subscribed-for units will have cleared. If you hold your shares of common stock or participating warrants in the name of a bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the warrants you purchased in the rights offering.

Exercisability. Each warrant will be exercisable at any time and will expire four years from the date of issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and payment in full for the number of shares of our common stock purchased upon such exercise, except in the case of a cashless exercise as discussed below.

The number of shares of common stock issuable upon exercise of the warrants is subject to adjustment in certain circumstances, including a stock split of, stock dividend on, or a subdivision, combination or recapitalization of the common stock. Upon the merger, consolidation, sale of substantially all of our assets, or other similar transaction, the holders of warrants shall, at the option of the company, be required to exercise the warrants immediately prior to the closing of the transaction, or such warrants shall automatically expire. Upon such exercise, the holders of warrants shall participate on the same basis as the holders of common stock in connection with the transaction.

Cashless Exercise. If at any time there is no effective registration statement registering, or the prospectus contained therein is not available for issuance of, the shares issuable upon exercise of the warrant, the holder may exercise the warrant on a cashless basis. When exercised on a cashless basis, a portion of the warrant is cancelled in payment of the purchase price payable in respect of the number of shares of our common stock purchasable upon such exercise.

Exercise Price. Each warrant represents the right to purchase one share of common stock at an exercise price of \$4.05 per share. In addition, the exercise price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations, or reclassifications, and for certain dilutive issuances. Subject to limited exceptions, a holder of warrants will not have the right to exercise any portion of the warrant to the extent that, after giving effect to the exercise, the holder, together with its affiliates, and any other person acting as a group together with the holder or any of its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its exercise. The holder, upon notice to the Company, may increase or decrease the beneficial ownership limitation provisions of the warrant, provided that in no event shall the limitation exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise of the warrant.

Transferability. Subject to applicable laws and restrictions, a holder may transfer a warrant upon surrender of the warrant to us with a completed and signed assignment in the form attached to the warrant. The transferring holder will be responsible for any tax that liability that may arise as a result of the transfer.

Exchange Listing. We do not intend to apply to list the warrants on any securities exchange or recognized trading system.

Rights as Stockholder. Except as set forth in the warrant, the holder of a warrant, solely in such holder's capacity as a holder of a warrant, will not be entitled to vote, to receive dividends, or to any of the other rights of our stockholders.

Redemption Rights. We may redeem the warrants for \$0.18 per warrant if the VWAP of our common stock equals or exceeds \$10.56 per share for ten consecutive trading days, provided that we may not do so prior to the first anniversary of closing of the rights offering.

Amendments and Waivers. The provisions of each warrant may be modified or amended or the provisions thereof waived with the written consent of us and the holder.

The warrants will be issued pursuant to a warrant agent agreement by and between us and VStock Transfer, LLC, the warrant agent.

Common Stock

Holders of common stock are entitled to receive ratably dividends out of funds legally available, if and when declared from time to time by our Board. We have never paid any cash dividends on our common stock and our Board does not anticipate that we will pay cash dividends in the foreseeable future. The future payment of dividends, if any, on our common stock is within the discretion of the Board and will depend upon earnings, capital requirements, financial condition and other relevant factors. Holders of common stock are entitled to one vote for each share held on each matter to be voted on by stockholders. There is no cumulative voting in the election of directors. In the event of liquidation, dissolution or winding up of the affairs of us, holders of common stock are to share in all assets remaining after the payment of liabilities and any preferential distributions payable to preferred stockholders, if any. The holders of common stock have no preemptive or conversion rights and are not subject to further calls or assessments. There are no redemption or sinking fund provisions applicable to the common stock. The rights of the holders of the common stock are subject to any rights that may be fixed for holders of preferred stock, if any. All of the outstanding shares of common stock are fully paid and non-assessable.

Certificate of Incorporation

Under our Certificate of Incorporation, as amended, our Board, without further action by our stockholders, currently has the authority to issue up to 10,000,000 shares of preferred stock and to fix the rights (including voting rights), preferences and privileges of these “blank check” preferred shares. Such preferred stock may have rights, including economic rights, senior to our common stock. As a result, the issuance of the preferred stock could have a material adverse effect on the price of our common stock and could make it more difficult for a third party to acquire a majority of our outstanding common stock.

Anti-Takeover Devices

Our certificate of incorporation and bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our Board rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies. In accordance with our certificate of incorporation, our Board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may only be removed from office for cause and only by the affirmative vote of holders of 75% or more of the outstanding shares of capital stock then entitled to vote at an election of directors. Furthermore, any vacancy on our Board, however occurring, including any vacancy resulting from an increase in the size of the board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our Board.

Undesignated Preferred Stock. Our certificate of incorporation authorizes “blank-check” preferred stock, which means that our Board has the authority to designate one or more series of preferred stock without stockholder approval. These series of preferred stock may have superior rights, preferences and privileges over our common stock, including dividend rights, voting rights and liquidation preferences. The ability of our Board to issue shares of our preferred stock without stockholder approval could deter takeover offers and make it more difficult or costly for a third party to acquire us without the consent of our Board.

Section 203 of the Delaware General Corporation Law. In addition, our certificate of incorporation does not opt out of Section 203 of the Delaware General Corporation Law, which protects a corporation against an unapproved takeover by prohibiting a company from engaging in any business combination with any interested stockholder (defined as a stockholder owning more than 15% of the outstanding shares) for a period of three years from the time such stockholder became a 15% holder unless approved by our Board.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is VStock Transfer, LLC, 18 Lafayette Place, Woodmere, New York 11598 (Telephone: (212) 828-8436; Facsimile (646) 536-3179).

Quotation

Our common stock is currently quoted on the NASDAQ Capital Market under the symbol “ATOS”. We do not intend to apply to list the warrants for trading on any securities exchange or recognized trading system.

PLAN OF DISTRIBUTION

We will distribute rights certificates and copies of this prospectus to those persons who were holders of our common stock or our December 22, 2017 warrants on May 9, 2018, the record date for the rights offering, promptly following the effective date of the registration statement of which this prospectus forms a part. We are offering the rights and the units underlying the rights directly to you. Those directors and officers of the Company who may assist in the rights offering will not register with the SEC as brokers in reliance on certain safe harbor provisions contained in Rule 3a4-1 under the Exchange Act. Broadridge Corporate Issuer Solutions, Inc. is acting as our subscription agent to effect the exercise of the rights and the issuance of the underlying units. Therefore, while certain of our directors, officers or employees may solicit responses from you, they will not receive any commissions or compensation for those services.

Delivery of Series B Convertible Preferred Stock and Warrants

If your shares or participating warrants are held in the name of a broker, dealer, custodian bank or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, and subscription payment to the address provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent. Do not send or deliver these materials to the Company.

By Mail

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, New York 11717-0693
(855) 793-5068 (toll free)

By Hand or Overnight Courier

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, New York 11717
(855) 793-5068 (toll free)

See “*The Rights Offering—Method of Exercising Subscription Rights.*” If you have any questions regarding the Company or the rights offering, or you have any questions regarding completing a rights certificate or submitting payment in the rights offering, please contact the subscription agent, Broadridge Corporate Issuer Solutions, Inc., toll free at (855) 793-5068, or by mail at.

Other than as described in this prospectus, we do not know of any existing agreements between any stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the underlying securities.

Maxim Group LLC is the dealer-manager of this rights offering. In such capacity, such dealer-manager will provide marketing assistance and financial advice (including determining the subscription price and the structure of the rights offering) to us in connection with this offering and will solicit the exercise of basic subscription rights and participation in the over-subscription privilege. The dealer-manager will provide us with updated investor feedback and recommendations on pricing and structure through to the end of the subscription period. The dealer-manager is not underwriting or placing any of the basic subscription rights and does not make any recommendation with respect to such basic subscription rights (including with respect to the exercise or expiration of such basic subscription rights).

In connection with this rights offering, we have agreed to pay fees to Maxim Group LLC as dealer-manager a cash fee equal to 7.0% of the gross proceeds received by us directly from exercises of the subscription rights. We advanced \$15,000 to Maxim Group LLC against reimbursement of accountable expenses upon their engagement as a dealer-manager, or the Advance, and agreed to reimburse the reasonable fees and expenses (including up to \$75,000 of legal fees) of the dealer-manager up to \$85,000. Any portion of the advance will be returned to us to the extent it is not actually incurred.

We have also agreed to indemnify the dealer-manager and its respective affiliates against certain liabilities arising under the Securities Act. The dealer-manager’s participation in this offering is subject to customary conditions contained in the dealer-manager agreement, including the receipt by the dealer-manager of an opinion of our counsel. The dealer-manager and its affiliates may provide to us from time to time in the future in the ordinary course of their business certain financial advisory, investment banking and other services for which they will be entitled to receive fees.

Maxim Group LLC is a broker-dealer and member of the Financial Industry Regulatory Authority, Inc. The principal business address of Maxim Group LLC is 405 Lexington Avenue, New York, New York 10174.

Notice to Prospective Investors in Canada

This prospectus constitutes an “exempt offering document” as defined in and for the purposes of applicable Canadian securities laws. No prospectus has been filed with any securities commission or similar regulatory authority in Canada in connection with the offer and sale of the shares. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this prospectus or on the merits of the shares and any representation to the contrary is an offence.

Canadian investors are advised that this prospectus has been prepared in reliance on section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (“NI 33-105”). Pursuant to section 3A.3 of NI 33-105, this prospectus is exempt from the requirement that the Company and the underwriter(s) provide Canadian investors with certain conflicts of interest disclosure pertaining to “connected issuer” and/or “related issuer” relationships that may exist between the Company and the underwriter(s) as would otherwise be required pursuant to subsection 2.1(1) of NI 33-105.

Resale Restrictions

The offer and sale of the shares in Canada is being made on a private placement basis only and is exempt from the requirement that the Company prepares and files a prospectus under applicable Canadian securities laws. Any resale of shares acquired by a Canadian investor in this offering must be made in accordance with applicable Canadian securities laws, which may vary depending on the relevant jurisdiction, and which may require resales to be made in accordance with Canadian prospectus requirements, pursuant to a statutory exemption from the prospectus requirements, in a transaction exempt from the prospectus requirements or otherwise under a discretionary exemption from the prospectus requirements granted by the applicable local Canadian securities regulatory authority. These resale restrictions may under certain circumstances apply to resales of the shares outside of Canada.

Representations of Purchasers

Each Canadian investor who purchases units will be deemed to have represented to the Company, the underwriters and to each dealer from whom a purchase confirmation is received, as applicable, that the investor is (i) purchasing as principal, or is deemed to be purchasing as principal in accordance with applicable Canadian securities laws, for investment only and not with a view to resale or redistribution; (ii) an “accredited investor” as such term is defined in section 1.1 of National Instrument 45-106 *Prospectus Exemptions* or, in Ontario, as such term is defined in section 73.3(1) of the *Securities Act* (Ontario); and (iii) is a “permitted client” as such term is defined in section 1.1 of National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*.

Taxation and Eligibility for Investment

Any discussion of taxation and related matters contained in this prospectus does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a Canadian investor when deciding to purchase the units and, in particular, does not address any Canadian tax considerations. No representation or warranty is hereby made as to the tax consequences to a resident, or deemed resident, of Canada of an investment in the units or with respect to the eligibility of the units for investment by such investor under relevant Canadian federal and provincial legislation and regulations.

Rights of Action for Damages or Rescission

Securities legislation in certain of the Canadian jurisdictions provides certain purchasers of securities pursuant to an offering memorandum (such as this prospectus), including where the distribution involves an “eligible foreign security” as such term is defined in Ontario Securities Commission Rule 45-501 *Ontario Prospectus and Registration Exemptions* and in Multilateral Instrument 45-107 *Listing Representation and Statutory Rights of Action Disclosure Exemptions*, as applicable, with a remedy for damages or rescission, or both, in addition to any other rights they may have at law, where the offering memorandum, or other offering document that constitutes an offering memorandum, and any amendment thereto, contains a “misrepresentation” as defined under applicable Canadian securities laws. These remedies, or notice with respect to these remedies, must be exercised or delivered, as the case may be, by the purchaser within the time limits prescribed under, and are subject to limitations and defences under, applicable Canadian securities legislation. In addition, these remedies are in addition to and without derogation from any other right or remedy available at law to the investor.

Language of Documents

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu’il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d’achat ou tout avis) soient rédigés en anglais seulement.*

DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

EXPERTS

The consolidated financial statements as of December 31, 2017 and 2016 and for each of the two years in the period ended December 31, 2017 incorporated by reference in this prospectus have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern) incorporated herein by reference in the prospectus, given on the authority of said firm as experts in auditing and accounting.

LEGAL MATTERS

Certain legal matters relating to the validity of the securities offered by this prospectus will be passed upon for us by Gibson, Dunn & Crutcher LLP, San Francisco, California.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

The Company files annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document filed by the Company at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The Company's filings with the SEC are also available to the public at the SEC's Internet web site at <http://www.sec.gov>.

Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete, and in each instance we refer you to the copy of the contract or document filed as an exhibit to the registration statement, each such statement being qualified in all respects by such reference.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows the Company to "incorporate by reference" the information that is filed by the Company with the SEC, which means that the Company can disclose important information to you by referring you to those documents. The documents incorporated by reference are:

1. The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the SEC on March 8, 2018;
2. The Company's Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 20, 2018;
3. The Company's Current Reports on Form 8-K, filed with the SEC on February 1, 2018, February 21, 2018, April 17, 2018 and April 23, 2018;
4. The description of the Company's common stock contained in the registration statement on Form 8-A filed with the Commission on July 24, 2012 pursuant to Section 12 of the Exchange Act of 1934, as amended (the "Exchange Act"), including any amendment or report filed for the purpose of updating that description; and
5. All documents filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, after the date of the original Registration Statement and prior to effectiveness of the registration statement of which this prospectus is a part, provided that all documents "furnished" by the Company to the SEC and not "filed" are not deemed incorporated by reference herein.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement. Under no circumstances will any information filed under items 2.02 or 7.01 of Form 8-K be deemed to be incorporated by reference unless such Form 8-K expressly provides to the contrary.

The Company will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person's written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to the Secretary at Atossa Genetics Inc., 107 Spring Street, Seattle, Washington, 98104, phone (866) 893-4927. You may also find these documents in the "Investor Relations" section of our website, www.atossagenetics.com. The information on our website is not incorporated into this prospectus.

PROSPECTUS

Subscription Rights to Purchase Up to 20,000 Units
Consisting of an Aggregate of Up to 20,000 Shares of Series B Convertible Preferred Stock
and Warrants to Purchase Up to 5,680,000 Shares of Common Stock
at a Subscription Price of \$1,000 Per Unit

Dealer-Manager

Maxim Group LLC

, 2018

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. Other Expenses of Issuance and Distribution

The following are the estimated expenses of the distribution of the Shares registered hereunder on Form S-1 (the amounts set forth above are estimate, except the SEC Registration Fee:

Registration Fee—Securities and Exchange Commission	\$	2,490
FINRA filing fee	\$	3,500
Accountants Fees and Expenses	\$	30,000
Legal Fees and Expenses	\$	185,000
Miscellaneous	\$	12,500
Total	\$	233,490

ITEM 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, or the DGCL, authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our certificate of incorporation and bylaws that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our Board of Directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our Board of Directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with each of our directors and certain of our executive officers. These agreements provide that we will indemnify each of these directors and executive officers to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees, judgments, fines and settlement amounts, to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as an officer or director brought on behalf of the Company or in furtherance of our rights.

We maintain general liability insurance that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

ITEM 16. Exhibit Index.

See Exhibit Index set forth on page II-6 to this Registration Statement.

ITEM 17. Undertakings.

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;
provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in this Registration Statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of this Registration Statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act, as amended, may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue. The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act ("Act") in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Company certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Seattle, Washington, on April 23, 2018.

Atossa Genetics Inc.

By: /s/ Steven C. Quay

Steven C. Quay, M.D., Ph.D.

Chairman, Chief Executive Officer and President

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Office(s)</u>	<u>Date</u>
<u>/s/ Steven C. Quay</u> Steven C. Quay, M.D., Ph.D.	Chairman, Chief Executive Officer and President (Principal Executive Officer)	April 23, 2018
<u>/s/ Kyle Guse</u> Kyle Guse	Chief Financial Officer, General Counsel and Secretary (Principal Financial and Accounting Officer)	April 23, 2018
<u>/s/ *</u> Shu-Chih Chen, Ph.D.	Director	April 23, 2018
<u>/s/ *</u> Richard Steinhart	Director	April 23, 2018
<u>/s/ *</u> Stephen J. Galli, M.D.	Director	April 23, 2018
<u>/s/ *</u> H. Lawrence Rimmel	Director	April 23, 2018
<u>/s/ *</u> Gregory L. Weaver	Director	April 23, 2018

* By: /s/ Kyle Guse
Attorney-in-fact

EXHIBIT INDEX

Exhibit No.	Description	Form	Date
1.1	Form of Dealer-Manager Agreement	Filed herewith	
3.1	Amended and Restated Certificate of Incorporation of Atossa Genetics Inc	Registration Statement on Form S-1, as Exhibit 3.2	June 11, 2012
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Atossa Genetics Inc.	Current Report on Form 8-K, as Exhibit 4.1	August 26, 2016
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Atossa Genetics Inc.	Current Report on Form 8-K, as Exhibit 4.1	April 23, 2018
3.4	Bylaws of Atossa Genetics Inc	Registration Statement on Form S-1, as Exhibit 3.4	June 11, 2012
3.5	Amendment to Bylaws of Atossa Genetics Inc.	Current Report on Form 8-K, as Exhibit 3.1	December 20, 2012
4.1	Form of Certificate of Designation of Preference, Rights and Limitations of Series B Convertible Preferred Stock	Filed herewith	
4.2	Form of Warrant Agreement	Filed herewith	
4.3	Form of Warrant Certificate	Filed herewith	
4.4	Form of Non-Transferable Subscription Rights Certificate	Filed herewith	
4.5	Registration Rights Agreement, dated as of May 25, 2016, by and between the Company and Aspire Capital Fund, LLC.	Current Report on Form 8-K, as Exhibit 4.1	May 27, 2016
4.6	Form of Warrant Agreement from January 2014 Public Offering	Current Report on Form 8-K, as Exhibit 4.1	January 24, 2014
4.7	Form of Warrant issued to Dawson James Securities Inc. in January 2014	Current Report on Form 8-K, as Exhibit 4.2	January 24, 2014
4.8	Rights Agreement dated as of May 19, 2014, by and between the Company and VStock Transfer LLC, as rights agent, which includes as Exhibit B the Form of Rights Certificate	Current Report on Form 8-K, as Exhibit 4.1	May 22, 2014
4.9	Form of Common Stock Purchase Warrant A	Current Report on Form 8-K, as Exhibit 4.1	December 22, 2017
4.10	Form of Commons Stock Purchase Warrant B	Current Report on Form 8-K, as Exhibit 4.2	December 22, 2017
5.1	Opinion of Gibson, Dunn & Crutcher LLP	Filed herewith	

<u>8.1</u>	<u>Tax Opinion of Gibson, Dunn & Crutcher LLP</u>	Filed herewith	
<u>10.1#</u>	<u>Restated and Amended Employment Agreement with Steven Quay</u>	Registration Statement on Form S-1, as Exhibit 10.3	February 14, 2012
<u>10.2</u>	<u>Form of Indemnification Agreement</u>	Registration Statement on Form S-1, as Exhibit 10.5	May 21, 2012
<u>10.3#</u>	<u>Form of Incentive Stock Option Agreement</u>	Registration Statement on Form S-1, as Exhibit 10.7	June 11, 2012
<u>10.4#</u>	<u>Form of Non-Qualified Stock Option Agreement for Employees</u>	Registration Statement on Form S-1, as Exhibit 10.8	June 11, 2012
<u>10.5#</u>	<u>Form of Non-Qualified Stock Option Agreement for Non-Employee Directors</u>	Registration Statement on Form S-1, as Exhibit 10.9	June 11, 2012
<u>10.6</u>	<u>Form of Subscription Agreement</u>	Registration Statement on Form S-1, as Exhibit 10.10	February 14, 2012
<u>10.7</u>	<u>Patent Assignment Agreement by and between the Company and Ensisheim Partners, LLC</u>	Registration Statement on Form S-1, as Exhibit 10.12	April 6, 2012
<u>10.8#</u>	<u>Form of Restricted Stock Award Agreement</u>	Registration Statement on Form S-1, as Exhibit 10.13	June 11, 2012
<u>10.9</u>	<u>Office Lease with Sander Properties, LLC, dated March 4, 2011</u>	Registration Statement on Form S-1, as Exhibit 10.20	April 6, 2012
<u>10.10</u>	<u>Office Lease with Sander Properties, LLC, dated July 8, 2011</u>	Registration Statement on Form S-1, as Exhibit 10.21	April 6, 2012
<u>10.11</u>	<u>Office Lease with Sander Properties, LLC, dated September 20, 2011</u>	Registration Statement on Form S-1, as Exhibit 10.22	April 6, 2012
<u>10.12</u>	<u>Sublease with Fred Hutchinson Cancer Research Center, dated December 9, 2011</u>	Registration Statement on Form S-1, as Exhibit 10.23	April 6, 2012
<u>10.13#</u>	<u>Amended and Restated Employment Agreement between the Company and Kyle Guse dated May 18, 2016</u>	Current Report on Form 8-K, as Exhibit 10.1	May 20, 2016
<u>10.14</u>	<u>Office space Lease dated July 18, 2013 between Alexandria (ARE) and the Company</u>	Annual Report on Form 10-K, as Exhibit 10.33	March 27, 2014
<u>10.15</u>	<u>Common Stock Purchase Agreement, between the Company and Aspire Capital Fund, LLC, dated as of November 11, 2015</u>	Quarterly Report on Form 10-Q, as Exhibit 10.1	November 12, 2015
<u>10.16</u>	<u>Common Stock Purchase Agreement, between the Company and Aspire Capital Fund, LLC, dated as of May 25, 2016</u>	Current Report on Form 8-K, as Exhibit 10.1	May 27, 2016

<u>10.17</u>	<u>Lab and Office space Lease Agreement dated March 24, 2014 between Alexandria (ARE) and the Company</u>	Annual Report on Form 10-K, as Exhibit 10.33	March 27, 2014
<u>10.18</u>	<u>Office Space Assignment and Assumption of Lease and Consent to Assignment dated August 8, 2014 between Legacy Group, Inc. and the Company</u>	Quarterly Report on Form 10-Q, as Exhibit 10.1	August 12, 2014
<u>10.19</u>	<u>Intellectual Property License Agreement between Atossa Genetics Inc. and Besins Healthcare Luxembourg SARL, dated May 14, 2015</u>	Current Report on Form 8-K, as Exhibit 10.1	May 18, 2015
<u>10.20</u>	<u>Settlement and Termination of License Agreement between Besins Healthcare Luxembourg SARL and its Affiliates and Atossa Genetics, Inc. dated August 4, 2016</u>	Current Report on Form 8-K, as Exhibit 10.1	August 5, 2016
<u>10.21</u>	<u>Stock Purchase Agreement by and among the Company, the National Reference Laboratory for Breast Health, Inc. and NRL Investment Group, LLC, dated December 16, 2015</u>	Current Report on Form 8-K, as Exhibit 10.1	December 16, 2015
<u>10.22</u>	<u>Office space Lease Agreement dated October 1, 2015 between Hughes-Northwest and the Company.</u>	Annual Report on Form 10-K, as Exhibit 10.35	March 30, 2016
<u>10.23</u>	<u>2010 Stock Option and Incentive Plan, as amended</u>	Quarterly Report on Form 10-Q, as Exhibit 10.2	May 11, 2017
<u>10.24</u>	<u>Placement agreement between Atossa Genetics Inc. and Maxim Corp. as representative of the Purchasers, dated December 20, 2017</u>	Current Report on Form 8-K, as Exhibit 10.1	December 22, 2017
<u>10.25</u>	<u>Securities Purchase agreement between Atossa Genetics Inc. and each purchaser</u>	Current Report on Form 8-K, as Exhibit 10.1	December 22, 2017
<u>23.1</u>	<u>Consent of BDO USA LLP</u>	Filed herewith	
<u>23.2</u>	<u>Consent of Gibson, Dunn & Crutcher LLP</u>	Filed as part of Exhibit 5.1 to this Registration Statement on Form S-1	
<u>24.1</u>	<u>Powers of Attorney</u>	Previously included on the signature page in Part II of this Registration Statement on Form S-1	March 27, 2018
<u>99.1</u>	<u>Form of Instructions as to Use of Subscription Rights Certificates</u>	Filed herewith	
<u>99.2</u>	<u>Form of Letter to Shareholders Who Are Record Holders</u>	Filed herewith	

<u>99.3</u>	<u>Form of Letter to Brokers, Dealers, Banks and Other Nominees</u>	Filed herewith
<u>99.4</u>	<u>Form of Broker Letter to Clients Who Are Beneficial Holders</u>	Filed herewith
<u>99.5</u>	<u>Form of Beneficial Owner Election Form</u>	Filed herewith
<u>99.6</u>	<u>Form of Nominee Holder Certification</u>	Filed herewith
<u>99.7</u>	<u>Form of Notice of Important Tax Information</u>	Filed herewith

Indicates management contract or compensatory plan, contractor or agreement.

ATOSSA GENETICS INC.

DEALER-MANAGER AGREEMENT

[•], 2018

Maxim Group LLC
405 Lexington Avenue
New York, NY 10174
As Dealer-Manager

Ladies and Gentlemen:

The following will confirm our agreement relating to the proposed rights offering (the “**Rights Offering**”) to be undertaken by Atossa Genetics Inc., a Delaware corporation (the “**Company**”), pursuant to which the Company will distribute to holders of record of its common stock, par value \$0.18 per share (the “**Common Stock**”) and holders of warrants issued December 22, 2017, subscription rights (the “**Rights**”) to subscribe for up to an aggregate of 20,000 units (the “**Units**”), each Unit consisting of one share of Preferred Stock (the “**Rights Shares**”) and 284 warrants, with each warrant representing the right to purchase one share of Common Stock (the “**Rights Warrants**”), at a subscription price of \$1,000 per Unit in cash (the “**Subscription Price**”).

1. The Rights Offering.

(a) The Company proposes to undertake the Rights Offering pursuant to which each holder of Common Stock and each holder of warrants issued December 22, 2017, shall receive one Right for each share of Common Stock held of record at the close of business on May 9, 2018 (the “**Record Date**”). Holders of Rights will be entitled to subscribe for and purchase, at the Subscription Price, one (1) Rights Share and 284 Rights Warrants for each Right held (the “**Basic Subscription Right**”). Rights may only be exercised for whole Right Shares and Rights Warrants; no fractional securities will be issued in the Rights Offering.

(b) The Rights will not trade or be listed for quotation on any exchange or service, and shall be non-transferable.

(c) Any holder of Rights who fully exercises all Basic Subscription Rights issued to such holder is entitled to subscribe for Units which were not otherwise subscribed for by others pursuant to their Basic Subscription Rights (the “**Over-Subscription Right**”). The Over-Subscription Right shall allow a holder of a Right to subscribe for an additional amount of Units above the amount which such holder was otherwise entitled to subscribe. Units acquired pursuant to the Over-Subscription Right are subject to allotment, as more fully discussed in the Prospectus (as defined herein).

(d) The Rights will expire at 5:00 p.m., New York City time, on May 24, 2018 (the “**Expiration Date**”). The Company shall have the right to extend the Expiration Date in its sole discretion. Any Rights not exercised on or before the Expiration Date will expire worthless without any payment to the holders of unexercised Rights.

(e) All funds from the exercise of Basic Subscription Rights and Over-Subscription Rights will be deposited with Broadridge Corporate Issuer Solutions, Inc. (“**Broadridge**”), as subscription agent (in this context, the “**Subscription Agent**”), and held in a segregated account with the Subscription Agent pending a final determination of the number of Rights Shares and Rights Warrants to be issued pursuant to the exercise of Basic Subscription Rights and Over-Subscription Rights. The Company may conduct a closing of the Rights Offering (a “**Closing**”) at its sole discretion at any time following the Expiration Date.

2. Appointment as Dealer-Manager; Role of Dealer-Manager.

(a) On the terms and conditions set forth herein, the Company hereby appoints Maxim Group LLC (“**Maxim**”) as the dealer-manager (the “**Dealer-Manager**”) for the Rights Offering and authorizes the Dealer-Manager to act as such in connection with the Rights Offering.

(b) The services previously provided by the Dealer-Manager under that certain engagement letter, dated March 12, 2018, between the Company and the Dealer-Manager (as amended, the “**Engagement Letter**”), or to be provided by the Dealer-Manager through the Closing, consist of the following:

(i) providing market assistance in connection with the conduct of the Rights Offering (which shall include assisting the Company in drafting a presentation that may be used to market the Rights Offering to investors and assistance in the coordination of the Rights Offering together with Broadridge);

(ii) providing financial advice to the Company in connection with the Rights Offering (including advice regarding the structure, pricing, timing and other terms and conditions of the Rights Offering);

(iii) responding to requests for information and materials in connection with the Rights Offering (it being agreed that Broadridge (in this capacity, as the “**Information Agent**”) will be the Company’s primary third party source of information regarding the Rights Offering and will be identified by the Company as such in the Registration Statement) (the services described in clauses (i), (ii) and (iii) being collectively referred to as the “**Advisory Services**”); and

(iv) in accordance with customary practice, using best efforts to solicit the exercise of the Rights and subscriptions for the Units pursuant to the Offer Documents (as defined herein) (the services described in this clause (iv) being referred to as the “**Solicitation Services**”);

(c) The services of the Dealer-Manager described in clauses (b)(iii) and (iv) above shall commence on the date that the Registration Statement is declared effective by the U.S. Securities and Exchange Commission (the “**Commission**”). The Company hereby authorizes the Dealer-Manager, or one or more registered broker-dealers chosen exclusively by the Dealer-Manager, to act as the Company’s agent in making the Rights Offering to residents of such states as to which such agent designation may be necessary to comply with applicable law.

(d) The Company hereby acknowledges that Maxim is acting only as a dealer-manager in connection with the Rights Offering. The Dealer-Manager shall not (and shall not be obligated to) underwrite or place any Rights or any Rights Shares or Rights Warrants, and the Company acknowledges and agrees that Maxim's participation as Dealer-Manager does not ensure or guarantee that the Company will raise any funds through the Rights Offering.

(e) The Company further acknowledges that Maxim is acting as an independent contractor pursuant to a contractual relationship created solely by this Agreement entered into on an arm's length basis and in no event do the parties intend that Maxim act or be responsible as a fiduciary to the Company, its management, shareholders, creditors or any other natural person, partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture, or other entity or organization (each, a "**Person**") in connection with any activity that Maxim may undertake or has undertaken in furtherance of the Rights Offering, either before or after the date hereof. Maxim hereby expressly disclaims any fiduciary or similar obligations to the Company, either in connection with the transactions contemplated by this Agreement or any matters leading up to such transactions, and the Company hereby confirms its understanding and agreement to that effect. The Company and Maxim agree that they are each responsible for making their own independent judgments with respect to any such transactions, and that any opinions or views expressed by Maxim to the Company regarding such transactions, including but not limited to any opinions or views with respect to the price or market for the Company's securities, do not constitute advice or recommendations to the Company. The Company hereby waives and releases, to the fullest extent permitted by law, any claims that the Company may have against Maxim with respect to any breach or alleged breach of any fiduciary or similar duty to the Company in connection with the transactions contemplated by this Agreement or any matters leading up to such transactions.

3. No Liability for Acts of Brokers, Dealers, Banks and Trust Companies. The Dealer-Manager shall not be subject to any liability to the Company (or any of the Company's Subsidiaries (as defined below) or "Affiliates," as such term is defined in Rule 144 under the Securities Act of 1933, as amended (the "**Securities Act**"), for any act or omission on the part of any broker or dealer in securities (other than the Dealer-Manager) or any bank or trust company or any other Person, and the Dealer-Manager shall not be liable for its own acts or omissions in performing its obligations as advisor or Dealer-Manager hereunder or otherwise in connection with the Rights Offering or the related transactions, except for any losses, claims, damages, liabilities and expenses determined in a final judgment by a court of competent jurisdiction to have resulted directly from any such acts or omissions undertaken or omitted to be taken by the Dealer-Manager through its gross negligence, intentional omission or willful misconduct. In soliciting or obtaining exercises of Rights, the Dealer-Manager shall not be deemed to be acting as the agent of the Company or as the agent of any broker, dealer, bank or trust company, and no broker, dealer, bank or trust company shall be deemed to be acting as the Dealer-Manager's agent or as the agent of the Company. As used herein, the term "Subsidiary" means a significant subsidiary of the Company as defined as defined in Rule 1-02 (w) of Regulation S-X of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"). Unless the context specifically requires otherwise, the term "Company" as used in this Agreement means the Company and its Subsidiaries collectively on a consolidated basis.

4. The Offer Documents.

(a) There will be used in connection with the Rights Offering certain materials in addition to the Registration Statement, any Preliminary Prospectus or the Prospectus (each as defined herein), including: (i) all exhibits to the Registration Statement which pertain to the conduct of the Rights Offering; and (ii) any soliciting materials relating to the Rights Offering approved by the Company (collectively with the Registration Statement, any Preliminary Prospectus and the Prospectus, the “**Offer Documents**”). The Dealer-Manager shall be given such opportunity to review and comment upon the Offer Documents.

(b) The Company agrees to furnish the Dealer-Manager with as many copies as it may reasonably request of the final forms of the Offer Documents and the Dealer-Manager is authorized to use copies of the Offer Documents in connection with its acting as Dealer-Manager. The Dealer-Manager hereby agrees that it will not disseminate any written material for or in connection with the solicitation of exercises of Rights pursuant to the Rights Offering other than the Offer Documents.

(c) The Company represents and agrees that no solicitation material, other than the Offer Documents and the documents to be filed therewith as exhibits thereto (each in the form of which has been approved by the Dealer-Manager), will be used in connection with the Rights Offering by or on behalf of the Company without the prior approval of the Dealer-Manager, which approval will not be unreasonably withheld. In the event that the Company uses or permits the use of any such solicitation material in connection with the Rights Offering, then the Dealer-Manager shall be entitled to withdraw as Dealer-Manager in connection with the Rights Offering and the related transactions without any liability or penalty to the Dealer-Manager or any other Person identified in Section 11 hereof as an “indemnified party,” and the Dealer-Manager shall be entitled to receive the payment of all fees and expenses payable under this Agreement or the Engagement Letter which have accrued to the date of such withdrawal.

5. Representations and Warranties. The Company represents and warrants to the Dealer-Manager that:

(a) The Registration Statement on Form S-1 (Registration No. 333- 223949) with respect to the Rights, the Units, the Rights Shares and the Rights Warrants has: (i) been prepared by the Company in conformity with, in all material respects, the requirements of the Securities Act and the rules and regulations of the Commission (the “**Rules and Regulations**”) promulgated under the Securities Act; (ii) been filed with the Commission under the Securities Act; and (iii) become effective under the Securities Act. Copies of such Registration Statement as amended to date have been delivered or made available by the Company to the Dealer-Manager. For purposes of this Agreement, “**Effective Time**” means the date and the time as of which such registration statement, or the most recent post-effective amendment thereto, if any, was declared effective by the Commission; “**Effective Date**” means the date of the Effective Time; “**Preliminary Prospectus**” means each prospectus included in such registration statement, or amendments thereof, before it becomes effective under the Securities Act and any prospectus filed with the Commission by the Company with the consent of the Dealer-Manager pursuant to Rule 424(a) of the Rules and Regulations; “**Registration Statement**” means such Registration Statement, as amended at the Effective Time, including any documents which are exhibits thereto; and “**Prospectus**” means such final prospectus, as first filed with the Commission pursuant to paragraph (1) or (4) of Rule 424(b) of the Rules and Regulations. The Commission has not issued any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus. All references in this Agreement to the Registration Statement, a Preliminary Prospectus, and the Prospectus, or any amendments or supplements to any of the foregoing shall be deemed to include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”). Additionally, any reference in this Agreement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-1 under the Securities Act, as of the effective date of the Registration Statement or the date of such Preliminary Prospectus or the Prospectus, as the case may be. The Prospectus delivered to the Dealer-Manager for use in connection with the Rights Offering will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T promulgated by the Commission.

(b) The Registration Statement (together with all exhibits filed as part of the Registration Statement) conforms, and any Preliminary Prospectus and the Prospectus and any further amendments or supplements to the Registration Statement conforms or will conform, when they are filed with or become effective by the Commission, as the case may be, in each case, in all material respects, to the requirements of the Securities Act and the Rules and Regulations and collectively do not and will not, as of the applicable Effective Date (as to the Registration Statement and any amendment thereto) and as of the applicable filing date (as to the Prospectus and any amendment or supplement thereto) contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein (with respect to the Prospectus, in the light of the circumstances under which they were made) not misleading; provided that no representation or warranty is made by the Company as to information contained in or omitted from the Registration Statement or the Prospectus in reliance upon and in conformity with written information furnished to the Company by or on behalf of the Dealer-Manager specifically for inclusion therein, it being acknowledged and agreed that such information provided by or on behalf of the Dealer-Manager consists solely and exclusively of the following disclosure contained in the Prospectus (collectively, the “**Dealer-Manager Information**”): (i) the name of Maxim acting in its capacity as dealer-manager for the Rights Offering and (ii) “The Rights Offering — Distribution Arrangements.”

(c) Neither: (i) any Issuer-Represented General Free Writing Prospectus(es) (as defined below) issued at or prior to the Closing and the Prospectus, all considered together (collectively, the “**General Disclosure Package**”), nor (ii) any individual Issuer-Represented Limited-Use Free Writing Prospectus(es) (as defined below), when considered together with the General Disclosure Package, includes or will include as of the Closing any untrue statement of a material fact or omits or will omit as of the Closing to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from any Prospectus included in the Registration Statement, the General Disclosure Package or any Issuer-Represented Limited-Use Free Writing Prospectus (as defined below) in conformity with written the Dealer-Manager Information.

(d) Each Issuer-Represented Free Writing Prospectus, if any, as of its issue date and at all subsequent times until the Closing or until any earlier date that the Company notified or notifies the Dealer-Manager as described in the next sentence, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the then-current Registration Statement or Prospectus. If at any time following issuance of an Issuer-Represented Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer-Represented Free Writing Prospectus conflicted or would conflict with the information contained in the then-current Registration Statement or Prospectus relating to the Securities or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company has notified or will notify promptly the Dealer-Manager so that any use of such Issuer-Represented Free Writing Prospectus may cease until it is promptly amended or supplemented by the Company, at its own expense, to eliminate or correct such conflict, untrue statement or omission.

(e) The Company has not distributed and will not distribute any prospectus or other offering material in connection with the offering and sale of the Securities other than the General Disclosure Package, any Issuer-Represented Limited-Use Free Writing Prospectus or the Prospectus or other materials permitted by the Securities Act to be distributed by the Company. Unless the Company obtains the prior consent of the Dealer-Manager, the Company has not made and will not make any offer relating to the Securities that would constitute an "issuer free writing prospectus," as defined in Rule 433 under the Securities Act, or that would otherwise constitute a "free writing prospectus," as defined in Rule 405 under the Securities Act, required to be filed with the Commission; provided that the prior written consent of the Dealer-Manager shall be deemed to have been given in respect of any free writing prospectus referenced on Schedule I attached hereto. The Company has complied and will comply with the requirements of Rules 164 and 433 under the Securities Act applicable to any Issuer-Represented Free Writing Prospectus as of its issue date and at all subsequent times through the Closing, including timely filing with the Commission where required, legending and record keeping. To the extent an electronic road show is used, the Company has satisfied and will satisfy the conditions in Rule 433 under the Securities Act to avoid a requirement to file with the Commission any electronic road show.

(f) There are no contracts, agreements, plans or other documents which are required to be described in the Prospectus or filed as exhibits to the Registration Statement by the Securities Act or by the Rules and Regulations which have not been described in the Prospectus or filed as exhibits to the Registration Statement or referred to in, or incorporated by reference into, the exhibit table of the Registration Statement as permitted by the Rules and Regulations.

(g) The Company and each of its Subsidiaries have been duly incorporated and are validly existing as corporations in good standing under the laws of their respective jurisdictions of incorporation, are duly qualified to do business and are in good standing as foreign corporations in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the absence of such power or authority (either individually and in the aggregate) could not reasonably be expected to have a material adverse effect on: (i) the business, condition (financial or otherwise), results of operations, shareholders' equity, properties or prospects (as such prospects are disclosed or described in the Prospectus) of the Company or its Subsidiaries; (ii) the long-term debt or capital stock of the Company or its Subsidiaries; or (iii) the Offering or consummation of any of the other transactions contemplated by this Agreement, the Registration Statement or the Prospectus (any such effect being a "**Material Adverse Effect**").

(h) This Agreement has been duly authorized, executed and delivered by the Company and, assuming the due authorization, execution and delivery by the Dealer-Manager, constitutes the valid and legally binding agreement of the Company, enforceable against the Company in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally and by general principles of equity.

(i) Neither the Company nor any of its Subsidiaries: (i) is in violation of its charter or by-laws, (ii) in default under or in breach of, and no event has occurred which, with notice or lapse of time or both, would constitute a default or breach under or result in the creation or imposition of any lien, charge, mortgage, pledge, security interest, claim, equity, trust or other encumbrance, preferential arrangement, defect or restriction of any kind whatsoever (each, a "**Lien**") upon any of their property or assets pursuant to, any material contract (including Government Contracts (as defined below), agreement, indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which it is a party or by which it is bound or to which any of its properties or assets is subject or (iii) is in violation in any respect of any law, rule, regulation, ordinance, directive, judgment, decree or order, foreign and domestic, to which it or its properties or assets may be subject or has failed to obtain any material license, permit, certificate, franchise or other governmental authorization or permit necessary to the ownership of its properties or assets or to the conduct of its business, except, in the case of clauses (ii) and (iii) above, any violation, default or failure to possess the same that would not have a Material Adverse Effect.

Each Government Contract is in full force and effect and constitutes a legal, valid and binding agreement, enforceable in accordance with its terms against all parties thereto and was awarded in compliance with applicable Law (as defined below). The Company has complied in all material respects with all terms and conditions of each Government Contract, including all clauses, provisions and requirements incorporated expressly by reference or by operation of Law therein and including any requirements relating to the charging of prices or costs, minimum qualifications of personnel and warranties. No Government Contract has, to date, or is currently projected to have, fully burdened costs incurred in excess of the Government Contract fixed price, or, in the case of flexibly-priced or cost-reimbursement contracts, fully burdened costs incurred in excess of the ceiling price or funded amount of the Government Contract. The Company is not aware of any adverse or negative past performance evaluations or ratings pertaining to any Government Contract. There has not been any withholding or setoff of any payments by a Governmental Authority or prime contractor or higher-tier subcontractor nor, to the Company's knowledge, has there been any attempt to withhold or setoff, any payments due under any Government Contract on any basis, including the basis that a cost incurred or invoice rendered by the Company was questioned or disallowed by a Governmental Authority, prime contractor or higher-tier subcontractor or any of their audit representatives, nor is there any basis for any such withhold or setoff. "**Government Contract**" means any material prime contract, subcontract, teaming agreement or arrangement, joint venture, basic ordering agreement, blanket purchase agreement, pricing agreement, letter contract, contract awarded under the Federal Supply Schedule program, purchase order, task order or delivery order or other Contract or similar arrangement of any kind, between the Company and (a) any Governmental Authority, (b) any prime contractor of a Governmental Authority in its capacity as a prime contractor, or (c) any subcontractor (or lower tier subcontractor) with respect to any contract of a type described in clauses (a) or (b) above. "**Governmental Authority**" means any federal, state, local, foreign or other governmental, quasi-governmental or administrative body, instrumentality, department or agency or any court, tribunal, administrative hearing body, arbitration panel, commission, or other similar dispute resolving panel or body and shall include any Person acting on behalf of a such Governmental Authority. "**Law**" means any federal, state, local, municipal, foreign or other law, statute, legislation, principle of common law, ordinance, code, edict, decree, proclamation, treaty, convention, rule, regulation, directive, requirement, writ, injunction, settlement, Permit or Order that is or has been issued, enacted, adopted, passed, approved, promulgated, made, implemented or otherwise put into effect by or under the authority of any Governmental Authority.

(j) Prior to or on the date hereof the Company and Broadridge have or will have entered into a subscription and information agent agreement (the "**Agent Agreement**"). When executed by the Company, the Agent Agreement will have been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery by Broadridge will constitute a valid and legally binding agreement of the Company enforceable in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally and by general principles of equity.

(k) The Rights to be issued and distributed by the Company have been duly and validly authorized and, when issued and delivered in accordance with the terms of the Offer Documents, will be duly and validly issued, and will constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms, no holder of the Rights is or will be subject to personal liability by reason of being such a holder, and the Rights conform to the description thereof contained in the Prospectus.

(l) The Rights Warrants conform to the description thereof in the Registration Statement and in the Prospectus and, when issued and delivered by the Company in accordance with the terms of the Offer Documents, will be duly and validly issued, and will constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms. The shares of Common Stock issuable upon exercise of the Rights Warrants have been duly authorized and reserved for issuance upon exercise of the Rights Warrants by all necessary corporate action on the part of the Company and, when issued and delivered and paid for upon such exercise in accordance with the terms of the Rights Warrants, will be validly issued, fully paid, nonassessable and free of preemptive rights and will conform to the description thereof in the Prospectus.

(m) Except as disclosed in the Prospectus with respect to the Company's authorized capitalization, the Rights Shares have been duly and validly authorized and reserved for issuance upon exercise of the Rights and are free of statutory and contractual preemptive rights and are sufficient in number to meet the exercise requirements of the Rights Offering; and Rights Shares, when so issued and delivered against payment therefor in accordance with the terms of the Rights Offering, will be duly and validly issued, fully paid and non-assessable, with no personal liability attaching to the ownership thereof, and will conform to the description thereof contained in the Prospectus.

(n) The Common Stock is listed for trading on the NASDAQ Capital Market ("**NASDAQ**"). Except as set forth in the Registration Statement, the Company has not received an oral or written notification from NASDAQ or any court or any other federal, state, local or foreign governmental or regulatory authority having jurisdiction over the Company or any of its Subsidiaries or any of their properties or assets ("**Governmental Authority**") of any inquiry or investigation or other action that would cause the Common Stock, the Rights Shares or the Rights Warrants to not be listed for trading on NASDAQ.

(o) The Company has an authorized capitalization as set forth under the caption "Description of Securities" in the Prospectus and all of the issued shares of capital stock of the Company have been duly and validly authorized and issued, are fully paid and non-assessable and have been issued in compliance with federal and state securities laws. None of the outstanding shares of the Company capital stock were issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or any of its subsidiaries other than those accurately described in the Registration Statement. The description of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth in the Registration Statement accurately and fairly presents in all material respects the information required to be shown with respect to such plans, arrangements, options and rights.

(p) The Company and its Subsidiaries own or lease all such assets or properties as are necessary to the conduct of its business as presently operated and as proposed to be operated as described in the Registration and the Prospectus. The Company or its Subsidiaries have good and marketable title in fee simple to all assets or real property and good and marketable title to all personal property owned by them, in each case free and clear of any Lien, except for such (i) Liens as are described in the Registration Statement and the Prospectus, (ii) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and (iii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made in accordance with GAAP, and the payment of which is neither delinquent nor subject to penalties. Any assets or real property and buildings held under lease or sublease by the Company or any Subsidiary is held under valid, subsisting and enforceable leases with such exceptions as are not material to, and do not interfere with, the use made and proposed to be made of such property and buildings by the Company or such Subsidiary. Neither the Company nor any Subsidiary has received any notice of any material claim adverse to its ownership of any real or personal property or of any material claim against the continued possession of any real property, whether owned or held under lease or sublease by the Company or any Subsidiary.

(q) The Company and each of its Subsidiaries have all material consents, approvals, authorizations, orders, registrations, qualifications, licenses, filings and permits of, with and from all judicial, regulatory and other Governmental Authorities and all third parties, foreign and domestic, including, without limitation, those administered by the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (“**FDA**”), the European Medicines Agency (“**EMA**”), or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA or EMA (collectively, with the Licensing Requirements described below, the “**Consents**”), to own, lease and operate their properties and conduct their businesses as presently being conducted and as disclosed in the Registration Statement and the Prospectus, and, to the Company’s knowledge, each such Consent is valid and in full force and effect. The Company has not received notice of any investigation or proceedings which results in or, if decided adversely to the Company, would reasonably be expected to result in the revocation of any Consent or would reasonably be expected to have a Material Adverse Effect. No Consent contains a materially burdensome restriction not adequately disclosed in the Registration Statement and the Prospectus. To the Company’s knowledge, the Company and its Subsidiaries are in compliance with all such Consents, and all such Consents are valid and in full force and effect. Neither the Company nor any Subsidiary has received notification of any revocation, suspension, termination or invalidation (or proceedings related thereto) of any such Consent and, to the Company’s knowledge after reasonable investigation, no event has occurred that allows or results in, or after notice or lapse of time or both would allow or result in, revocation, suspension, termination or invalidation (or proceedings related thereto) of any such Consent and the Company has no reason to believe that any such Consent will not be renewed (if renewal is required).

(r) The execution, delivery and performance of this Agreement by the Company, the issuance of the Rights in accordance with the terms of the Offer Documents, the issuance of Rights Shares and the Rights Warrants in accordance with the terms of the Rights Offering, and the consummation by the Company of the transactions contemplated hereby, the Agent Agreement, will not conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any material indenture, mortgage, deed of trust, loan agreement or other material agreement or instrument to which the Company or any of its Subsidiaries or any of its Affiliates is a party or by which the Company or any of its Subsidiaries or its Affiliates is bound or to which any of the properties or assets of the Company or any of its Subsidiaries or its Affiliates is subject, nor will such actions result in any violation of the provisions of the charter or by-laws of the Company or any of its Subsidiaries or any statute or any order, rule or regulation of any Governmental Authority, except where such violation would not reasonably be expected to have a Material Adverse Effect; and except for the registration of the Rights, Rights Shares and the Rights Warrants under the Securities Act and such consents, approvals, authorizations, registrations or qualifications as may be required under the Exchange Act and applicable state securities laws in connection with the distribution of the Rights and the sale of the Rights Shares and Rights Warrants by the Company, no consent, approval, authorization or order of, or filing or registration with, any such court or Governmental Authority is required for the execution, delivery and performance of this Agreement by the Company and the consummation by it of the transactions contemplated hereby.

(s) Except as otherwise set forth in the Registration Statement and the Prospectus, there are no contracts, agreements or understandings between the Company and any Person granting such Person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such Person or to require the Company to include such securities in the securities registered pursuant to the Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Securities Act. No holder of any security of the Company has any rights of rescission of similar rights with respect to such securities held by them.

(t) Neither the Company nor any of its Subsidiaries has sustained, since the date of the latest balance sheet included in the Prospectus or after such date and as disclosed in the Prospectus, any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree; and, since such date or after such date and as disclosed in the Prospectus, there has not been any change in the capital stock or long-term debt of the Company or any of its Subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, stockholders' equity, results of operations or prospects (as such prospects are disclosed or described in the Prospectus) of the Company and its Subsidiaries (a "**Material Adverse Change**"). Since the date of the latest balance sheet presented in the Prospectus, the Company has not incurred or undertaken any liabilities or obligations, whether direct or indirect, liquidated or contingent, matured or unmatured, or entered into any transactions, including any acquisition or disposition of any business or asset, which are material to the Company, except for liabilities, obligations and transactions which are disclosed in the Registration Statement, any Preliminary Prospectus and the Prospectus.

(u) BDO USA LLP ("**BDO**"), whose reports relating to the Company are included in the Registration Statement, are independent public accountants as required by the Securities Act, the Exchange Act, the Rules and Regulations and the rules and regulations promulgated by the Public Company Accounting Oversight Board (the "**PCAOB**"). BDO is duly registered and in good standing with the PCAOB. BDO has not, during the periods covered by the financial statements included in the Registration Statement, the Preliminary Prospectus and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

(v) The financial statements, including the notes thereto, and any supporting schedules included in the Registration Statement, any Preliminary Prospectus and the Prospectus present fairly, in all material respects, the financial position as of the dates indicated and the cash flows and results of operations for the periods specified of the Company. Except as otherwise stated in the Registration Statement, any Preliminary Prospectus and the Prospectus, said financial statements have been prepared in conformity with United States generally accepted accounting principles applied on a consistent basis throughout the periods involved. Any supporting schedules included in the Registration Statement, any Preliminary Prospectus and the Prospectus present fairly, in all material respects, the information required to be stated therein. No other financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement. The other financial and statistical information included in the Registration Statement, any Preliminary Prospectus and the Prospectus present fairly, in all material respects, the information included therein and have been prepared on a basis consistent with that of the financial statements that are included in the Registration Statement, such Preliminary Prospectus and the Prospectus and the books and records of the respective entities presented therein.

(w) There are no pro forma or as adjusted financial statements which are required to be included in the Registration Statement, any Preliminary Prospectus and the Prospectus in accordance with Regulation S-X under the Securities Act which have not been included as so required. The pro forma and/or as adjusted financial information included in the Registration Statement, any Preliminary Prospectus and the Prospectus has been properly compiled and prepared in accordance with the applicable requirements of the Securities Act and the Rules and Regulations and include all adjustments necessary to present fairly, in all material respects, in accordance with generally accepted accounting principles the pro forma and as adjusted financial position of the respective entity or entities presented therein at the respective dates indicated and their cash flows and the results of operations for the respective periods specified. The assumptions used in preparing the pro forma and as adjusted financial information included in the Registration Statement, any Preliminary Prospectus and the Prospectus provide a reasonable basis for presenting the significant effects directly attributable to the transactions or events described therein. The related pro forma and pro forma as adjusted adjustments give appropriate effect to those assumptions; and the pro forma and pro forma as adjusted financial information reflect the proper application of those adjustments to the corresponding historical financial statement amounts.

(x) The statistical, industry-related and market-related data included in the Registration Statement, any Preliminary Prospectus and the Prospectus are based on or derived from sources which the Company reasonably believes are reliable and accurate, and such data agree with the sources from which they are derived. All required third party consents have been obtained in order for such data to be included in the Registration Statement, any Preliminary Prospectus and the Prospectus.

(y) Except as disclosed in the Registration Statement and the Prospectus, the Company maintains a system of internal accounting and other controls sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with United States generally accepted accounting principles and to maintain accountability for assets, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accounting for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(z) The Company's Board of Directors has validly appointed an audit committee and compensation committee whose composition satisfies the requirements of the rules and regulations of the Commission and NASDAQ and the Company's Board of Directors and/or audit committee and the compensation committee has each adopted a charter and such charters are in full force and effect as of the date hereof. Neither the Company's Board of Directors nor the audit committee thereof has been informed, nor is any director of the Company aware, of: (i) except as disclosed in the Registration Statement and the Prospectus, any significant deficiencies or material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; or (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting.

(aa) The Company is in material compliance with the provisions of the Sarbanes-Oxley Act of 2002, as amended ("**Sarb-Ox**") applicable to the Company, and the rules and regulations promulgated thereunder and related or similar rules and regulations promulgated by any other Governmental Authority or self-regulatory entity or agency, except for violations which, singly or in the aggregate, are disclosed in the Prospectus or would not have a Material Adverse Effect.

(bb) No relationship, direct or indirect, exists between or among any of the Company or any Affiliate of the Company, on the one hand, and any director, officer, shareholder, customer or supplier of the Company or any Affiliate of the Company, on the other hand, which is required by the Securities Act, the Exchange Act or the Rules and Regulations to be described in the Registration Statement or the Prospectus which is not so described as required. Except as disclosed in the Registration Statement and the Prospectus, there are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees of indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members. The Company has not, in violation of Sarb-Ox, directly or indirectly, including through any Affiliate of the Company (other than as permitted under the Sarb-Ox for depository institutions), extended or maintained credit, arranged for the extension of credit, or renewed an extension of credit, in the form of a personal loan to or for any director or executive officer of the Company.

(cc) Except as described in the Prospectus, there are no legal or governmental proceedings pending to which the Company or any of its Subsidiaries is a party or of which any property or asset of the Company or any of its Subsidiaries is the subject, including without limitation any proceeding before the FDA, the EMEA or comparable federal, state, local or foreign governmental bodies (it being understood that the interaction between the Company and the FDA, the EMEA and such comparable governmental bodies relating to the clinical development and product approval process shall not be deemed proceedings for purposes of this representation), which, if determined adversely to the Company or any of its Subsidiaries, are reasonably likely to have a Material Adverse Effect; and to the Company's knowledge, except as disclosed in the Prospectus, no such proceedings are threatened or contemplated by Governmental Authorities or threatened by others. The Company has not received any written cure notice or show cause notice regarding performance of a Government Contract or any written or oral notice of, any claim, action, litigation, inquiry, proceeding (arbitral, administrative, legal or otherwise, including any informal proceeding), cause of action, audit, suit, settlement, stipulation, hearing, investigation, charge, complaint, demand or similar matter, for, or assertion of, a condition of default, breach of contract, or material violation of applicable Law, in connection with a Government Contract.

(dd) The Company and its Subsidiaries have filed all necessary federal, state and foreign income and franchise tax returns and have paid all taxes required to be paid by any of them and, if due and payable, any related or similar assessment, fine or penalty levied against any of them, except where the failure to make such filings or make such payments, either individually or in the aggregate, could not reasonably be expected to have, a Material Adverse Effect. The Company has made adequate charges, accruals and reserves in its financial statements above in respect of all federal, state and foreign income and franchise taxes for all periods as to which the tax liability of the Company or any of its Subsidiaries has not been finally determined.

(ee) Each of the Company and its Subsidiaries maintains insurance of the types and in the amounts which the Company believes to be reasonable and sufficient for a company of its size operating in the Company's industry, including, but not limited to: (i) directors' and officers' insurance (including insurance covering the Company, its directors and officers for liabilities or losses arising in connection with the Rights Offering, including, without limitation, liabilities or losses arising under the Securities Act, the Exchange Act, the Rules and Regulations and applicable foreign securities laws), (ii) insurance covering real and personal property owned or leased against theft, damage, destruction, acts of vandalism and all other risks customarily insured against, (iii) business interruption insurance and (iv) product-related or clinical trial-related insurance. There are no material claims by the Company or any of its Subsidiaries under any policy or instrument described in this paragraph as to which any insurance company is denying liability or defending under a reservation of rights clause. All of the insurance policies described in this paragraph are in full force and effect. Neither the Company nor any of its Subsidiaries has been refused any insurance coverage sought or applied for, and the Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

(ff) Intellectual Property.

(i) The Company owns, licenses or possess the right to use sufficient trademarks, trade names, patents, patent rights, copyrights, domain names, licenses, approvals, trade secrets, inventions, technology, know-how and other similar rights (collectively, "**Intellectual Property Rights**") as are reasonably necessary or material to conduct its business as now conducted and contemplated to be conducted, each as described in the Registration Statement, any Preliminary Prospectus and the Prospectus. To the Company's knowledge, all Intellectual Property Rights are valid and enforceable.

(ii) Except as set forth in the Registration Statement, any Preliminary Prospectus and the Prospectus: (A) there is no actual, pending or, to the Company's knowledge, threatened action, suit, proceeding, or claim by others challenging the rights of the Company and its Subsidiaries and Affiliates in or to any Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (B) there is no actual, pending or, to the Company's knowledge, threatened action, suit, proceeding, or claim by others that the Company or its Subsidiaries or Affiliates infringes, misappropriates, or otherwise violates any Intellectual Property Rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (C) there is no actual, pending or, to the Company's knowledge, threatened action, suit, proceeding, or claim by others challenging the validity or scope of any such Intellectual Property Rights owned by the Company or its Subsidiaries or Affiliates and the Company is unaware of any facts which would form a reasonable basis for any such claim; (D) to the Company's knowledge, the operation of the business of the Company, its Subsidiaries and its Affiliates as now conducted and in connection with the development and commercialization of its technology described in the Registration Statement, any Preliminary Prospectus and the Prospectus does not infringe any claim of any patent or published patent application nor would such infringement, misappropriation or violation arise upon the commercialization of any product or service described in the Registration Statement, any Preliminary Prospectus and the Prospectus as under development; (E) to the Company's knowledge, there is no "prior art" of which the Company is aware that may render any patent owned or licensed by the Company invalid or any patent application owned or licensed by the Company or its Subsidiaries or Affiliates unpatentable which has not been disclosed to the applicable government patent office; and (F) the patents, trademarks, and copyrights maintained by the Company or its Subsidiaries or Affiliates are in full force and in effect, and none of such patents, trademarks and copyrights have been adjudged invalid or unenforceable in whole or in part. Neither the Company nor its Subsidiaries or Affiliates is a party to or bound by any options, licenses or agreements with respect to the Intellectual Property Rights of any other Person that are required to be set forth in the Registration Statement, any Preliminary Prospectus and Prospectus and are not described therein in all material respects.

(iii) The Company has duly and properly filed or caused to be filed with the U. S. Patent and Trademark Office (the "PTO") and applicable foreign and international patent authorities all patent applications owned by the Company, its Subsidiaries or Affiliates (the "**Company Patent Applications**"). The product candidates described in the Registration Statement, any Preliminary Prospectus and the Prospectus as under development by the Company fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company. The Company has complied in all material respects with the PTO's duty of candor and disclosure for the Company Patent Applications and has made no material misrepresentation in the Company Patent Applications. The Company Patent Applications disclose patentable subject matters, and the Company has not been notified of any inventorship challenges nor has any interference been declared or provoked nor is any material fact known by the Company that would preclude the issuance of patents with respect to the Company Patent Applications or would render such patents invalid or unenforceable. No third party possesses rights to the Company's Intellectual Property Rights that, if exercised, could enable such party to develop products competitive to those the Company intends to develop as described in the Prospectus.

(iv) Other than as disclosed in the Registration Statement, any Preliminary Prospectus and Prospectus, to the Company's knowledge, there are no rulemaking or similar proceedings before the FDA, PTO or applicable foreign and international patent authorities, which affect or involve the Company or any of the processes or technologies that the Company has developed, is developing or proposes to develop or uses or proposes to use which, if the subject of an action unfavorable to the Company, would result in a Material Adverse Change.

(v) From and after January 1, 2015, the Company has obtained legally binding written agreements from all officers, employees and third parties with whom the Company has shared confidential proprietary information: (A) of the Company, or (B) received from others which the Company is obligated to treat as confidential, which agreements require such employees and third parties to keep such information confidential. The Company has taken all necessary actions to obtain ownership of all works of authorship and inventions made by its employees, consultants and contractors during the time they were employed by or under contract with the Company and which relate to the Company's business as currently conducted. All founders and current key employees have signed confidentiality and invention assignment agreements with the Company.

(vi) The Company possesses valid and current licenses, registrations, certificates, permits and other authorizations issued by the appropriate foreign, federal, state or local regulatory authorities as necessary to conduct its respective businesses (collectively, the "**Licensing Requirements**") and are enforceable by or against the parties thereto in accordance to its terms, except where the failure of a Licensing Requirement would not have a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of, or noncompliance with, any such license, certificate, permit or authorization, which could result in a Material Adverse Effect. No action, suit or proceeding, other than routine audits, by or before any court or Governmental Authority or any arbitrator involving the Company with respect to the removal, revocation, suspension or other termination of the authority to operate under the Licensing Requirements is pending or, to the Company's knowledge, threatened. The Company does not believe that any pending audit is reasonably likely to result in the removal, revocation, suspension or other termination of the Company's authority to operate under the Licensing Requirements.

(vii) The consummation of the transactions contemplated by this Agreement will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other person in respect of, the Company's right to own, use, or hold for use any of the Intellectual Property Rights as owned, used or held for use in the conduct of the business as currently conducted.

(viii) To the Company's knowledge, the Company has at all times complied with all applicable laws relating to privacy, data protection, and the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company's business. No claims have been asserted or threatened against the Company alleging a violation of any person's privacy or personal information or data rights and the consummation of the transactions contemplated hereby will not breach or otherwise cause any violation of any law related to privacy, data protection, or the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company's business, except such claims as would not reasonably be likely to result in a Material Adverse Effect. The Company takes reasonable measures to ensure that such information is protected against unauthorized access, use, modification, or other misuse.

(gg) Except as described in any Preliminary Prospectus, the Prospectus and the Registration Statement, the Company: (i) is and at all times has been in compliance with all statutes, rules, regulations or guidance applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured, distributed or sold by the Company or any component thereof (such statutes, rules, regulations or guidance, collectively, “**Applicable Laws**”); (ii) is, and to the Company’s knowledge, the Company’s manufacturing facility, after reasonable investigation, and operations of its suppliers are in compliance with all applicable federal, state, local and foreign laws, regulations, orders and decrees governing its business as prescribed by the FDA, the EMEA or any other applicable federal, state or foreign governmental authority agencies or bodies engaged in the regulation of pharmaceuticals or biohazardous substances or materials, (iii) has not received any notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the FDA, the EMEA or any other Governmental Authority alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“**Authorizations**”); (iv) possesses all Authorizations and such Authorizations are valid and in full force and effect and are not in violation of any term of any such Authorizations; (v) has not received notice of any claim, suit, proceeding, hearing, enforcement, audit, investigation, arbitration or other action from any Governmental Authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and has no knowledge that any such Governmental Authority or third party is considering any such claim, suit, proceeding, hearing, enforcement, audit, investigation, arbitration or other action; (vi) has not received notice that any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such Governmental Authority is considering such action; and (vii) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct in all material respects on the date filed (or were corrected or supplemented by a subsequent submission), except, in the case of each of clauses (i), (ii), (iii) (iv), (vi) and (vii) for any default, violation or event that would not, individually or in the aggregate, have or reasonably be expected to have a Material Adverse Effect.

(hh) The studies and tests conducted or sponsored by or on behalf of the Company (the “Studies and Tests”) that are described or referred to in any Preliminary Prospectus, the Prospectus and the Registration Statement were and, if still pending, are being conducted in accordance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all Applicable Laws and Authorizations; the descriptions of the results of such studies, tests and trials contained in any Preliminary Prospectus, the Prospectus and the Registration Statement are accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials. The Company is not aware of any studies or tests, the results of which the Company believes reasonably call into question the study or test described or referred to in any Preliminary Prospectus, the Prospectus and the Registration Statement when viewed in the context in which such results are described. The Company has not received any notices or correspondence with the FDA, the EMEA or any foreign, state or local governmental body exercising comparable authority suggesting or requiring a clinical hold, termination, suspension or material modification of the Studies and Tests and that such clinical hold, termination, suspension or material modification would reasonably be expected to have a Material Adverse Effect, and, to the Company’s knowledge after reasonable investigation, there are no reasonable grounds for the same. The Company has obtained (or caused to be obtained) informed consent by or on behalf of each human subject who participated in Studies and Tests. In using or disclosing patient information received by the Company in connection with the Studies and Tests, the Company has complied in all material respects with all applicable laws and regulatory rules, including, without limitation, the Health Insurance Portability and Accountability Act of 1996 and the rules and regulations thereunder. To the Company’s knowledge after reasonable investigation, none of the Studies and Tests involved any investigator who has been disqualified as a clinical investigator or has been found by the FDA to have engaged in scientific misconduct or debarred or excluded from participation in any governmental health care payment program.

(ii) Neither the Company nor, to the Company's knowledge, any of the Company's directors, officers or employees has violated: (i) the Bank Secrecy Act, as amended, (ii) the Money Laundering Control Act of 1986, as amended, (iii) the Foreign Corrupt Practices Act, or (iv) the Uniting and Strengthening of America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001, and/or the rules and regulations promulgated under any such law, or any successor law, except for such violations which, singly or in the aggregate, would not have a Material Adverse Effect.

(jj) Neither the Company nor any of its Affiliates has, prior to the date hereof, made any offer or sale of any securities which are required to be "integrated" pursuant to the Securities Act or the Rules and Regulations with the offer and sale of the Shares pursuant to the Registration Statement.

(kk) Transactions Affecting Disclosure to FINRA.

(i) Except as described in the Registration Statement and the Prospectus, there are no claims, payments, arrangements, agreements or understandings relating to the payment of a finder's, consulting or origination fee or other compensation by the Company with respect to the issuance or exercise of the Rights or the sale of the Rights Shares or Rights Warrants or any other arrangements, agreements or understandings of the Company or, to the Company's knowledge, the Company's officers, directors and employees or Affiliates that may affect the Dealer-Manager's compensation, as determined by the Financial Industry Regulatory Authority, Inc. ("FINRA").

(ii) Except as previously disclosed by the Company to the Dealer-Manager in writing, no officer, director, or beneficial owner of 5% or more of any class of the Company's securities (whether debt or equity, registered or unregistered, regardless of the time acquired or the source from which derived) or any other Affiliate is a member or a Person associated, or affiliated with a member of FINRA.

(iii) No proceeds from the exercise of the Rights will be paid to any FINRA member, or any Persons associated or affiliated with a member of FINRA, except as specifically contemplated herein.

(iv) Except as previously disclosed by the Company to the Dealer-Manager, no Person to whom securities of the Company have been privately issued within the 180-day period prior to the initial filing date of the Registration Statement has any relationship or affiliation or association with any member of FINRA.

(ll) There are no contracts, agreements or understandings between the Company and any Person that would give rise to a valid claim against the Company or the Dealer-Manager for a brokerage commission, finder's fee or other like payment in connection with the transactions contemplated by this Agreement. Other than the Dealer-Manager, the Company has not employed any brokers, dealers or underwriters in connection with solicitation of exercise of Rights in the Rights Offering, and except provided for in Sections 6 and 7 hereof, no other commissions, fees or discounts will be paid by the Company or otherwise in connection with the Rights Offering.

(mm) The Company and its Subsidiaries have at all times operated their businesses in material compliance with all Environmental Laws, and no material expenditures are or will be required in order to comply therewith. The Company has not received any notice or communication that relates to or alleges any actual or potential violation or failure to comply with any Environmental Laws that will result in a Material Adverse Effect. As used herein, the term "Environmental Laws" means all applicable laws and regulations, including any licensing, permits or reporting requirements, and any action by a Governmental Authority pertaining to the protection of the environment, protection of public health, protection of worker health and safety, or the handling of hazardous materials, including without limitation, the Clean Air Act, 42 U.S.C. § 7401, et seq., the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, et seq., the Federal Water Pollution Control Act, 33 U.S.C. § 1321, et seq., the Hazardous Materials Transportation Act, 49 U.S.C. § 1801, et seq., the Resource Conservation and Recovery Act, 42 U.S.C. § 690-1, et seq., and the Toxic Substances Control Act, 15 U.S.C. § 2601, et seq.

(nn) Except as set forth in the Registration Statement, any Preliminary Prospectus or the Prospectus, the Company is not a party to an "employee benefit plan," as defined in Section 3(3) of the Employee Retirement Income Security Act of 1974 ("**ERISA**") which: (i) is subject to any provision of ERISA and (ii) is or was at any time maintained, administered or contributed to by the Company and covers any employee or former employee of the Company or any ERISA Affiliate (as defined hereafter). These plans are referred to collectively herein as the "**Employee Plans.**" For purposes of this paragraph, "**ERISA Affiliate**" of any Person means any other person or entity which, together with that person or entity, could be treated as a single employer under Section 414(m) of the Internal Revenue Code of 1986, as amended (the "**Code**"), or is an "affiliate," whether or not incorporated, as defined in Section 407(d)(7) of ERISA, of the Person.

(oo) Each employment, severance or other similar arrangement or policy and each material plan or arrangement providing for insurance coverage (including any self-insured arrangements), workers' compensation, disability benefits, severance benefits, supplemental unemployment benefits, vacation benefits, retirement benefits or for deferred compensation, profit-sharing, bonuses, stock options, stock appreciation or other forms of incentive compensation, or post-retirement insurance, compensation or benefits to which the Company or any Subsidiary is a party and which : (i) is not an Employee Plan, (ii) is entered into, maintained or contributed to, as the case may be, by the Company or any of their respective ERISA Affiliates, and (iii) covers any employee or former employee of the Company or any of their respective ERISA Affiliates (such contracts, plans and arrangements being referred to collectively in this Agreement as the "**Benefit Arrangements**") is fully and accurately disclosed in the Registration Statement to the extent it is material and required to be disclosed by the Securities Act and the Rules and Regulations and has been maintained in substantial compliance with its terms and with requirements prescribed by any and all statutes, orders, rules and regulations that are applicable to that Benefit Arrangement.

(pp) Except as set forth in the Registration Statement, any Preliminary Prospectus or the Prospectus, there is no material liability in respect of post-retirement health and medical benefits for retired employees of the Company or any of their respective ERISA Affiliates other than medical benefits required to be continued under applicable law, determined using assumptions that are reasonable in the aggregate, over the fair market value of any fund, reserve or other assets segregated for the purpose of satisfying such liability (including for such purposes any fund established pursuant to Section 401(h) of the Code). With respect to any of the Company's Employee Plans which are "group health plans" under Section 4980B of the Code and Section 607(1) of ERISA, there has been material compliance with all requirements imposed there under such that the Company or their respective ERISA Affiliates have no (and will not incur any) loss, assessment, tax penalty, or other sanction with respect to any such plan.

(qq) The execution of this Agreement and consummation of the Rights Offering does not constitute a triggering event under any Employee Plan or any other employment contract, whether or not legally enforceable, which (either alone or upon the occurrence of any additional or subsequent event) will or may result in any payment (of severance pay or otherwise), acceleration, increase in vesting, or increase in benefits to any current or former participant, employee or director of the Company.

(rr) No "prohibited transaction" (as defined in either Section 406 of the ERISA or Section 4975 of Code), "accumulated funding deficiency" (as defined in Section 302 of ERISA) or other event of the kind described in Section 4043(b) of ERISA (other than events with respect to which the 30-day notice requirement under Section 4043 of ERISA has been waived) has occurred with respect to any employee benefit plan for which the Company would have any liability; each employee benefit plan of the Company is in compliance in all material respects with applicable law, including (without limitation) ERISA and the Code; the Company has not incurred and does not expect to incur liability under Title IV of ERISA with respect to the termination of, or withdrawal from any "pension plan"; and each employee benefit plan of the Company that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or by failure to act, which could cause the loss of such qualification.

(ss) Neither the Company nor, to the Company's knowledge, any of the Company's officers, directors, employees or agents has at any time during the last five (5) years: (i) made any unlawful contribution to any candidate for foreign office, or failed to disclose fully any contribution in violation of law; or (ii) made any payment to any federal or state governmental officer or official, or other Person charged with similar public or quasi-public duties, other than payments that are not prohibited by the laws of the United States of any jurisdiction thereof.

(tt) The Company has not and will not, directly or indirectly through any officer, director or Affiliate of the Company or through any other Person: (i) taken any action designed to cause or to result in, or that has constituted or which might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the issuance of the Rights or the sale or resale of the Rights Shares, (ii) since the filing of the Registration Statement sold, bid for or purchased, or paid any Person (other than the Dealer-Manager) any compensation for soliciting exercises or purchases of, the Rights or the Rights Shares; and (iii) until the later of the expiration of the Rights or the completion of the distribution (within the meaning of Regulation M under the Exchange Act) of the Rights Shares, sell, bid for or purchase, apply or agree to pay to any Person (other than the Dealer-Manager) any compensation for soliciting another to purchase any other securities of the Company (except for the solicitation of the exercises of Rights pursuant to this Agreement or pursuant to the Company's "at-the-market" offering program). The foregoing shall not apply to the offer, sale, agreement to sell or delivery with respect to: (i) Rights Shares and Rights Warrants offered and sold upon exercise of the Rights, as described in the Prospectus; or (ii) any shares of Common Stock sold pursuant to the Company's employee benefit plans.

(uu) As used in this Agreement, references to matters being "material" with respect to the Company or any matter relating to the Company shall mean a material item, event, change, condition, status or effect related to the condition (financial or otherwise), properties, assets (including intangible assets), liabilities, business, prospects (as such prospects are disclosed or described in any Preliminary Prospectus or the Prospectus), operations or results of operations of the Company and its Subsidiaries, taken as a whole.

(vv) As used in this Agreement, the term "Company's knowledge" (or similar language) shall mean the knowledge of the officers of the Company who are named in the Prospectus, with the assumption that such officers shall have made reasonable and diligent inquiry of the matters presented (with reference to what is customary and prudent for the applicable individuals in connection with the discharge by the applicable individuals of their duties as officers or directors of the Company).

(ww) Any certificate signed by or on behalf of the Company and delivered to the Dealer-Manager or to Ellenoff Grossman & Schole LLP, counsel for the Dealer-Manager, shall be deemed to be a representation and warranty by the Company to the Dealer-Manager as to the matters covered thereby.

6. Compensation of the Dealer-Manager. In consideration of the services rendered and to be rendered by the Dealer-Manager to the Company in connection with the Rights Offering, the Company agrees to pay the Dealer-Manager the following:

(i) to the Dealer-Manager, a cash fee equal to 7.0% of the total gross proceeds generated from the Rights Offering, but excluding any proceeds received from the exercise of warrants by warrant holders participating in the Rights Offering;

(ii) the Dealer-Manager shall receive (less the advance in the amount of \$15,000 previously paid to Maxim, the "Advance") up to \$85,000 in reimbursement of their expenses (including legal fees) if the Rights Offering occurs. Any portion of the Advance will be returned to the Company in the event it is not actually incurred. The compensation set forth in this Section 6 of this Agreement shall be paid to the Dealer Manager within two days of the Closing. Except as provided in Section 6(ii) or Section 11, the Dealer-Manager shall be responsible for its own expenses.

7. Expenses. The Company shall pay or cause to be paid:

(a) all of its expenses (including any taxes) incurred in connection with the Rights Offering and the preparation, issuance, execution, authentication and delivery of the Rights and the Rights Shares and Rights Warrants;

(b) all fees, expenses and disbursements of the Company's accountants, legal counsel and other third party advisors;

(c) all fees and expenses of the Subscription Agent and the Information Agent set forth in the Agent Agreement;

(d) all fees, expenses and disbursements (including, without limitation, fees and expenses of the Company's accountants and counsel) in connection with the preparation, printing, filing, delivery and shipping of the Registration Statement (including the financial statements therein and all amendments and exhibits thereto), each Preliminary Prospectus, the Prospectus, the other Offer Documents and any amendments or supplements of the foregoing;

(e) all fees, expenses and disbursements relating to the registration or qualification of the Rights and the Rights Shares under the "blue sky" securities laws of any states or other jurisdictions and all fees and expenses associated with the preparation of the preliminary and final forms of Blue Sky Memoranda;

(f) all filing fees of the Commission;

(g) all filing fees relating to the review of the Rights Offering by FINRA;

(h) any applicable listing or other fees;

(i) the cost of printing certificates representing the Rights and the Rights Shares and Rights Warrants;

(j) all advertising charges pertaining to the Rights Offering agreed to by the Company;

(k) the cost and charges of the Company's transfer agent(s) or registrar(s) agreed to by the Company; and

(l) all other costs and expenses incident to the performance of its obligations hereunder for which provision is not otherwise made in this Section.

The Company shall perform its obligations set forth in this Section 7 whether or not the Rights Offering commences or any Rights are exercised pursuant to the Rights Offering.

8. Shareholder Lists; Subscription Agent.

(a) The Company will cause the Dealer-Manager to be provided with any cards or lists showing the names and addresses of, and the number of shares of Common Stock held by, the holders of shares of Common Stock as of a recent date and will use its best efforts to cause the Dealer-Manager to be advised from time to time during the period, as the Dealer-Manager shall request, of the Rights Offering as to any transfers of record of shares of Common Stock.

(b) The Company will arrange for the Subscription Agent to advise the Dealer-Manager daily as to such matters as they may reasonably request, including the number of Rights which have been exercised pursuant to the Rights Offering.

9. Covenants. The Company covenants and agrees with the Dealer-Manager:

(a) To use its best efforts to cause the Registration Statement and any amendments thereto to become effective, provided that the Company shall have the right to discontinue the offering and withdraw the Registration Statement if the Company's Board of Directors determines in good faith that it is no longer in the best interests of the Company and its stockholders; to advise the Dealer-Manager, promptly after it receives notice thereof, of the time when the Registration Statement, or any amendment thereto, becomes effective or any supplement to the Prospectus or any amended Prospectus has been filed and to furnish the Dealer-Manager with copies thereof; to prepare a Prospectus in a form approved by the Dealer-Manager (such approval not to be unreasonably withheld or delayed) and to file such Prospectus pursuant to Rule 424(b) under the Securities Act within the time prescribed by such rule; to advise the Dealer-Manager, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus, of the suspension of the qualification of the Rights for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or the Prospectus or suspending any such qualification, to use promptly its reasonable best efforts to obtain its withdrawal;

(b) To deliver promptly to the Dealer-Manager in New York City such number of the following documents as the Dealer-Manager shall reasonably request: (i) conformed copies of the Registration Statement as originally filed with the Commission and each amendment thereto (in each case excluding exhibits other than this Agreement, any other Offer Documents filed as exhibits, the computation of the ratio of earnings to fixed charges and the computation of per share earnings); (ii) each Preliminary Prospectus, the Prospectus and any amended or supplemented Prospectus; and (iii) any document incorporated by reference in the Prospectus (excluding exhibits thereto); and, if the delivery of a prospectus is required at any time during which the Prospectus relating to the Rights or the Rights Shares or Rights Warrants is required to be delivered under the Securities Act and if at such time any events shall have occurred as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus is delivered, not misleading, or, if for any other reason it shall be necessary during such period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Securities Act or the Exchange Act, to notify the Dealer-Manager and, upon its request, to file such document and to prepare and furnish without charge to the Dealer-Manager as many copies as the Dealer-Manager may from time to time reasonably request of an amended or supplemented Prospectus which will correct such statement or omission or effect such compliance;

(c) To file promptly with the Commission any amendment to the Registration Statement or the Prospectus or any supplement to the Prospectus that may, in the judgment of the Company or the Dealer-Manager, be necessary or advisable in connection with the distribution of the Rights or the sale of the Underlying Shares or be requested by the Commission;

(d) Prior to filing with the Commission any: (i) Preliminary Prospectus, (ii) amendment to the Registration Statement, any document incorporated by reference in the Prospectus or (iii) any Prospectus pursuant to Rule 424 of the Rules and Regulations, to furnish a copy thereof to the Dealer-Manager and counsel for the Dealer-Manager and obtain the consent of the Dealer-Manager to the filing (which consent shall not be unreasonably withheld);

(e) Until the completion of the Rights Offering, following the effective date of the Registration Statement, to furnish to the Dealer-Manager copies of all materials not available via EDGAR furnished by the Company to its shareholders and all public reports and all reports and financial statements furnished by the Company to the principal national securities exchange upon which any of the Company's securities may be listed pursuant to requirements of or agreements with such exchange or to the Commission pursuant to the Exchange Act or any rule or regulation of the Commission thereunder;

(f) To qualify or register the Rights and the Rights Shares and Rights Warrants for sale under (or obtain exemptions from the application of) the state securities or blue sky laws of those jurisdictions designated by the Dealer-Manager, to comply with such laws and to continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Rights and the Rights Shares and Rights Warrants; provided, however, that the Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Dealer-Manager promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Rights and the Rights Shares and Rights Warrants for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof at the earliest possible moment.

(g) To apply the net proceeds from the exercise of the Rights in the manner described under the caption “Use of Proceeds” in the Prospectus.

(h) Prior to the effective date of the Registration Statement, to apply for the listing of the Rights Shares and Rights Warrants on NASDAQ and to use its best efforts to complete that listing, subject only to official notice of issuance (if applicable), prior to the expiration of the Rights Offering.

(i) To take such steps as shall be necessary to ensure that neither the Company nor any Subsidiary shall become an “investment company” within the meaning of such term under the Investment Company Act of 1940 and the rules and regulations of the Commission thereunder.

(j) To advise the Dealer-Manager, directly or through the Subscription Agent, from time to time, as the Dealer-Manager shall request, of the number of Rights Shares and Rights Warrants subscribed for, and arrange for the Subscription Agent to furnish the Dealer-Manager with copies of written reports it furnishes to the Company concerning the Rights Offering;

(k) To commence mailing the Offer Documents to record holders of the Common Stock not later than the second business day following the record date for the Rights Offering, and complete such mailing as soon as practicable;

(l) To reserve and keep available for issue upon the exercise of the Rights such number of authorized but unissued shares of Common Stock as will be sufficient to permit the exercise in full of all Rights and all Rights Warrants issued upon such exercise in full, except as otherwise contemplated by the Prospectus; and

(m) To not take, directly or indirectly, any action designed to cause or to result in, or that has constituted or which might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the issuance of the Rights or the sale or resale of the Rights Shares or Rights Warrants.

10. Conditions of Dealer-Manager’s Obligations. The obligations of the Dealer-Manager hereunder are subject to (and the occurrence of any Closing shall be conditioned upon) the accuracy, as of the date hereof and at all times during the Rights Offering, of the representations and warranties of the Company contained herein, to the performance by the Company of its obligations hereunder (in each case in the reasonable opinion of the Dealer-Manager) and to the following additional conditions:

(a) (i) The Registration Statement shall have become effective and the Prospectus shall have been timely filed with the Commission in accordance with the Rules and Regulations; (ii) all post-effective amendments to the Registration Statement shall have become effective; and (iii) no stop order suspending the effectiveness of the Registration Statement or any amendment or supplement thereto shall have been issued and no proceedings for the issuance of any such order shall have been initiated or threatened, and any request of the Commission for additional information (to be included in the Registration Statement or the Prospectus or otherwise) shall have been disclosed to the Dealer-Manager and complied with to the Dealer-Manager’s reasonable satisfaction.

(b) The Dealer-Manager shall not have been advised by the Company or shall have discovered and disclosed to the Company that the Registration Statement or the Prospectus or any amendment or supplement thereto, contains an untrue statement of fact which in the Dealer-Manager's opinion, or in the opinion of counsel to the Dealer-Manager, is material, or omits to state a fact which, in the Dealer-Manager's opinion, or in the opinion of counsel to the Dealer-Manager, is material and is required to be stated therein or is necessary to make the statements therein not misleading.

(c) All corporate proceedings and other legal matters incident to the authorization, form and validity of this Agreement, the Rights, the Rights Shares, the Rights Warrants, the Registration Statement and the Prospectus, and all other legal matters relating to this Agreement and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Dealer-Manager, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(d) Concurrently with the execution of this Agreement, there shall have been furnished to the Dealer-Manager the signed opinion (addressed to the Dealer-Manager) of Gibson Dunn & Crutcher LLP, counsel for the Company, dated the date hereof, and in form and substance satisfactory to counsel for the Dealer-Manager.

(e) Concurrently with the execution of this Agreement and at Closing, there shall have been furnished to the Dealer-Manager the certificates of the Company's Chief Executive Officer, Chief Financial Officer and General Counsel and the Vice President, Regulatory, Quality and Clinical Affairs to the Company with respect to certain intellectual and regulatory matters dated the date hereof and as of such Closing, and in form and substance satisfactory to counsel for the Dealer-Manager.

(f) Concurrently with the execution of this Agreement and at Closing, the Company shall have furnished to the Dealer-Manager a letter of BDO, addressed to the Dealer-Manager and dated the date hereof and as of such Closing: (i) confirming that they are independent registered public accountants of the Company within the meaning of the Securities Act and are in compliance with the applicable requirements relating to the qualification of accountants under the PCAOB and applicable rules of the Commission, and (ii) stating, as of the date of the letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Prospectus, as of a date not more than one day prior to the date of the letter), the conclusions and findings of such firm with respect to the financial information and other matters specified by the Dealer-Manager.

(g) The Company shall have furnished to the Dealer-Manager a certificate, dated the date hereof and as of such Closing, of its Chief Executive Officer or President and its Chief Financial Officer stating that:

(i) To the best of their knowledge after reasonable investigation, the representations, warranties, covenants and agreements of the Company in Section 5 hereof are true and correct in all material respects;

(ii) The conditions set forth in this Section 10 have been fulfilled;

(iii) Neither the Company nor any of its Subsidiaries has sustained any material loss or interference with its business, whether or not covered by insurance, or from any labor dispute or any legal or governmental proceeding;

(iv) Subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been any Material Adverse Change or any development involving a prospective Material Adverse Change; and

(v) They have carefully examined the Registration Statement and the Prospectus and, in their opinion (A) the Registration Statement and the Prospectus, as of the Effective Date, did not include any untrue statement of a material fact and did not omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading, and (B) since the Effective Date no event has occurred which should have been set forth in a supplement or amendment to the Registration Statement or the Prospectus and has not been.

(h) Neither the Company nor any of its Subsidiaries shall have sustained since the date of the latest audited financial statements included in the Prospectus any Material Adverse Change, the effect of which is, in the judgment of the Dealer-Manager, so material and adverse as to make it impracticable or inadvisable to proceed with the Rights Offering.

(i) NASDAQ shall have approved the Rights Shares and the shares of Common Stock underlying the Rights Warrants for listing, subject only to official notice of issuance.

(j) All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Dealer-Manager. If any of the conditions specified in this Section 10 shall not have been fulfilled when and as required by this Agreement, this Agreement and all obligations of the Dealer-Manager hereunder may be canceled at, or at any time during the Rights Offering, by the Dealer-Manager. Any such cancellation shall be without liability of the Dealer-Manager to the Company. Notice of such cancellation shall be given to the Company in writing, or by telephone and confirmed in writing.

11. Indemnification and Contribution.

(a) The Company agrees to hold harmless and indemnify Maxim and its affiliates and any officer, director, employee or agent of Maxim or any such affiliates and any Person controlling (within the meaning of Section 20(a) of the Exchange Act) Maxim or any of such affiliates from and against any and all (A) losses, claims, damages and liabilities whatsoever, under the Securities Act or otherwise (as incurred or suffered), arising out of or based upon: (i) any untrue statement or alleged untrue statement of a material fact contained in the Offer Documents or any amendment or supplement thereto, in any other solicitation material used by the Company or authorized by it for use in connection with the Rights Offering, or in any blue sky application or other document prepared or executed by the Company (or based on any written information furnished by the Company) specifically for the purpose of qualifying any or all of the Rights or the Rights Shares or Rights Warrants under the securities laws of any state or other jurisdiction (any such application, document or information being hereinafter called a "Blue Sky Application") or arising out of or based upon the omission or alleged omission to state in any such document a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading (other than statements or omissions made in reliance upon and in conformity with the Dealer-Manager Information); (ii) any withdrawal or termination by the Company of, or failure by the Company to make or consummate, the Rights Offering, (iii) actions taken or omitted to be taken by an indemnified party with the consent of the Company or in conformity with actions taken or omitted to be taken by the Company; (iv) any failure by the Company to comply with any agreement or covenant contained in this Agreement; or (v) arising out of, relating to or in connection with or alleged to arise out of, relate to or be in connection with, the Rights Offering, any of the other transactions contemplated thereby or the performance of Maxim's services to the Company with respect to the Rights Offering, and (B) all reasonable expenses (including, but not limited to, any and all reasonable legal expenses) incurred in connection with investigating, preparing to defend or defending any lawsuit, claim or other proceeding, commenced or threatened, whether or not resulting in any liability, which legal or other expenses shall be reimbursed by the Company promptly after receipt of any invoices therefore from Maxim. However, the Company will not be obligated to indemnify an indemnified party for any loss, claim, damage, liability or expense pursuant to the preceding sentence which has been determined in a final judgment by a court of competent jurisdiction to have resulted directly from willful misconduct or gross negligence on the part of any indemnified party.

(b) The Dealer-Manager shall indemnify and hold harmless the Company, its officers, directors and employees, each of its directors and each Person, if any, who controls the Company within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof, to which the Company or any such director, officer or controlling Person may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, liability or action arises out of, or is based upon: (i) any untrue statement or alleged untrue statement of a material fact contained (A) in any Offer Documents, or in any such amendment or supplement, in any other solicitation material used by the Company or authorized by it for use in connection with the Rights Offering or (B) in any Blue Sky Application; or (ii) the omission or alleged omission to state in any Offer Documents, or in any such amendment or supplement, in any other solicitation material used by the Company or authorized by it for use in connection with the Rights Offering, or in any Blue Sky Application, any material fact required to be stated therein or necessary to make the statements therein not misleading, but in each case solely and exclusively to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with the Dealer-Manager Information, and shall reimburse the Company and any such director, officer or controlling Person for any legal or other expenses reasonably incurred by the Company or any such director, officer or controlling Person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred.

(c) If any lawsuit, claim or proceeding is brought against any indemnified party in respect of which indemnification may be sought against the indemnifying party pursuant to this Section 11, such indemnified party shall promptly notify the indemnifying party of the commencement of such lawsuit, claim or proceeding; provided, however, that the failure so to notify the indemnifying party shall not relieve the indemnifying party from any obligation or liability which it may have under this Section 11 except to the extent that it has been prejudiced in any material respect by such failure and in any event shall not relieve the indemnifying party from any other obligation or liability which it may have to such indemnified party otherwise than under this Section 11. In case any such lawsuit, claim or proceeding shall be brought against any indemnified party and such indemnified party shall notify the indemnifying party of the commencement of such lawsuit, claim or proceeding, the indemnifying party shall be entitled to participate in such lawsuit, claim or proceeding, and, after written notice from the indemnifying party to such indemnified party, to assume the defense of such lawsuit, claim or proceeding with counsel of its choice at its expense; provided, however, that such counsel shall be satisfactory to the indemnified party in the exercise of its reasonable judgment. Notwithstanding the election of the indemnifying party to assume the defense of such lawsuit, claim or proceeding, such indemnified party shall have the right to employ separate counsel and to participate in the defense of such lawsuit, claim or proceeding, and the indemnifying party shall bear the reasonable fees, costs and expenses of such separate counsel (and shall pay such reasonable fees, costs and expenses promptly after receipt of any invoice therefor) if: (i) the use of counsel chosen by the indemnifying party to represent such indemnified party would present such counsel with a conflict of interest; (ii) the defendants in, or targets of, any such lawsuit, claim or proceeding include both an indemnified party and the indemnifying party, and such indemnified party shall have reasonably concluded that there may be legal defenses available to it or to other indemnified parties which are different from or in addition to those available to the indemnifying party (in which case the indemnifying party shall not have the right to direct the defense of such action on behalf of the indemnified party); (iii) the indemnifying party shall not have employed counsel satisfactory to such indemnified party, in the exercise of such indemnified party's reasonable judgment, to represent such indemnified party within a reasonable time after notice of the institution of any such lawsuit, claim or proceeding; or (iv) the indemnifying party shall authorize such indemnified party to employ separate counsel at the expense of the indemnifying party. The foregoing indemnification commitments shall apply whether or not the indemnified party is a formal party to any such lawsuit, claim or proceeding. The indemnifying party shall not be liable for any settlement of any lawsuit, claim or proceeding effected without its consent (which consent will not be unreasonably withheld), but if settled with such consent, the indemnifying party agrees, subject to the provisions of this Section 11, to indemnify the indemnified party from and against any loss, damage or liability by reason of such settlement. The Company agrees to notify Maxim promptly, or cause Maxim to be notified promptly, of the assertion of any lawsuit, claim or proceeding against the Company, any of its officers or directors or any Person who controls any of the foregoing within the meaning of Section 20(a) of the Exchange Act, arising out of or relating the Rights Offering. The Company further agrees that any settlement of a lawsuit, claim or proceeding against it arising out of Rights Offering shall include an explicit and unconditional release from the parties bringing such lawsuit, claim or proceeding of Maxim, its respective affiliates, and any officer, director, employee or agent of Maxim, and any Person controlling (within the meaning of Section 20(a) of the Exchange Act) Maxim.

(d) The amount paid or payable by an indemnified party as a result of the losses, claims, damages, liabilities or expenses referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating, preparing to defend or defending any such action or claim.

(e) The foregoing rights to indemnification and contribution shall be in addition to any other rights which any indemnified parties may have under common law or otherwise but shall supersede, amend and restate, retroactively, the rights to indemnification, reimbursement and contribution provided for under the Engagement Letter.

(f) In order to provide for contribution in circumstances in which the indemnification provided for in this Section 11 for any reason held to be unavailable from any indemnifying party or is insufficient to hold harmless a party indemnified thereunder, the Company, on the one hand, and Maxim, on the other hand, shall contribute to the aggregate losses, claims, damages, liabilities and expenses of the nature contemplated by such indemnification provision (including any investigation, legal and other expenses incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claims asserted, but after deducting in the case of losses, claims, damages, liabilities and expenses suffered by the Company, any contribution received by the Company from Persons, other than Maxim, who may also be liable for contribution, including Persons who control the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, officers of the Company who signed the Registration Statement and directors of the Company) as incurred to which the Company and Maxim may be subject, in such proportions as is appropriate to reflect the relative benefits received by the Company, on the one hand, and Maxim, on the other hand, from the Rights Offering or, if such allocation is not permitted by applicable law, in such proportions as are appropriate to reflect not only the relative benefits referred to above but also the relative fault of the Company, on the one hand, and Maxim, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and Maxim, on the other hand, shall be deemed to be in the same proportion as: (x) the total proceeds from the Rights Offering (net of the fees of the Dealer-Manager set forth in Section 6 hereof, but before deducting expenses) received by the Company bears to (y) the fees of the Dealer-Manager set forth in Section 6 hereof actually received by the Dealer-Manager. The relative fault of each of the Company, on the one hand, and Maxim, on the other hand, shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or Maxim (which consists solely and exclusively of the Dealer-Manager Information) and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Dealer-Manager agree that it would not be just and equitable if contribution pursuant to this Section 11(f) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 11 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any judicial, regulatory or other legal or governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission. Notwithstanding the provisions of this Section 11: (i) the Dealer-Manager shall be required to contribute any amount in excess of the fees actually received by the Dealer-Manager from the Company in connection with the Rights Offering and (ii) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 11, each Person controlling a Dealer-Manager within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act shall have the same rights to contribution as such Dealer-Manager, and each Person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, each officer of the Company who shall have signed the Registration Statement and each director of the Company shall have the same rights to contribution as the Company, subject in each case to clauses (i) and (ii) of the immediately preceding sentence. Any party entitled to contribution will, promptly after receipt of notice of commencement of any action, suit or proceeding against such party in respect of which a claim for contribution may be made against another party or parties, notify each party or parties from whom contribution may be sought, but the omission to so notify such party or parties shall not relieve the party or parties from whom contribution may be sought from any obligation it or they may have under this Section 11(f) or otherwise.

12. Effective Date of Agreement; Termination.

(a) This Agreement shall become effective upon the later of the time on which the Dealer-Manager shall have received notification of the effectiveness of the Registration Statement and the time which this Agreement shall have been executed by all of the parties hereto.

(b) At any time during the Rights Offering, this Agreement may be terminated by the Dealer-Manager by giving notice as hereinafter provided to the Company if:

(i) the Company shall have failed, refused or been unable, at any applicable time during the Rights Offering, to perform any material agreement on its part to be performed hereunder,

(ii) any other material condition of the Dealer-Manager's obligations as set forth in Section 10 or elsewhere hereunder is not fulfilled,

(iii) trading in securities generally on the New York Stock Exchange, the Nasdaq Stock Market or the NYSE Alternext U.S. or in the OTCBB, or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or minimum prices shall have been established on any such exchanges or such market by the Commission, by such exchange or by any other regulatory body or Governmental Authority,

(iv) a banking moratorium shall have been declared by Federal or state authorities,

(v) there shall have occurred any outbreak or escalation of hostilities or acts of terrorism involving the United States or there is a declaration of a national emergency or war by the United States or there shall have been any other calamity or crisis or any change in political, financial or economic conditions of the United States, or

(vi) there shall have occurred such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the judgment of the Dealer-Manager, inadvisable or impracticable to solicit exercises of the Rights or perform any other of its obligations hereunder.

(c) At any time during the Rights Offering, this Agreement may be terminated by the Company by giving notice as hereinafter provided to the Dealer-Manager if the Company's Board of Directors determines in good faith that the Rights Offering is no longer in the best interests of the Company and its stockholders.

(d) Any termination of this Agreement pursuant to this Section 12 shall be without liability on the part of the Company or the Dealer-Manager, except as otherwise provided in Section 11 hereof. Any notice referred to above may be given at the address specified in Section 14 hereof in writing or by facsimile or telephone, and if by telephone, shall be immediately confirmed in writing.

13. Survival of Certain Provisions. The agreements contained in Section 11 hereof and the representations, warranties and agreements of the Company contained in Sections 5, 6 and 7 hereof shall survive the consummation of or failure to commence the Rights Offering and shall remain in full force and effect, regardless of any termination or cancellation of this Agreement or any investigation made by or on behalf of any indemnified party; *provided* however than in the event of any failure to commence or consummate the Rights Offering, the agreements contained in Section 6 shall terminate and be of no further force or effect.

14. Notices. All notices or other communications hereunder shall be in writing, and (a) if sent to the Dealer-Manager, shall be mailed, delivered, or faxed and confirmed in writing, to Maxim Group LLC, 405 Lexington, New York, New York 10174, Fax Number: (212) 895-3783, Attention: Clifford A. Teller, Executive Managing Director — Investment Banking, in each case, with a copy to Ellenoff Grossman & Schole LLP, 1345 Avenue of the Americas, 11th Floor, New York, New York, 10105 Fax Number: (212) 370-7889, Attention: Sarah Williams, Esq.; and (b) if sent to the Company shall be mailed, delivered, or faxed and confirmed in writing to the Company and its counsel at the address set forth in the Registration Statement, with a copy to Gibson Dunn & Crutcher LLP, 555 Mission Street, San Francisco, CA 94105, Fax Number: (415) 374-8430, Attention: Ryan A. Murr, Esq. Any such notices and other communications shall take effect at the time of receipt thereof.

15. Parties. This Agreement shall inure to the benefit of and be binding upon the Dealer-Manager, the Company and their respective successors. This Agreement and the terms and provisions hereof are for the sole benefit of only those Persons, except that the representations, warranties, indemnities and agreements of the Company contained in this Agreement shall also be deemed to be for the benefit of the Person or Persons, if any, who control the Dealer-Manager within the meaning of Section 15 of the Act. Nothing in this Agreement shall be construed to give any Person, other than the Persons referred to in this Section, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein.

16. Amendment. This Agreement may not be amended or modified except in writing signed by each of the parties hereto.

17. Governing Law; Venue. This Agreement shall be deemed to have been executed and delivered in New York and both this Agreement and the transactions contemplated hereby shall be governed as to validity, interpretation, construction, effect, and in all other respects by the laws of the State of New York, without regard to the conflicts of laws principals thereof (other than Section 5-1401 of The New York General Obligations Law). Each of the Dealer-Manager and the Company: (a) agrees that any legal suit, action or proceeding arising out of or relating to this Agreement and/or the transactions contemplated hereby shall be instituted exclusively in the Supreme Court of the State of New York, New York County, or in the United States District Court for the Southern District of New York; (b) waives any objection which it may have or hereafter to the venue of any such suit, action or proceeding; and (c) irrevocably consents to the jurisdiction of Supreme Court of the State of New York, New York County, or in the United States District Court for the Southern District of New York in any such suit, action or proceeding. Each of the Dealer-Manager and the Company further agrees to accept and acknowledge service of any and all process which may be served in any such suit, action or proceeding in the Supreme Court of the State of New York, New York County, or in the United States District Court for the Southern District of New York and agrees that service of process upon the Company mailed by certified mail to the Company's address or delivered by Federal Express via overnight delivery shall be deemed in every respect effective service of process upon the Company, in any such suit, action or proceeding, and service of process upon the Dealer-Manager mailed by certified mail to the Dealer-Manager's address or delivered by Federal Express via overnight delivery shall be deemed in every respect effective service process upon the Dealer-Manager, in any such suit, action or proceeding. THE COMPANY (ON BEHALF OF ITSELF AND, TO THE FULLEST EXTENT PERMITTED BY LAW, ON BEHALF OF ITS RESPECTIVE EQUITY HOLDERS AND CREDITORS) HEREBY WAIVES ANY RIGHT THEY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY CLAIM BASED UPON, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, THE REGISTRATION STATEMENT, ANY PRELIMINARY PROSPECTUS AND THE PROSPECTUS.

18. Entire Agreement. This Agreement, together with the exhibit attached hereto and as the same may be amended from time to time in accordance with the terms hereof, contains the entire agreement among the parties hereto relating to the subject matter hereof and there are no other or further agreements outstanding not specifically mentioned herein.

19. Severability. If any term or provision of this Agreement or the performance thereof shall be invalid or unenforceable to any extent, such invalidity or unenforceability shall not affect or render invalid or unenforceable any other provision of this Agreement and this Agreement shall be valid and enforced to the fullest extent permitted by law.

20. Headings. The headings herein are inserted for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

21. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same instrument. Delivery of a signed counterpart of this Agreement by facsimile or other electronic transmission shall constitute valid and sufficient delivery thereof.

[Signature Page Follows]

If the foregoing correctly sets forth your understanding, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement among us as of the date first above written.

Very truly yours,

ATOSSA GENETICS INC.

By: _____
Name:
Title:

Accepted by the Dealer-Manager as of the date first written above:

MAXIM GROUP LLC

By: _____
Name:
Title:

[Signature Page to Dealer-Manager Agreement]

ATOSSA GENETICS 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, Steven C. Quay and Kyle Guse, do hereby certify that:

1. They are the President and Secretary, respectively, of Atossa Genetics Inc., a Delaware corporation (the “**Corporation**”).
2. The Corporation is authorized to issue 10,000,000 shares of preferred stock, 3,502 of which have been issued and none of which are outstanding.
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 10,000,000 shares, \$0.001 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 20,000 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(c).

“**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).

“**Closing**” means the closing of the purchase and sale of the Securities pursuant to the Dealer-Manager Agreement.

“**Commission**” means the United States Securities and Exchange Commission.

“**Common Stock**” means the Corporation’s common stock, par value \$0.18 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.

“**Dealer-Manager Agreement**” means the dealer-manager agreement dated [●], 2018, between the Corporation and Maxim Group LLC.

“**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(c).

“**Holders**” shall mean holders of the Preferred Stock (each, a “**Holder**” and collectively, the “**Holders**”).

“**Junior Securities**” means the Common Stock and all other Common Stock Equivalents of the Corporation other than (1) those securities which are explicitly senior or pari passu to the Preferred Stock in dividend rights or liquidation preference and (2) the Warrants.

“**Liquidation**” shall have the meaning set forth in Section 5.

“**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.

“**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.

“**Subscription Rights Certificate**” shall mean, as to each Holder, the subscription rights certificate completed by such Holder and countersigned by Broadridge Corporate Issuer Solutions, Inc.

“**Subsidiary**” means any direct or indirect subsidiary of the Corporation.

“**Successor Entity**” shall have the meaning set forth in Section 7(c).

“**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 or the New York Stock Exchange, OTCQB or OTCQX (or any successors to any of the foregoing).

“**Transaction Documents**” means this Certificate of Designation, the Dealer-Manager Agreement, the Warrant Agreement, the Warrants, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated therein.

“**Transfer Agent**” means VStock Transfer, LLC, the current transfer agent of the Corporation, 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.

“**Warrant Agreement**” means the warrant agency agreement dated on or about [●], 2018, between the Corporation and VStock Transfer, LLC.

“**Warrants**” means, collectively, the Common Stock purchase warrants delivered to the Holder at the Closing in accordance with the Warrant Agreement, which Warrants shall be exercisable upon issuance and have a term of exercise equal to four years from the Closing Date, in the form of Exhibit A attached to the Warrant 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 20,000. Each share of Preferred Stock shall have a par value of \$0.001 per share and a stated value equal to \$1,000 (the “**Stated Value**”).

SECTION 3 DIVIDENDS. Except for stock dividends or distributions for which adjustments are to be made pursuant to Section 7, the 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, disregarding for such purposes any conversion limitations hereunder) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Preferred Stock, subject to and in accordance with Section 7 below.

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) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of the Holders, (c) increase the number of authorized shares of Preferred Stock, or (d) 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 out of the assets, whether capital or surplus, of the Corporation the same amount that a holder of Common Stock would receive if the Preferred Stock were fully converted (disregarding for such purpose any conversion limitations hereunder) to Common Stock, which amounts shall be paid pari passu with all holders of Common Stock. A Fundamental Transaction shall not be deemed a Liquidation. 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) Optional Conversion. 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 or at any time and from time to time on or after the first anniversary of the Original Issue Date at the option of the Corporation, into that number of shares of Common Stock (subject in each case 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 or the date the Corporation effects an optional conversion, 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. 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. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. 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 \$3.52, subject to adjustment herein (the “**Conversion Price**”).

(c) Mechanics of Conversion

(i) Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (x) two (2) Trading Days after each Conversion Date and (y) the number of Trading Days comprising the Standard Settlement Period (as defined below) (the “**Share Delivery Date**”), the Corporation shall deliver, or cause to be delivered, to the converting Holder (A) the number of Conversion Shares being acquired upon the conversion of the Preferred Stock, which Conversion Shares shall be free of restrictive legends and trading restrictions if there is an effective registration statement or an exemption from registration under the Securities Act, and (B) a bank check in the amount of accrued and unpaid dividends (if the Corporation is required to pay accrued dividends in cash). The Corporation shall deliver the Conversion Shares electronically through the Depository Trust Company or another established clearing corporation performing similar functions. As used herein, “**Standard Settlement Period**” means the standard settlement period, expressed in a number of Trading Days, on the Corporation’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.

(ii) Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares 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 Conversion Shares, 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 Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion.

(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 anyone 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 Conversion Shares pursuant to Section 6(c)(i) by 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 the Share Delivery Date until such Conversion Shares are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages 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 Conversion Shares 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 Conversion Shares 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 the Conversion Shares 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 Warrant 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.

(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 Conversion Shares 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 Conversion Shares, 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 Conversion Shares 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 Conversion Shares 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 Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

(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 (such persons, "Attribution Parties")) 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 and Attribution Parties 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 or Attribution Parties 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 or Attribution Parties. 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 Attribution Parties) 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 Attribution Parties) 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 (which may be via email) 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 or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "**Beneficial Ownership Limitation**" shall be 4.99% 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. A Holder, upon not less than 61 days' prior notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(d) applicable to its Preferred Stock provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Preferred Stock held by the Holder and the provisions of this Section 6(d) shall continue to apply. Any such increase or decrease will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other 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 that is 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) Pro Rata Distributions. During such time as this Preferred Stock is outstanding, if the Corporation shall declare or make 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).

(c) **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 in accordance with the provisions of this Section 7(c) 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.

(d) 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.

(e) 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 email, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at the address set forth above Attention: Chief Financial Officer, facsimile number (206) 430-1228, or e-mail to kyle.guse@atossagenetics.com, or such other facsimile number, e-mail 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 such Holder's Subscription Rights Certificate. 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 or e-mail at the e-mail address 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 or e-mail at the e-mail address 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, stockholders, 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 Dealer-Manager 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 [●]th day of [●], 2018.

Name: Steven C. Quay

Name: Kyle Guse

Title: President

Title: 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 \$0.18 per share (the “**Common Stock**”), of Atossa Genetics 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 Dealer-Manager 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:

**ATOSSA GENETICS INC.
WARRANT AGENCY AGREEMENT**

This WARRANT AGENCY AGREEMENT (this “Warrant Agreement”) dated as of [●], 2018 (the “Issuance Date”), is by and among Atossa Genetics Inc., a Delaware corporation (“Company”) and VStock Transfer, LLC (the “Warrant Agent”). Capitalized terms used in this Warrant Agreement and not otherwise defined herein shall have the respective meanings ascribed to them in the Common Stock Purchase Warrant (as defined below). In the event a capitalized term used herein is defined in both this Warrant Agreement and the Common Stock Purchase Warrant, the meaning given to such term in the Common Stock Purchase Warrant shall control.

WHEREAS, the Company is engaged in a public rights offering (the “Offering”) of Series B Convertible Preferred Stock, par value \$0.001 per share, together with Warrants (as defined below) to purchase common stock, par value \$0.18 per share (“Common Stock”) and, in connection therewith, has distributed to holders of its Common Stock subscription rights to purchase units in the Offering (the “Units”). Each Unit consists of one (1) share of Preferred Stock and 284 Warrants (collectively, the “Warrants” and, together with the Units, the Shares and Warrant Shares (as defined below), the “Securities”). Each Warrant will be exercisable for one (1) share of Common Stock at an exercise price of \$4.05 per share, subject to adjustment as described herein;

WHEREAS, the Company has filed with the U.S. Securities and Exchange Commission (the “Commission”) a Registration Statement, No. 333-223949 on Form S-1 (as the same may be amended from time to time, the “Registration Statement”) for the registration, under the Securities Act of 1933, as amended (the “Securities Act”) of, among other securities, the Warrants and the Common Stock issuable upon exercise of the Warrants (the “Warrant Shares”), and such Registration Statement was declared effective on [●], 2018;

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing to so act, in connection with the issuance, registration, transfer, exchange and exercise of the Warrants;

WHEREAS, the Company desires to provide for the form and provisions of the Warrants, the terms upon which they shall be issued and exercised, and the respective rights, limitation of rights, and immunities of the Company, the Warrant Agent, and the holders of the Warrants or if the Warrants are held in “street name”, a Participant (as defined below) or a designee appointed by such Participant (each a “Holder”); and

WHEREAS, all acts and things have been done and performed which are necessary to make the Warrants, when executed on behalf of the Company and countersigned by or on behalf of the Warrant Agent, as provided herein, the valid and binding obligations of the Company, and to authorize the execution and delivery of this Warrant Agreement.

NOW, THEREFORE, in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

1. APPOINTMENT OF WARRANT AGENT. The Company hereby appoints the Warrant Agent to act as agent for the Company for the Warrants in accordance with the express terms and conditions set forth in this Warrant Agreement (and no duties or obligations shall be inferred or implied), and the Warrant Agent hereby accepts such appointment and agrees to perform the same. The Warrant Agent shall not assume any obligations or relationship of agency or trust with any of the Holders.

2. WARRANTS.

2.1 Form of Warrant. Each Warrant shall be issued in registered form only, shall be in substantially the form attached as Exhibit A hereto, the provisions of which are incorporated herein, and shall be signed by, or bear the facsimile signature of, the Chief Executive Officer, Treasurer, or Secretary of the Company. In the event the person whose facsimile signature has been placed upon any Warrant shall have ceased to serve in the capacity in which such person signed the Warrant before such Warrant is issued, it may be issued with the same effect as if he or she had not ceased to be such at the date of issuance. All of the Warrants shall initially be represented by one or more book-entry certificates (each a "Book-Entry Warrant Certificate").

2.2 Effect of Countersignature. Unless and until countersigned by the Warrant Agent pursuant to this Warrant Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the Holder thereof.

2.3 Registration.

2.3.1 Warrant Register. The Warrant Agent shall maintain books ("Warrant Register"), for the registration of the original issuance and the registration of any transfer of the Warrants. Upon the initial issuance of the Warrants, the Warrant Agent shall issue and register the Warrants in the names of the respective Holders in such denominations and otherwise in accordance with instructions delivered to the Warrant Agent by the Company. To the extent the Warrants are eligible for the book entry and depository services of The Depository Trust Company ("DTC Eligible") as of the Issuance Date, all of the Warrants shall be represented by one or more Book-Entry Warrant Certificates deposited with The Depository Trust Company (the "Depository") and registered in the name of Cede & Co., a nominee of the Depository. Ownership of beneficial interests in the Book-Entry Warrant Certificates shall be shown on, and the transfer of such ownership shall be effected through, records maintained (i) by the Depository or its nominee for each Book-Entry Warrant Certificate; (ii) by institutions that have accounts with the Depository (such institution, with respect to a Warrant in its account, a "Participant"); or (iii) directly on the book-entry records of the Warrant Agent with respect only to owners of beneficial interests that represent such direct registration.

If the Warrants are not DTC Eligible as of the Issuance Date or the Depository subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent to make other arrangements for book-entry settlement within ten (10) days after the Depository ceases to make its book-entry settlement available. In the event that the Company does not make alternative arrangements for book-entry settlement within ten (10) days or the Warrants are not eligible for, or it is no longer necessary to have the Warrants available in, book-entry form, the Warrant Agent shall provide written instructions, upon receipt of instructions from the Company, to the Depository to deliver to the Warrant Agent for cancellation each Book-Entry Warrant Certificate, and the Company shall instruct the Warrant Agent to deliver to the Holders definitive warrant certificates in physical form evidencing such Warrants. Such definitive warrant certificates shall be in substantially the form annexed hereto as Exhibit A (“Warrant Certificates”).

2.3.2 Beneficial Owner; Registered Holder. Prior to due presentment for registration of transfer of any Warrant, the Company and the Warrant Agent may deem and treat the person in whose name such Warrant shall be registered upon the Warrant Register (“Registered Holder”), as the absolute owner of such Warrant and of each Warrant represented thereby (notwithstanding any notation of ownership or other writing on the Warrant Certificate made by anyone other than the Company or the Warrant Agent), for the purpose of any exercise thereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary. Any person in whose name ownership of a beneficial interest in the Warrants evidenced by a Book-Entry Warrant Certificate is recorded in the records maintained by the Depository or its nominee shall be deemed the “beneficial owner” thereof.

2.4 FAST Program. If the Company’s transfer agent and registrar (“Transfer Agent”) is not participating in the Depository’s Fast Automated Securities Transfer Program and the Registered Holder requests that the shares of Common Stock be issued or registered to a holder other than the Registered Holder, then an ink-original Election to Purchase and a medallion guarantee shall be required.

2.5 Separate Transferability of Warrants. The Warrants will be issued as a separate security from any Preferred Stock issued concurrently in the offering of the Warrants and will be separately transferable immediately upon issuance.

2.6 Uncertificated Warrants. Notwithstanding the foregoing and anything else herein to the contrary, the Warrants may be issued in uncertificated form.

3. TERMS AND EXERCISE OF WARRANTS.

3.1 Exercise Price. Each Warrant shall entitle the Holder, subject to the provisions of such Warrant, to purchase from the Company the number of shares of Common Stock stated therein, at the price of \$4.048 per share, subject to the subsequent adjustments provided in Section 4 hereof. The term “Exercise Price” as used in this Warrant Agreement refers to the price per share at which Common Stock may be purchased at the time a Warrant is exercised.

3.2 Duration of Warrants. A Warrant may be exercised only during the period (“Exercise Period”) commencing on the Issuance Date and terminating at 5:00 P.M., New York City time on May [●], 2022 (“Expiration Date”). Each Warrant not exercised on or before the Expiration Date shall become null and void, and all rights thereunder and all rights in respect thereof under this Warrant Agreement shall cease at 5:00 P.M. New York City time on the Expiration Date. The Company shall give prompt written notice to the Warrant Agent if the Company recalls the Warrant pursuant to the Warrant, and upon the Warrant Agent’s receipt of such notice, the Warrant Agent will cancel the Warrant.

3.3 Exercise of Warrants.

3.3.1 Exercise and Payment. A Registered Holder may exercise a Warrant by delivering, not later than 5:00 P.M., New York City time, on any Business Day during the Exercise Period (the “Exercise Date”) to the Warrant Agent at its corporate actions department (i) the Warrant Certificate evidencing the Warrants to be exercised, or, in the case of a Book-Entry Warrant Certificate, the Warrants to be exercised shown on the records of the Depository to an account of the Warrant Agent at the Depository designated for such purpose in writing by the Warrant Agent to the Depository from time to time, (ii) a duly executed facsimile copy (or email attachment) or other method of delivery of a notice to purchase the Warrant Shares underlying the Warrants to be exercised (a “Notice of Exercise”), properly completed and duly executed by the Holder in the form attached to the Warrant Certificate or, in the case of a Book-Entry Warrant Certificate, properly delivered by the Participant in accordance with the Depository’s procedures, and (iii) the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank, unless the cashless exercise procedure specified in Section 3.3.7 below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required, so long as the Warrant Shares are to be issued to the Registered Holder of the Warrant. Partial exercises of the Warrant Certificate resulting in purchases of a portion of the total number of Warrant Shares available thereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Warrant Agent shall maintain records showing the number of Warrant Shares purchased and the date of such purchases.

If either the Notice of Exercise or the Exercise Price therefor, is received by the Warrant Agent after 5:00 P.M., New York City time, on the specified Exercise Date, the Warrants will be deemed to be received and exercised on the Business Day next succeeding the specified Exercise Date. If the date specified as the Exercise Date is not a Business Day, the Warrants will be deemed to be received and exercised on the next succeeding day that is a Business Day. If the Warrants are received or deemed to be received after the Expiration Date, the exercise thereof will be null and void and any funds delivered to the Warrant Agent will be returned to the Holder. In no event will interest accrue on funds deposited with the Warrant Agent in respect of an exercise or attempted exercise of Warrants. The validity of any exercise of Warrants will be determined by the Warrant Agent in its sole discretion and such determination will be final and binding upon the Holder and the Company. The Warrant Agent shall use reasonable commercial efforts to deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. "Trading Day" means any day on which the Common Stock is traded on a Trading Market.

The Warrant Agent shall forward funds received for warrant exercises in a given month by the 5th Business Day of the following month by wire transfer to an account designated by the Company and shall confirm the balance in such account at any time following a request from the Company.

If fewer than all of the Warrants evidenced by a Warrant Certificate are exercised, at the request of a Holder and upon surrender of such Warrant Certificate, a new Warrant Certificate for the number of unexercised Warrants remaining shall be executed by the Company and delivered to the Holder at the address specified on the books of the Warrant Agent or as otherwise specified by such Holder. If fewer than all of the Warrants evidenced by a Book-Entry Warrant Certificate are exercised, a notation shall be made to the records maintained by the Depository, its nominee for each Book-Entry Warrant Certificate, or a Participant, as appropriate, evidencing the balance of the Warrants remaining after such exercise.

As used herein, the term "Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in the City of New York are authorized or required by law or executive order to remain closed.

3.3.2 Deliveries of Warrant Shares upon Exercise. The Warrant Agent shall, within two (2) Trading Days following the Exercise Date of any Warrant, advise the Company and Transfer Agent in respect of (i) the number of Warrant Shares issued upon such exercise in accordance with the terms and conditions of this Warrant Agreement, (ii) the instructions of each Holder with respect to delivery of the Warrant Shares issued upon such exercise and, in case of Warrant Certificates, the balance, if any, of the Warrants remaining after such exercise, (iii) in case of a Book-Entry Warrant Certificate, the notation that shall be made to the records maintained by the Depository, its nominee for each Book-Entry Warrant Certificate, or a Participant, as appropriate, evidencing the balance, if any, of the Warrants remaining after such exercise and (d) such other information as the Company and the Transfer Agent shall reasonably require.

The Company shall, within two (2) Trading Days next succeeding the Exercise Date of any Warrant and the clearance of the funds in payment of the Exercise Price, cause its Transfer Agent execute, issue and deliver to the Warrant Agent the Warrant Shares to which such registered holder or Participant, as the case may be, is entitled, in fully registered form, registered in such name or names as may be directed by such Registered Holder or the Participant, as the case may be.

In lieu of delivering physical certificates representing the Warrant Shares issuable upon exercise, provided the Company's Transfer Agent is participating in the Depository's Fast Automated Securities Transfer program, the Company shall use its reasonable best efforts to cause its Transfer Agent to electronically transmit the Warrant Shares issuable upon exercise to the Depository by crediting the account of the Depository or of the Participant through its Deposit Withdrawal Agent Commission system. The time periods for delivery described in the immediately preceding paragraph shall apply to the electronic transmittals described herein. While any Warrant is outstanding, the Company shall maintain a Transfer Agent that participates in the Depository's Fast Automated Securities Transfer Program.

3.3.3 Valid Issuance. All Warrant Shares issued upon the proper exercise of a Warrant in conformity with this Warrant Agreement shall be validly issued, fully paid and nonassessable. Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant. Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

3.3.4 No Fractional Exercise. Warrants may be exercised only in whole numbers of Warrant Shares. No fractional Warrant Shares or scrip representing fractional Warrant Shares are to be issued upon the exercise of a Warrant, but rather the Warrant Agent shall, at the direction of the Company, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Warrant Agent shall have no obligation to make fractional payments provided by this Section 3.3.4 unless the Company shall have provided the necessary funds to pay in full all amounts due and payable with respect thereto.

3.3.5 No Transfer Taxes. The Warrant Agent shall not be required to pay any stamp or other tax or governmental charge required to be paid in connection with any transfer involved in the issue of the Warrant Shares upon the exercise of Warrants, and in the event that any such transfer is involved, neither the Company nor the Warrant Agent shall be required to issue or deliver any Warrant Shares until such tax or other charge shall have been paid or it has been established to the Company's and the Warrant Agent's satisfaction that no such tax or other charge is due.

3.3.6 Date of Issuance. Each person in whose name any such certificate for Warrant Shares is issued or to whom Warrant Shares are credited to such person's account at the Depository shall for all purposes be deemed to have become the holder of record of such shares as of the time that a duly executed Notice of Exercise is delivered in accordance with Section 3.3.1, provided that, in the case of a cash exercise, payment of the aggregate Exercise Price is made within two (2) Trading Days after the delivery of the Notice of Exercise, and if the payment of the Aggregate Exercise Price is not made within two (2) Trading Days after the delivery of the Election to Purchase, the Holder shall be deemed to have become the holder of record of Warrant Shares on the first Trading Day after the date on which the aggregate Exercise Price has been paid, irrespective of the date of delivery of such certificate or the date the Warrant Shares are credited to such person's account at the Depository, except that, if the date of such delivery of Notice of Exercise is a date when the stock transfer books of the Company are closed, such person or entity shall be deemed to have become the holder of record of such shares at the close of business on the next succeeding date on which the stock transfer books are open.

3.3.7 Cashless Exercise Under Certain Circumstances.

(i) The Company shall provide to the Registered Holder and the Warrant Agent prompt written notice of any time that the Company is unable to issue the Warrant Shares via DTC transfer or otherwise (without restrictive legend), because (A) the Commission has issued a stop order with respect to the Registration Statement, (B) the Commission otherwise has suspended or withdrawn the effectiveness of the Registration Statement, either temporarily or permanently, (C) the Company has suspended or withdrawn the effectiveness of the Registration Statement, either temporarily or permanently, (D) the prospectus contained in the Registration Statement is not available for the issuance of the Warrant Shares to the Holder, or (E) otherwise (each a "Restrictive Legend Event"). To the extent that a Restrictive Legend Event occurs, after the Holder has exercised a Warrant in accordance with the terms of the Warrants but prior to the delivery of the Warrant Shares, the Company shall, at the election of the Registered Holder to be given within five (5) days of receipt of notice of the Restrictive Legend Event, either (A) rescind the previously submitted Notice of Exercise and the Company shall return all consideration paid by registered holder for such shares upon such rescission or (B) treat the attempted exercise as a cashless exercise as described in the next paragraph and refund the cash portion of the Exercise Price to the Holder.

(ii) If a Restrictive Legend Event has occurred then the Warrants shall only be exercisable on a cashless basis. Notwithstanding anything herein to the contrary, the Company shall not be required to make any cash payments or net cash settlement to the Holder in lieu of issuance of the Warrant Shares. Upon a “cashless exercise,” the Holder shall be entitled to receive a certificate (or book entry) for the number of Warrant Shares equal to the quotient obtained by dividing $[(A-B) * (X)]$ by (A), where:

- (A) = the five-day VWAP immediately preceding the time of delivery of the Notice of Exercise giving rise to the applicable “cashless exercise,” as set forth in the applicable Notice of Exercise;
- (B) = the Exercise Price of the Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of the Warrant in accordance with the terms of the Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

Upon receipt of a Notice of Exercise for a cashless exercise, the Warrant Agent will promptly deliver a copy of the Notice of Exercise to the Company to confirm the number of Warrant Shares issuable in connection with the cashless exercise. The Company shall calculate and transmit to the Warrant Agent, and the Warrant Agent shall have no obligation under this section to calculate, the number of Warrant Shares issuable in connection with the cashless exercise.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (i) if the Common Stock is then listed or quoted on the NYSE MKT, the NASDAQ Capital Market, the NASDAQ Global Market, the NASDAQ Global Select Market, the New York Stock Exchange, the OTCQB or the OTCQX (or any successors to any of the foregoing) (each, 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 4:00 p.m. (New York City time)), (ii) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (iii) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, 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 (iv) in all other cases, the fair market value of a share of Common Stock as mutually determined by the Company and the Holder, provided that, if the Company and the Holder are unable to agree upon the fair market value of such security, then the fair market value will be determined by an independent appraiser selected in good faith by the purchasers of a majority in interest of the securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

3.3.8 Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Warrant Agent shall cause the Transfer Agent to promptly issue to the applicable Holders the number of Warrant Shares that are not disputed.

3.3.9 Share Delivery Failure. If the Company shall fail, for any reason or for no reason, to issue to the Holder within two (2) Trading Days after receipt of the applicable Notice of Exercise (the “Share Delivery Deadline”), a certificate for the number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise of a Warrant or credit the Holder’s balance account with the Depository for such number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise of this Warrant (as the case may be, but in each case without a restrictive legend) (a “Delivery Failure”), then the Holder will have the right to rescind such exercise. If a Delivery Failure occurs and if on or after such Share Delivery Deadline the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of all or any portion of the number of shares of Common Stock issuable upon such exercise that the Holder so anticipated receiving from the Company, then, in addition to all other remedies available to it, the Company shall, within two (2) Trading Days after the Holder’s request and in the Holder’s discretion, either (i) pay cash to the Holder in an amount equal to 100% of the Holder’s total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (including, without limitation, by any other person in respect, or on behalf, of the Holder) (the “Buy-In Price”), at which point the Company’s obligation to so issue and deliver such certificate or credit the Holder’s balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise hereunder (as the case may be) (and to issue such shares of Common Stock) shall terminate, or (ii) promptly honor its obligation to so issue and deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder’s balance account with the Depository for the number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise hereunder (as the case may be) and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock multiplied by (B) the lowest Closing Sale Price of the shares of Common Stock on any trading day during the period commencing on the date of the applicable Election to Purchase and ending on the date immediately preceding the date of such issuance and payment under this clause (ii). If the Company fails for any reason to deliver to the Holder the Common Stock subject to an Election to Purchase by the Share Delivery Deadline, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Common Stock subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Election to Purchase), \$10 per trading day (increasing to \$20 per trading day on the fifth trading day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Deadline until such shares of Common Stock are delivered or Holder rescinds such exercise.

“Closing Sale Price” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the NASDAQ Capital Market, as reported by Bloomberg, or, if the NASDAQ Capital Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the NASDAQ Capital Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as determined in good faith by the Company. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

3.3.10 Cost Basis Information.

(i) In the event of a cash exercise, the Company hereby instructs the Warrant Agent to record cost basis for newly issued shares as follows: The Exercise Price per share of the Common Stock under the Warrant shall be \$4.05, subject to adjustment hereunder.

(ii) In the event of a cashless exercise: the Company shall provide cost basis for shares issued pursuant to a cashless exercise at the time the Company confirms the number of Warrant Shares issuable in connection with the cashless exercise to the Warrant Agent pursuant to Section 3.3.7 hereof.

4. CERTAIN ADJUSTMENTS.

4.1 Stock Dividends and Splits. If the Company, at any time while a Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distribution on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of such Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of such Warrant shall be proportionately adjusted such that the aggregate Exercise Price of such Warrant shall remain unchanged. Any adjustment made pursuant to this Section 4.1 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. The Company shall promptly notify Warrant Agent of any such adjustment and give specific instructions to Warrant Agent with respect to any adjustments to the Warrant Register.

4.2 Pro Rata Distributions. During such time as the Warrants are outstanding, if the Company shall declare or make 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"), then the Exercise Price shall be decreased, effective immediately after the effective date of such Distribution, by the amount of cash and/or the fair market value (as determined by the Board in good faith) of any securities or other assets paid on each share of Common Stock in respect of such Distribution.

4.3 Other Events. If any event occurs of the type contemplated by the provisions of Section 4.1 or 4.2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features to all holders of Common Stock for no consideration), then the Company's Board of Directors will in good faith make an adjustment in the Exercise Price and the number of Warrant Shares so as to protect the rights of each Holder.

4.4 Notices of Events or Changes in Warrant. Upon every adjustment of the Exercise Price or the number of Warrant Shares, or of any other event specified in Section 4.1, 4.2 or 4.3, the Company shall promptly give written notice thereof to the Warrant Agent, which notice shall include a reasonably detailed description of such event, and shall state the Exercise Price resulting from such adjustment and the increase or decrease, if any, in the number of Warrant Shares purchasable upon the exercise of a Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based, and any other relevant instructions in connection therewith. The Company further agrees that it will provide to the Warrant Agent with any new or amended Warrant exercise terms. Upon the occurrence of an adjustment of the Exercise Price or the number of Warrant Shares or any event specified in Sections 4.1, 4.2 or 4.3, then, in any such event, the Company shall give written notice to each Holder, at the last address set forth for such Holder in the Warrant Register, of the record date or the effective date of the event. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such event.

4.5 Form of Warrant. The form of Warrant annexed hereto as Exhibit A need not be changed because of any adjustment pursuant to this Section 4, and Warrants issued after such adjustment may state the same Exercise Price and the same number of shares as is stated in the Warrants initially issued pursuant to this Warrant Agreement. However, the Company may at any time in its sole discretion make any change in the form of Warrant that the Company may deem appropriate and that does not affect the substance thereof, and any Warrant thereafter issued or countersigned, whether in exchange or substitution for an outstanding Warrant or otherwise, may be in the form as so changed.

4.6 Calculations. All calculations under this Section 4 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 4, 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 treasury shares, if any) issued and outstanding.

4.7 No Fractional Shares. Notwithstanding any provision contained in this Agreement to the contrary, the Company shall not issue fractional Warrant Shares or scrip representing fractional Warrant Shares upon the exercise of Warrants. If, by reason of any adjustment made pursuant to this Section 4, the holder of any Warrant would be entitled, upon the exercise of such Warrant, to receive a fractional interest in a share, the Warrant Agent shall, at the direction of the Company, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Warrant Agent shall have no obligation to make fractional payments provided by this Section 4.7 unless the Company shall have provided the necessary funds to pay in full all amounts due and payable with respect thereto.

5. TRANSFER AND EXCHANGE OF WARRANTS.

5.1 Registration of Transfer. The Warrant Agent shall register the transfer, from time to time, of any outstanding Warrant upon the Warrant Register, upon surrender of such Warrant for transfer, properly endorsed and accompanied by appropriate instructions for transfer. Upon any such transfer, a new Warrant representing an equal aggregate number of Warrants shall be issued and the old Warrant shall be cancelled by the Warrant Agent. The Warrants so cancelled shall be delivered by the Warrant Agent to the Company from time to time upon request.

5.2 Exchange of Warrants. A Holder has the right to elect at any time or from time to time a Warrant Exchange (as defined below) pursuant to a Warrant Certificate Request Notice (as defined below). Upon written notice by a Holder to the Warrant Agent for the exchange of some or all of such Holder's Book-Entry Warrant Certificate for a Warrant Certificate evidencing the same number of Warrants, which request shall be in the form attached hereto as Exhibit B (a "Warrant Certificate Request Notice"; and the date of delivery of such Warrant Certificate Request Notice by the Holder, the "Warrant Certificate Request Notice Date"; and the deemed surrender upon delivery by the Holder of a number of Warrants for the same number of Warrants evidenced by a Warrant Certificate, ready defined above, a "Warrant Exchange"), the Warrant Agent and the Company shall promptly effect the Warrant Exchange by the Company promptly issuing and delivering and shall promptly issue and deliver to the Holder a Warrant Certificate for such number of Warrants in the name set forth in the Warrant Certificate Request Notice. Such Warrant Certificate shall be dated the original issue date of the Warrants, shall be manually executed by an authorized signatory of the Company, and shall be in the respective forms attached hereto as Exhibit A. In connection with a Warrant Exchange, the Company agrees to deliver the Warrant Certificate to the Holder within three (3) Business Days of the Warrant Certificate Request Notice pursuant to the delivery instructions in the Warrant Certificate Request Notice ("Warrant Certificate Delivery Date"). If the Company fails for any reason to deliver to the Holder the Warrant Certificate subject to the Warrant Certificate Request Notice by the Warrant Certificate Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares evidenced by such Warrant Certificate (based on the VWAP of the Common Stock on the Warrant Certificate Request Notice Date), \$10 per Business Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Business Day after such Warrant Certificate Delivery Date until such Warrant Certificate is delivered or, prior to delivery of such Warrant Certificate, the Holder rescinds such Warrant Exchange. The Company covenants and agrees that, upon the date of delivery of the Warrant Certificate Request Notice, the Holder shall be deemed to be the holder of the Warrant Certificate and, notwithstanding anything to the contrary set forth herein, the Warrant Certificate shall be deemed for all purposes to contain all of the terms and conditions of the Warrants evidenced by such Warrant Certificate and the terms of this Agreement.

5.3 Procedure for Surrender of Warrants. Warrants may be surrendered to the Warrant Agent, together with a written request for exchange or transfer reasonably acceptable to Warrant Agent, duly executed by the Registered Holder thereof, or by a duly authorized attorney, and thereupon the Warrant Agent shall issue in exchange therefor one or more new Warrants as requested by the Registered Holder of the Warrants so surrendered, representing an equal aggregate number of Warrants; provided, however, that except as otherwise provided herein or in any Book-Entry Warrant Certificate, each Book-Entry Warrant Certificate may be transferred only in whole and only to the Depository, to another nominee of the Depository, to a successor depository, or to a nominee of a successor depository; provided further, however, that in the event that a Warrant surrendered for transfer bears a restrictive legend, the Warrant Agent shall not cancel such Warrant and issue new Warrants in exchange therefor until the Warrant Agent has received an opinion of counsel for the Company stating that such transfer may be made and indicating whether the new Warrants must also bear a restrictive legend. Upon any such registration of transfer, the Company shall execute, and the Warrant Agent shall countersign and deliver, in the name of the designated transferee a new Warrant Certificate or Warrant Certificates of any authorized denomination evidencing in the aggregate a like number of unexercised Warrants.

5.4 New Warrants. Warrants may be divided or combined with other Warrants upon surrender to the Warrant Agent or Depository, as applicable, together with a written notice specifying the names and denominations in which new Warrants are to be issued, duly executed by the Holder thereof, or by a duly authorized agent or attorney, and thereupon the Warrant Agent shall issue in exchange therefor one or more new Warrants, in accordance with Sections 5.1 and 5.2, as requested by the Holder of the Warrants so surrendered, representing an equal aggregate number of Warrants. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of the original Warrant and shall be identical with the original Warrant except as to the number of Warrant Shares issuable pursuant thereto; provided, however, that except as otherwise provided herein or in any Book-Entry Warrant Certificate, each Book-Entry Warrant Certificate may be transferred only to the Depository, to another nominee of the Depository, to a successor depository, or to a nominee of a successor depository; provided further, however, that in the event that a Warrant surrendered for transfer bears a restrictive legend, the Warrant Agent shall not cancel such Warrant and issue new Warrants in exchange therefor until the Warrant Agent has received an opinion of counsel for the Company stating that such transfer may be made and indicating whether the new Warrants must also bear a restrictive legend.

5.5 Fractional Warrants. The Warrant Agent shall not be required to effect any registration of transfer or exchange which would result in the issuance of a Warrant Certificate or a Book-Entry Warrant Certificate for a fraction of a Warrant.

5.6 Service Charges. A service charge shall be made for any exchange or registration of transfer of Warrants, as negotiated between Company and Warrant Agent.

5.7 Warrant Execution and Countersignature. The Warrant Agent is hereby authorized to deliver, in accordance with the terms of this Warrant Agreement, the Warrants required to be issued pursuant to the provisions of this Section 5, and the Company, whenever required by the Warrant Agent, will supply the Warrant Agent with Warrants duly executed on behalf of the Company for such purpose.

6. **LIMITATIONS ON EXERCISE.** Neither the Warrant Agent nor the Company shall effect any exercise of any Warrant, and no Registered Holder shall have the right to exercise any portion of a Warrant, to the extent that after giving effect to the issuance of shares of Common Stock after exercise as set forth on the applicable Notice of Exercise, such Holder (together with such Holder's Affiliates (as defined in Rule 405 under the Securities Act), and any other persons acting as a group together with such Holder or any of such Holder's Affiliates (such persons, "Attribution Parties")), 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 a Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of the Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of any Warrant beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the rules and regulations promulgated thereunder, it being acknowledged by each Holder that neither the Warrant Agent nor the Company is representing to such Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and such Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 6 applies, the determination of whether a Warrant is exercisable (in relation to other securities owned by a Holder together with any Affiliates and Attribution Parties) and of which portion of a Warrant is exercisable shall be in the sole discretion of a Holder, and the submission of a Notice of Exercise shall be deemed to be such Holder's determination of whether such Warrant is exercisable (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of which portion of a Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and neither the Warrant Agent nor the Company shall have any obligation to verify or confirm the accuracy of such determination and neither of them shall have any liability for any exercises of a Warrant that are in non-compliance with the Beneficial Ownership Limitation. 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, in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Business Days confirm orally and in writing to the 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 Company, including a Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of the Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6, provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of such Warrant held by the Holder and the provisions of this Section 6 shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company and shall only be effective with regard to such Holder. The provisions of this Section 6 shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6 to correct this subsection (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this Section 6 shall apply to a successor Holder.

7. OTHER PROVISIONS RELATING TO RIGHTS OF HOLDERS OF WARRANTS.

7.1 No Rights as Stockholder. Except as otherwise specifically provided herein, a Registered Holder, solely in its capacity as an owner of a Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant Agreement be construed to confer upon a Registered Holder, solely in its capacity as such, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Registered Holder of the Warrant Shares which it is then entitled to receive upon the due exercise of a Warrant. For the avoidance of doubt, ownership of a Warrant does not entitle the Registered Holder or any beneficial owner thereof to any of the rights of a stockholder.

7.2 Lost, Stolen, Mutilated, or Destroyed Warrants. Upon receipt by the Company and Warrant Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of any Warrant or any stock certificate relation to the Warrant Shares, and in case of loss, theft or destruction, upon receipt by the Company and the Warrant Agent of indemnity or security reasonably satisfactory to them (including an open penalty surety bond satisfactory to the Warrant Agent and holding it and the Company harmless), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company may issue or cause the Warrant Agent to issue a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

7.3 Reservation of Common Stock. The Company shall at all times reserve and keep available a number of its authorized but unissued shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants issued pursuant to this Warrant Agreement.

7.4 Registration of Common Stock. The Company will use commercially reasonable efforts to maintain the effectiveness of the Registration Statement and the current status of the Prospectus or to file and maintain the effectiveness of another registration statement and another current prospectus covering the Warrants and the Warrant Shares until all Warrant Shares covered by such registration statement may be sold without restriction or limitation pursuant to Rule 144 and without the requirement to be in compliance with Rule 144(c)(1).

8. REDEMPTION.

8.1 Right of Redemption. Not less than all of the outstanding Warrants may be redeemed, at the option of the Company, at any time following the first anniversary of closing of the Offering and prior to the Expiration Date, at the office of the Warrant Agent, upon the notice referred to in Section 8.2, at the price of \$0.18 per Warrant (subject to adjustment proportionate to any adjustment to the Warrant Price pursuant to Section 4.1) (the "Redemption Price"), provided, however, that the 10-day VWAP of the Common Stock is equal to or greater than the \$10.56 per share (subject to adjustment proportionate to any adjustment to the Warrant Price pursuant to Section 4.1) for any period of ten (10) consecutive Trading Days, as reported by Bloomberg, ending prior to the notice of redemption to the Registered Holders and there is an effective registration statement covering the shares of Common Stock issuable upon exercise of the Warrants current and available.

8.2 Date Fixed for, and Notice of, Redemption. In the event the Company shall elect to redeem all of the Warrants pursuant to Section 8.1 (the "Redeemable Warrants"), the Company shall fix a date for the redemption. Notice of redemption shall be mailed by first class mail, postage prepaid, by the Company not less than 30 days prior to the date fixed for redemption to the Registered Holders of the Redeemable Warrants at their last addresses as they shall appear on the registration books. Any notice mailed in the manner herein provided shall be conclusively presumed to have been duly given on the date sent whether or not the Registered Holder received such notice.

8.3 Exercise After Notice of Redemption. The Redeemable Warrants may be exercised for cash in accordance with Section 3.3.1 of this Warrant Agreement at any time after notice of redemption shall have been given by the Company pursuant to Section 8.2 hereof and prior to the time and date fixed for redemption. On and after the redemption date, the record holders of the Redeemable Warrants shall have no further rights except to receive the Redemption Price upon surrender of the Redeemable Warrants.

9. CONCERNING THE WARRANT AGENT AND OTHER MATTERS.

9.1 Concerning the Warrant Agent. The Warrant Agent:

(i) shall have no duties or obligations other than those set forth herein and no duties or obligations shall be inferred or implied;

(ii) may rely on and shall be held harmless and protected by the Company in acting upon any certificate, statement, instrument, opinion, notice, letter, facsimile transmission, telegram or other document, or any security delivered to it, and believed by it to be genuine and to have been made or signed by the proper party or parties;

(iii) may rely on and shall be held harmless by the Company in acting upon written or oral instructions or statements from the Company with respect to any matter relating to its acting as Warrant Agent;

(iv) may consult with counsel satisfactory to it (including counsel for the Company) and shall be held harmless by the Company in relying on the written advice or written opinion of such counsel in respect of any action reasonably taken, suffered or omitted by it hereunder in accordance with such advice or written opinion of such counsel;

(v) solely shall make the final determination as to whether or not a Warrant received by Warrant Agent is duly, completely and correctly executed, and Warrant Agent shall be held harmless by the Company in respect of any action reasonably taken, suffered or omitted by Warrant Agent hereunder in accordance with its determination;

(vi) shall not be obligated to take any legal or other action hereunder which might, in its reasonable judgment, subject or expose it to any expense or liability unless it shall have been furnished with an indemnity satisfactory to it; and

(vii) shall not be liable or responsible for any failure of the Company to comply with any of the Company's obligations relating to the Registration Statement or this Warrant Agreement, including without limitation obligations under applicable regulation or law.

9.2 Payment of Taxes. The Company will from time to time promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of Warrant Shares upon the exercise of Warrants, but neither the Company nor the Warrant Agent shall be obligated to pay any transfer tax in respect of the Warrants or the Warrant Shares, and shall not register any transfer or issue or deliver any Warrant Certificate(s) or Warrant Shares unless or until the persons requesting the registration or issuance shall have paid to the Warrant Agent for the account of the Company the amount of such tax, if any, or shall have established to the reasonable satisfaction of the Company and the Warrant Agent that such tax, if any, has been paid.

9.3 Resignation, Consolidation, or Merger of Warrant Agent

9.3.1 Appointment of Successor Warrant Agent. The Warrant Agent, or any successor to it hereafter appointed, may resign its duties and be discharged from all further duties hereunder after giving sixty (60) calendar days' notice in writing to the Company. If the office of the Warrant Agent becomes vacant by resignation or incapacity to act or otherwise, the Company shall appoint in writing a successor Warrant Agent in place of the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after it has been notified in writing of such resignation or incapacity by the Warrant Agent or by the holder of the Warrant (who shall, with such notice, submit his Warrant for inspection by the Company), then the holder of any Warrant may apply to the Supreme Court of the State of New York for the County of New York for the appointment of a successor Warrant Agent at the Company's cost. All cash and other payments, all register information, and all certificates and other property then held by the Warrant Agent shall be delivered by it to such successor Warrant Agent or as otherwise designated in writing by the Company, and the Warrant Agent shall retain all canceled certificates and related documentation as required by applicable law. Any successor Warrant Agent (but not including the initial Warrant Agent) shall be an entity in good standing and organized and existing under the laws of any jurisdiction in the United States, and authorized under such laws to exercise corporate trust powers and subject to supervision or examination by federal or state authority. After appointment, any successor Warrant Agent shall be vested with all the authority, powers, rights, immunities, duties, and obligations of its predecessor Warrant Agent with like effect as if originally named as Warrant Agent hereunder, without any further act or deed; but if for any reason it becomes necessary or appropriate, the predecessor Warrant Agent shall execute and deliver, at the expense of the Company, an instrument transferring to such successor Warrant Agent all the authority, powers, and rights of such predecessor Warrant Agent hereunder; and upon request of any successor Warrant Agent the Company shall make, execute, acknowledge, and deliver any and all instruments in writing for more fully and effectually vesting in and confirming to such successor Warrant Agent all such authority, powers, rights, immunities, duties, and obligations.

9.3.2 Notice of Successor Warrant Agent. In the event a successor Warrant Agent shall be appointed, the Company shall give notice thereof to the predecessor Warrant Agent and the Transfer Agent for the Common Stock not later than thirty (30) days before the effective date of any such appointment.

9.3.3 Merger or Consolidation of Warrant Agent. Any entity into which the Warrant Agent may be merged or with which it may be consolidated or any entity resulting from any merger or consolidation to which the Warrant Agent shall be a party shall be the successor Warrant Agent under this Warrant Agreement without any further act on the part of the Company or the Warrant Agent.

9.4 Fees and Expenses of Warrant Agent

9.4.1 Remuneration. The Company agrees to pay the Warrant Agent reasonable remuneration in an amount separately agreed to between Company and Warrant Agent for its services as Warrant Agent hereunder and will reimburse the Warrant Agent upon demand for all reasonable out-of-pocket expenditures that the Warrant Agent may reasonably incur in the execution of its duties hereunder. The Warrant Agent will deliver invoices for services rendered hereunder on a monthly basis.

9.4.2 Further Assurances. The Company agrees to perform, execute, acknowledge, and deliver or cause to be performed, executed, acknowledged, and delivered all such further and other acts, documents, instruments, and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing of the provisions of this Warrant Agreement.

9.5 Liability of Warrant Agent

9.5.1 Reliance on Company Statement. Whenever in the performance of its duties under this Warrant Agreement, the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a statement signed by the President, Chief Executive Officer or Chief Financial Officer of the Company and delivered to the Warrant Agent. The Warrant Agent may rely upon, and be held harmless for such reliance upon, such statement for any action reasonably taken or suffered by it pursuant to the provisions of this Warrant Agreement, and shall not be held liable in connection with any delay in receiving such statement.

9.5.2 Indemnity. The Company covenants and agrees to indemnify and to hold the Warrant Agent harmless against any and all liabilities, costs, expenses (including reasonable fees of its legal counsel), losses, judgments, claims, or damages, which may be paid, incurred or suffered by or to which it may become subject, arising from or out of, directly or indirectly, any claims or liability resulting from its actions as Warrant Agent pursuant hereto; provided, that such covenant and agreement does not extend to, and the Warrant Agent shall not be indemnified with respect to, such costs, expenses, losses and damages incurred or suffered by the Warrant Agent as a result of, or arising out of, its gross negligence, bad faith, or willful misconduct.

Subject to its limitation of liability pursuant to Section 9.5.3, the Warrant Agent covenants and agrees to indemnify and hold the Company harmless against any and all liabilities, costs, expenses (including reasonable fees of its legal counsel), losses, judgments, claims, or damages, which may be paid, incurred or suffered by or to which it may become subject, arising from or out of, directly or indirectly, any claims or liability resulting from the Warrant Agent's gross negligence, bad faith or willful misconduct.

9.5.3 Limitation of Liability. The Warrant Agent shall be liable hereunder only for its own gross negligence, willful misconduct or bad faith. Notwithstanding anything contained herein to the contrary, the Warrant Agent's aggregate liability, if any, during the term of this Warrant Agreement with respect to, arising from, or arising in connection with this Warrant Agreement, or from all services provided or omitted to be provided under this Warrant Agreement, whether in contract, or in tort, or otherwise, is limited to, and shall not exceed, the amounts paid or payable hereunder by the Company to Warrant Agent as fees and charges (not including reimbursable expenses).

9.5.4 Disputes. In the event any dispute arises with respect to the proper interpretation of this Warrant Agreement or the Warrant Agent's duties hereunder or the rights of the Company or of any Holder, the Warrant Agent shall not be required to act and shall not be held liable or responsible for refusing to act until the dispute has been judicially settled (and the Warrant Agent may, if it deems it advisable, but shall not be obligated to, file a suit in interpleader or for a declaratory judgment for such purpose) by final judgment rendered by a court of competent jurisdiction, binding on all parties interested in the matter which is no longer subject to review or appeal, or settled by a written document in form and substance satisfactory to the Warrant Agent and executed by the Company and each other interested party.

9.5.5 Exclusions. The Warrant Agent shall have no responsibility with respect to the validity of any Warrant, except with respect to verifying it is properly completed and executed; provided however that the Warrant Agent shall have no responsibility with respect to verifying whether the signature itself is true or correct; nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Warrant Agreement or in any Warrant; nor shall it be responsible to make any adjustments required under the provisions of Section 4 hereof or responsible for the manner, method, or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment; nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any Warrant Shares to be issued pursuant to this Warrant Agreement or any Warrant or as to whether any Warrant Shares will, when issued, be validly issued and fully paid and nonassessable.

9.5.6 Instructions. From time to time, the Company may provide the Warrant Agent with instructions concerning the services performed by the Warrant Agent hereunder. In addition, at any time the Warrant Agent may apply to any officer of the Company for instruction, and may consult with legal counsel for the Warrant Agent or the Company with respect to any matter arising in connection with the services to be performed by the Warrant Agent under this Warrant Agreement. Warrant Agent and its agents and subcontractors shall not be liable and shall be indemnified by the Company for any action reasonably taken, suffered or omitted to be taken by Warrant Agent in reliance upon any written Company instructions or upon the written advice or written opinion of such counsel. The Warrant Agent shall not be held to have notice of any change of authority of any person, until receipt of written notice thereof from the Company. Furthermore, the Warrant Agent shall not be required to take notice or be deemed to have notice of any event or condition under this Warrant Agreement, including any event or condition that may require action by the Warrant Agent, unless the Warrant Agent shall be specifically notified in writing of such event or condition by the Company, and all notices or other instruments required by this Warrant Agreement to be delivered to the Warrant Agent must, in order to be effective, be received by the Warrant Agent as specified in Section 10.2 hereof, and in the absence of such notice so delivered, the Warrant Agent may conclusively assume no such event or condition exists.

9.6 Ambiguity or Uncertainty. In the event the Warrant Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Warrant Agent hereunder, the Warrant Agent, may, in its sole discretion, refrain from taking any action, and shall be fully protected and shall not be liable in any way to the Company, any Holder, or any other person or entity for refraining from taking such action, unless the Warrant Agent receives written instructions signed by the Company which eliminates such ambiguity or uncertainty to the satisfaction of Warrant Agent.

9.7 Acceptance of Agency. The Warrant Agent hereby accepts the agency established by this Warrant Agreement and agrees to perform the same upon the terms and conditions herein set forth and, among other things, shall account promptly to the Company with respect to Warrants exercised and concurrently account for, and pay to the Company, all moneys received by the Warrant Agent for the purchase of Warrant Shares through the exercise of Warrants.

9.8 Bank Accounts. The Company acknowledges that the bank accounts maintained by the Warrant Agent in connection with the services provided under this Agreement will be in its name and that the Warrant Agent may receive interest in connection with the deposit of funds received pursuant to this Agreement, and such interest shall be delivered to the Company. The Warrant Agent shall have no responsibility or liability for any diminution of the funds that may result from any deposit made by the Warrant Agent in accordance with this paragraph, including any losses resulting from a default by any bank.

9.9 Survival. The provisions of this Section 9 shall survive the termination of this Warrant Agreement and the resignation, removal, or replacement of the Warrant Agent.

10. MISCELLANEOUS PROVISIONS.

10.1 Successors. All the covenants and provisions of this Warrant Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns.

10.2 Notices. Any notices, consents, waivers or other document or communications required or permitted to be given or delivered under the terms of this Warrant Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, if delivered personally; (ii) when sent, if sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) when sent, if sent by e-mail (provided that such sent e-mail is kept on file (whether electronically or otherwise) by the sending party and the sending party does not receive an automatically generated message from the recipient's e-mail server that such e-mail could not be delivered to such recipient) and (iv) if sent by overnight courier service, one (1) Business Day after deposit with an overnight courier service with next day delivery specified, in each case, properly addressed to the party to receive the same. If notice is given by facsimile or email, a copy of such notice shall be dispatched no later than the next Business Day by first class mail, postage prepaid. Notwithstanding the foregoing, notice may only be given by facsimile or email if a facsimile number or email address is provided for such party in this Section 10.2. The addresses, facsimile numbers and e-mail addresses for such communications shall be:

If to the Company:

Atossa Genetics Inc.
107 Spring Street
Seattle, WA 98104
Attn: Finance Department
Facsimile: 206-902-9658
kyle.guse@atossagenetics.com

with a copy (which shall not constitute notice) to:

Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Attention: Ryan A. Murr
Facsimile: (415) 374-8430
E-mail: RMurr@gibsondunn.com

If to the Warrant Agent:

VStock Transfer, LLC
18 Lafayette Place
Woodmere, NY 11598
Attn: [●]
Facsimile: [●]

If to a Holder, to its address, facsimile number or e-mail address set forth on the books and records of the Company, the Transfer Agent or the Warrant Agent.

Or, in each of the above instances, to such other address, facsimile number or e-mail address and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party at least five (5) days prior to the effectiveness of such change.

10.3 Applicable Law. The validity, interpretation, and performance of this Warrant Agreement and of the Warrants shall be governed in all respects by the laws of the State of New York, without giving effect to conflicts of law principles that would result in the application of the substantive laws of another jurisdiction. The Company hereby agrees that any action, proceeding or claim against it arising out of or relating in any way to this Warrant Agreement shall be brought and enforced in the courts of the State of New York or the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 10.2 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim.

10.4 Persons Having Rights under this Warrant Agreement Nothing in this Warrant Agreement expressed and nothing that may be implied from any of the provisions hereof is intended, or shall be construed, to confer upon, or give to, any person or corporation other than the parties hereto any right, remedy, or claim under or by reason of this Warrant Agreement or of any covenant, condition, stipulation, promise, or agreement hereof. All covenants, conditions, stipulations, promises, and agreements contained in this Warrant Agreement shall be for the sole and exclusive benefit of the parties hereto and their successors and assigns and of the Registered Holders.

10.5 Examination of this Warrant Agreement A copy of this Warrant Agreement shall be available at all reasonable times, upon reasonable notice, at the office of the Warrant Agent, for inspection by any Registered Holder. The Warrant Agent may require any such Holder to submit his Warrant for inspection by it.

10.6 Counterparts. This Warrant Agreement may be executed in any number of original or facsimile counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Warrant Agreement transmitted electronically shall have the same authority, effect, and enforceability as an original signature.

10.7 Effect of Headings. The Section headings herein are for convenience only and are not part of this Warrant Agreement and shall not affect the interpretation thereof.

10.8 Amendments. This Warrant Agreement may be amended by the parties hereto without the consent of any Holder for the purpose of curing any ambiguity, or of curing, correcting or supplementing any defective provision contained herein or adding or changing any other provisions with respect to matters or questions arising under this Warrant Agreement as the parties may deem necessary or desirable and that the parties deem shall not adversely affect the interest of the Holders. All other modifications or amendments, including any amendment to increase the Exercise Price or shorten the Exercise Period, shall require the written consent of the Company and the Holders of a majority of the then outstanding Warrants. As a condition precedent to the Warrant Agent's execution of any amendment, the Company shall deliver to the Warrant Agent a certificate from a duly authorized officer of the Company that states that the proposed amendment is in compliance with the terms of this Section 10.8. The Company shall provide prompt written notice to the Warrant Agent of any amendment of a Warrant.

10.9 Severability. This Warrant Agreement shall be deemed severable, and the invalidity or unenforceability of any term or provision hereof shall not affect the validity or enforceability of this Warrant Agreement or of any other term or provision hereof. Furthermore, in lieu of any such invalid or unenforceable term or provision, the parties hereto intend that there shall be added as a part of this Warrant Agreement a provision as similar in terms to such invalid or unenforceable provision as may be possible and be valid and enforceable.

10.10 Force Majeure. In the event either party is unable to perform its obligations under the terms of this Warrant Agreement because of acts of God, strikes, failure of carrier or utilities, equipment or transmission failure, damage that is reasonably beyond its control, terrorist acts, war, or civil unrest, or any other cause that is reasonably beyond its control, such party shall not be liable for damages to the other for any damages resulting from such failure to perform or otherwise from such causes. Performance under this Warrant Agreement shall resume when the affected party or parties are able to perform substantially that party's duties.

10.11 Confidentiality. The Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party, including inter alia, personal, non-public information about the Holders, which are exchanged or received pursuant to the negotiation or the carrying out of this Warrant Agreement, including the fees for services, shall remain confidential, and shall not be voluntarily disclosed to any other person without the other party's written consent, except as may be required by law, including, without limitation, pursuant to subpoenas from state or federal government authorities; and provided, that any disclosure of applicable information to DTC shall not be deemed a violation of this Section 10.11.

10.12 Consequential Damages. Notwithstanding anything in this Warrant Agreement to the contrary, neither party to this Warrant Agreement shall be liable to the other party for any consequential, indirect, special, punitive, or incidental damages under any provision of this Warrant Agreement or for any consequential, indirect, punitive, special or incidental damages arising out of any act or failure to act hereunder even if that party has been advised of or has foreseen the possibility or likelihood of such damages.

10.13 Termination. The Company may terminate this Warrant Agreement upon 60 days prior written notice to the Warrant Agent; provided that such termination shall not affect the survival of Section 8 hereunder. In the event of such termination the Company will appoint a successor Warrant Agent pursuant to Section 9.3.1.

10.14 Assignment. Neither this Warrant Agreement nor any rights or obligations hereunder may be assigned by Company or Agent without the written consent of the other; provided, however, that the Agent may, without further consent of the Company, assign any of its rights and obligations hereunder to an affiliated agent registered under Rule 17Ac2-1 promulgated under the 1934 Act.

IN WITNESS WHEREOF, this Warrant Agency Agreement has been duly executed by the parties hereto as of the day and year first above written.

ATOSSA GENETICS INC.

By: _____
Name:
Title:

VSTOCK TRANSFER, LLC

By: _____
Name:
Title:

[Signature Page to Warrant Agency Agreement]

Exhibit A

Form of Warrant Certificate

See Attached.

Exhibit B

Form of Warrant Certificate Request Notice

WARRANT CERTIFICATE REQUEST NOTICE

To: VStock Transfer, LLC as Warrant Agent for Atossa Genetics Inc. (the "Company")

The undersigned Holder of Common Stock Purchase Warrants ("Warrants") represented by a Book-Entry Warrant Certificate issued by the Company hereby elects to receive a Warrant Certificate evidencing the Warrants held by the Holder as specified below:

1. Name of Holder of Warrants represented by a Book-Entry Warrant Certificate: _____
2. Name of Holder in Warrant Certificate (if different from name of Holder represented by a Book-Entry Warrant Certificate):

3. Number of Warrants in name of Holder represented by a Book-Entry Warrant Certificate: _____
4. Number of Warrants for which Warrant Certificate shall be issued: _____
5. Number of Warrants in name of Holder represented by a Book-Entry Warrant Certificate after issuance of Warrant Certificate, if any: _____
6. Warrant Certificate shall be delivered to the following address:

The undersigned hereby acknowledges and agrees that, in connection with this Warrant Exchange and the issuance of the Warrant Certificate, the Holder is deemed to have surrendered the number of Warrants in represented by a Book-Entry Warrant Certificate in the name of the Holder equal to the number of Warrants evidenced by the Warrant Certificate.

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity:

Name of Authorized Signatory:

Title of Authorized Signatory:

Date: _____



[Form of Warrant Certificate]

[FACE]

Number: [●]
Date of Issue:

Warrants to purchase _____ shares

**THIS WARRANT SHALL BE VOID IF NOT EXERCISED PRIOR TO
THE EXPIRATION OF THE EXERCISE PERIOD PROVIDED FOR
IN THE WARRANT AGREEMENT DESCRIBED BELOW****ATOSSA GENETICS INC.****Warrant Certificate**

The Warrants evidenced by this Warrant Certificate are part of a duly authorized issue of Warrants entitling the holder on exercise to receive shares of Common Stock and are issued or to be issued pursuant to a Warrant Agency Agreement dated as of [____], 2018 (the "**Warrant Agreement**"), duly executed and delivered by the Company to VStock Transfer, LLC, a corporation having its principal offices in Woodmere, New York, as warrant agent (the "**Warrant Agent**"), which Warrant Agreement is hereby incorporated by reference in and made a part of this instrument and is hereby referred to for a description of the rights, limitation of rights, obligations, duties and immunities thereunder of the Warrant Agent, the Company and the holders (the words "**holders**" or "**holder**" meaning the Registered Holders or Registered Holder) of the Warrants. A copy of the Warrant Agreement may be obtained by the holder hereof upon written request to the Company. Defined terms used in this Warrant Certificate but not defined herein shall have the meanings given to them in the Warrant Agreement.

Warrants may be exercised at any time during the Exercise Period set forth in the Warrant Agreement. Notwithstanding the foregoing or anything else herein or in the Warrant Agreement to the contrary, for so long as the holder continues to hold the Warrant, such holder shall not enter into any short sale or similar transaction with respect to the Common Stock. The holder of Warrants evidenced by this Warrant Certificate may exercise them by delivering (i) this Warrant Certificate, or, in the case of a Book-Entry Warrant Certificate (as defined in the Warrant Agreement), the Warrants to be exercised (the "**Book-Entry Warrants**") as shown on the records of The Depository Trust Company (the "**Depository**") to an account of the Warrant Agent at the Depository designated for such purpose in writing by the Warrant Agent to the Depository, (ii) an election to purchase ("**Exercise Notice**"), properly executed by the holder hereof on the reverse of this Warrant Certificate or properly executed by the institution in whose account the Warrant is recorded on the records of the Depository (the "**Participant**"), and substantially in the form included on the reverse of this Warrant Certificate and (iii) the Warrant Price for each Warrant to be exercised in lawful money of the United States by certified or official bank check or by bank wire transfer in immediately available funds, in each case payable to the Warrant Agent, unless a "**cashless exercise**" is permitted under the Warrant Agreement.

In the event that upon any exercise of Warrants evidenced hereby the number of Warrants exercised shall be less than the total number of Warrants evidenced hereby, there shall be issued to the holder hereof or his, her or its assignee, a new Warrant Certificate evidencing the number of Warrants not exercised. If fewer than all the Warrants evidenced by a Book-Entry Warrant Certificate are exercised, a notation shall be made to the records maintained by the Depository, its nominee for each Book-Entry Warrant Certificate, or a Participant, as appropriate, evidencing the balance of the Warrants remaining after such exercise.

Notwithstanding anything else in this Warrant Certificate or the Warrant Agreement, no Warrant may be exercised unless at the time of exercise (i) a registration statement covering the shares of Common Stock to be issued upon exercise is effective under the Securities Act and (ii) a prospectus thereunder relating to the shares of Common Stock is current, except through “*cashless exercise*” as provided for in the Warrant Agreement.

The Warrant Agreement provides that upon the occurrence of certain events the number of shares of Common Stock issuable upon exercise of the Warrants set forth on the face hereof may, subject to certain conditions, be adjusted. If, upon exercise of a Warrant, the holder thereof would be entitled to receive a fractional interest in a share of Common Stock, the Company shall, upon exercise, either round up to the nearest whole number of shares of Common Stock to be issued to the holder of the Warrant or pay such holder cash for such fractional share in the Company’s sole discretion.

Warrant Certificates, when surrendered at the office of the Warrant Agent designated for such purposes by the Registered Holder thereof in person or by legal representative or attorney duly authorized in writing, may be exchanged, in the manner and subject to the limitations provided in the Warrant Agreement, but without payment of any service charge, for another Warrant Certificate or Warrant Certificates of like tenor evidencing in the aggregate a like number of Warrants.

Upon due presentation for registration of transfer of this Warrant Certificate at the office of the Warrant Agent, a new Warrant Certificate or Warrant Certificates of like tenor and evidencing in the aggregate a like number of Warrants shall be issued to the transferee(s) in exchange for this Warrant Certificate, subject to the limitations provided in the Warrant Agreement, without charge except for any tax or other governmental charge imposed in connection therewith.

The Company and the Warrant Agent may deem and treat the Registered Holder(s) hereof as the absolute owner(s) of this Warrant Certificate (notwithstanding any notation of ownership or other writing hereon made by anyone), for the purpose of any exercise hereof, of any distribution to the holder(s) hereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary. Neither the Warrants nor this Warrant Certificate entitles any holder hereof to any rights of a stockholder of the Company.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Company has caused this Warrant Certificate to be duly executed as of the date first written above.

ATOSSA GENETICS INC.

By: _____
Name:
Title:

[Signature Page to Warrant Certificate]

NOTICE OF EXERCISE
(To Be Executed Upon Exercise of Warrant)

CASH EXERCISE:

The undersigned hereby irrevocably elects to exercise the rights represented by this Warrant Certificate to receive _____ shares of Common Stock and herewith tenders payment for such shares to the order of Atossa Genetics Inc. (the "**Company**") in the amount of \$ _____ in accordance with the terms hereof. The undersigned requests that a certificate for such shares be registered in the name of _____, whose address is _____, and that such shares be delivered to _____, whose address is _____. If said number of shares is less than all of the shares of Common Stock purchasable hereunder, the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

CASHLESS EXERCISE:

In the event that the Warrant may be exercised, to the extent allowed by the Warrant Agreement, through cashless exercise, (i) the number of shares that this Warrant is exercisable for would be determined in accordance with section 3.3.2 of the Warrant Agreement which allows for such cashless exercise and (ii) the holder hereof shall complete the following:

The undersigned hereby irrevocably elects to exercise the right, represented by this Warrant Certificate, through the cashless exercise provisions of the Warrant Agreement, to receive shares of Common Stock. If said number of shares is less than all of the shares of Common Stock purchasable hereunder (after giving effect to the cashless exercise), the undersigned requests that a new Warrant Certificate representing the remaining balance of such shares be registered in the name of _____, whose address is _____, and that such Warrant Certificate be delivered to _____, whose address is _____.

Date: _____, 20__

[Signature page follows.]

Name:

Title:

Address:

Tax Identification Number:

Signature must conform in all respects to the name of the holder as specified on the face of this Warrant Certificate. If Warrant Shares, or a Warrant Certificate evidencing unexercised Warrants, are to be issued in a name other than that of the registered holder hereof or are to be delivered to an address other than the address of such holder as shown on the books of the Warrant Agent, the above signature must be guaranteed by an Eligible Guarantor Institution (as that term is defined in Rule 17Ad-15 of the Securities Exchange Act of 1934, as amended).

Signature Guaranteed:

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO RULE 17Ad-15).

[Signature Page to Warrant Certificate Notice of Exercise]

ASSIGNMENT

**(FORM OF ASSIGNMENT TO BE EXECUTED IF WARRANT HOLDER
DESIRES TO TRANSFER WARRANTS EVIDENCED HEREBY)**

FOR VALUE RECEIVED, _____ HEREBY SELL(S), ASSIGN(S) AND TRANSFER(S) UNTO

(Please insert social security or other
identifying number of assignee)

(Please print name and address
including zip code of assignee)

the rights represented by the within Warrant Certificate and does hereby irrevocably constitute and appoint _____ Attorney to transfer
said Warrant Certificate on the books of the Warrant Agent with full power of substitution in the premises.

Date: _____, 20__

[Signature page follows.]

[Signature Page to Warrant Certificate Assignment]

Name:

Title:

Address:

Tax Identification Number:

Signature must conform in all respects to the name of the holder as specified on the face of this Warrant Certificate. If Warrant Shares, or a Warrant Certificate evidencing unexercised Warrants, are to be issued in a name other than that of the registered holder hereof or are to be delivered to an address other than the address of such holder as shown on the books of the Warrant Agent, the above signature must be guaranteed by an Eligible Guarantor Institution (as that term is defined in Rule 17Ad-15 of the Securities Exchange Act of 1934, as amended).

Signature Guaranteed:

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO RULE 17Ad-15).

[Signature Page to Warrant Certificate Assignment]

FORM OF NON-TRANSFERABLE SUBSCRIPTION RIGHTS CERTIFICATE

RIGHTS CERTIFICATE # []

NUMBER OF RIGHTS: []

THE TERMS AND CONDITIONS OF THE RIGHTS OFFERING ARE SET FORTH IN THE COMPANY'S PROSPECTUS DATED [], 2018 (THE "PROSPECTUS") AND ARE INCORPORATED HEREIN BY REFERENCE. COPIES OF THE PROSPECTUS ARE AVAILABLE UPON REQUEST FROM BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE SUBSCRIPTION AGENT.

ATOSSA GENETICS INC.
(Incorporated under the laws of the State of Delaware)

SUBSCRIPTION RIGHTS CERTIFICATE

Evidencing non-transferable subscription rights, each to purchase units of Atossa Genetics Inc., each unit consisting of one share of Series B Convertible Preferred Stock and 284 warrants
Subscription Price: \$1,000 per Unit

THE SUBSCRIPTION RIGHTS WILL EXPIRE IF NOT EXERCISED ON OR BEFORE 5:00 P.M., EASTERN TIME, ON MAY 24, 2018, SUBJECT TO EXTENSION OR EARLIER TERMINATION.

THIS CERTIFIES THAT

the registered owner whose name is inscribed hereon is the owner of the number of subscription rights set forth above. Each subscription right, which we refer to as the basis subscription right, entitles the holder thereof to subscribe for and purchase one unit of Atossa Genetics, Inc., a Delaware corporation (the "Company"), at a subscription price of \$1,000 per unit, pursuant to a rights offering, on the terms and subject to the conditions set forth in the prospectus and the "Instructions as to Use of Atossa Genetics Inc. Subscription Rights Certificates" accompanying this subscription rights certificate. Each unit consists of one share of Series B Convertible Preferred Stock, par value of \$0.001, and 284 warrants. Each warrant will be exercisable for one share of our common stock, par value of \$0.18. Holders who fully exercise their basic subscription rights are entitled to subscribe for additional units that remain unsubscribed for as a result of any unexercised basic subscription rights pursuant to the terms and conditions of the rights offering, which we refer to as the over-subscription privilege, subject to proration and stock ownership limitations as described in the prospectus. The subscription rights represented by this subscription rights certificate may be exercised by completing the appropriate forms on the reverse side hereof and by returning the full payment of the subscription price for each unit. If the subscriber attempts to exercise its over-subscription privilege and the Company is unable to issue the subscriber the full amount of units requested, the subscription agent will return to the subscriber any excess funds submitted as soon as practicable, without interest or deduction.

This subscription rights certificate is not valid unless countersigned by Broadridge Corporate Issuer Solutions, Inc., the subscription agent.

WITNESS the signatures of the duly authorized officers of Atossa Genetics Inc.

Dated: [●], 2018

By: _____
Name:
Title:

By: _____
Name:
Title:

COUNTERSIGNED AND REGISTERED BY
BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC.

By: _____
Name:
Title:



FORM ELECTION TO PURCHASE

PLEASE PRINT ALL INFORMATION CLEARLY AND LEGIBLY.

The registered holder of this subscription rights certificate is entitled to exercise the number of subscription rights shown in the upper right hand corner of the subscription rights certificate and may subscribe for additional units upon the terms and conditions specified in the prospectus. The undersigned hereby represents, in connection with this election, that the undersigned has not since the record date entered into any short sale or similar transaction with respect to the common stock of Atossa Genetics Inc. The undersigned hereby notifies the subscription agent of its irrevocable election to subscribe for Units in the following amounts. To subscribe for units pursuant to your basic subscription right, please complete lines (a) and (c) below. To subscribe for additional units pursuant to your over-subscription privilege, please also complete line (b).

(a) EXERCISE OF BASIC SUBSCRIPTION RIGHT:

Basic Subscription Right:	X	\$1,000	=	\$
Number of Units		Subscription price		Payment enclosed

(b) EXERCISE OF OVER-SUBSCRIPTION PRIVILEGE: If you have exercised your basic subscription right in full, you may subscribe for additional units pursuant to your over-subscription privilege

Over-Subscription Privilege:	X	\$1,000	=	\$
Number of Units		Subscription price		Payment enclosed

(c) TOTAL AMOUNT OF PAYMENT ENCLOSED \$ _____

(d) IF YOU SPOKE WITH A BROKER WHO SOLICITED SUCH EXERCISE, PLEASE INDICATE THE NAME OF THE PERSON YOU SPOKE WITH:

METHOD OF PAYMENT (CHECK ONE):

- CERTIFIED CHECK DRAWN ON A U.S. BANK, payable to "Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc."

- Wire transfer of immediately available funds directly to the account maintained by Broadridge Corporate Issuer Solutions, Inc., as subscription agent, for purposes of accepting subscriptions in this rights offering at Wells Fargo Bank, ABA: 121000248, Account #: 4124218686 FBO Atossa Genetics Inc., with reference to the name of the subscription rights holder.

- U.S. POSTAL MONEY ORDER, payable to "Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc."

- UNCERTIFIED PERSONAL CHECK, payable to "Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc." (which must clear before the expiration date to be considered a valid form of payment; please see prospectus and instructions)

I acknowledge receipt of the prospectus in connection with the rights offering and agree to its terms. I agree to cooperate with the Company and provide to the Company any and all information requested by the Company in connection with the exercise of the subscription rights.

Signature(s) of Subscriber(s)
Address:

Signature(s) of Subscriber(s)
Address:

IMPORTANT: THE SIGNATURE(S) MUST CORRESPOND IN EVERY PARTICULAR, WITHOUT ALTERATION, WITH THE NAME(S) AS PRINTED ON THE FRONT OF THIS RIGHTS CERTIFICATE. If signature is by trustee(s), executor(s), administrator(s), guardian(s), attorney(s)-in-fact, officer(s) of a corporation or another acting in a fiduciary or representative capacity, please print name and title of authorized signer.

FOR INSTRUCTIONS ON THE USE OF ATOSSA GENETICS INC. SUBSCRIPTION RIGHTS CERTIFICATES, CONSULT BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, AT (855) 793-5068 (TOLL FREE).

GIBSON DUNN

Gibson, Dunn & Crutcher LLP

555 Mission Street
San Francisco, CA 94105-0921
Tel 415.393.8200
www.gibsondunn.com

Client: 05637-00008

April 23, 2018

Atossa Genetics Inc.
107 Spring Street
Seattle, WA 98104Re: *Atossa Genetics Inc.*
Registration Statement on Form S-1 (File No. 333-223949)

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-1, File No. 333-223949, as amended (the "Registration Statement") of Atossa Genetics Inc., a Delaware corporation (the "Company"), to be filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), in connection with the offering by the Company of: (i) 20,000 non-transferable subscription rights (the "Rights") to be distributed by the Company without consideration in connection with a rights offering (the "Rights Offering") to holders of record of Common Stock, par value \$0.18 per share, of the Company (the "Common Stock") and holders of record of warrants issued December 22, 2017, (ii) up to 20,000 units (the "Units") issuable upon exercise of the Rights, each Unit consisting of one share of Series B Convertible Preferred Stock, par value \$0.001 per share (the "Preferred Stock"), and 284 warrants, with each warrant exercisable for one share of Common Stock (the "Warrants"), (iii) the Preferred Stock, (iv) the Warrants, (v) up to 5,680,000 shares of Common Stock issuable upon conversion of the Preferred Stock (the "Conversion Shares"); and (vi) up to 5,680,000 shares of Common Stock issuable upon exercise of the Warrants (the "Warrant Shares"). The Warrants will be issued pursuant to a warrant agency agreement (the "Warrant Agency Agreement") with VStock Transfer, LLC, as warrant agent (the "Warrant Agent").

In arriving at the opinions expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of specimen stock certificates, the Warrant Agency Agreement and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

Beijing • Brussels • Century City • Dallas • Denver • Dubai • Hong Kong • London • Los Angeles • Munich
New York • Orange County • Palo Alto • Paris • San Francisco • São Paulo • Singapore • Washington, D.C.

Based upon the foregoing, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that: (i) the shares of Preferred Stock included in the Units, when issued against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable; (ii) the Conversion Shares, when issued upon exercise of the Preferred Stock, will be validly issued, fully paid and non-assessable; (iii) the Warrant Shares, when issued upon exercise of the Warrants against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable; (iv) the Rights, the Preferred Stock and the Warrants, when issued as set forth in the Registration Statement, will be legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms; and (v) the Units, when issued against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable.

The opinions expressed above are subject to the following additional exceptions, qualifications, limitations and assumptions:

A. We render no opinion herein as to matters involving the laws of any jurisdiction other than the State of New York and the United States of America and, for purposes of clauses (i), (ii) and (iii), the Delaware General Corporation Law. We are not admitted to practice in the State of Delaware; however, we are generally familiar with the Delaware General Corporation Law as currently in effect and have made such inquiries as we consider necessary to render the opinions contained in clauses (i), (ii) and (iii) above. This opinion is limited to the effect of the current state of the laws of the State of New York, the United States of America and, to the limited extent set forth above, the laws of the State of Delaware and the facts as they currently exist. We assume no obligation to revise or supplement this opinion in the event of future changes in such laws or the interpretations thereof or such facts.

B. The opinion in clause (iv) above is subject to (i) the effect of any bankruptcy, insolvency, reorganization, moratorium, arrangement or similar laws affecting the rights and remedies of creditors' generally, including without limitation the effect of statutory or other laws regarding fraudulent transfers or preferential transfers, and (ii) general principles of equity, including without limitation concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance, injunctive relief or other equitable remedies regardless of whether enforceability is considered in a proceeding in equity or at law.

GIBSON DUNN

April 23, 2018
Page 3

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption “Legal Matters” in the Registration Statement and the prospectus that forms a part thereof. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP

GIBSON DUNN

Gibson, Dunn & Crutcher LLP

555 Mission Street
San Francisco, CA 94105-0921
Tel 415.393.8200
www.gibsondunn.com

Client: 05637-00008

April 23, 2018

Atossa Genetics Inc.
107 Spring Street
Seattle, WA 98104

Ladies and Gentlemen:

We have acted as counsel to Atossa Genetics Inc., a Delaware corporation (the “Company”), in connection with the filing of the Registration Statement on Form S-1, File No. 333-223949, as amended (the “Registration Statement”), with the Securities and Exchange Commission (the “Commission”) pursuant to the Securities Act of 1933, as amended (the “Securities Act”). The Registration Statement relates to registration of (i) 20,000 non-transferable subscription rights (the “Rights”) to be distributed by the Company without consideration in connection with a rights offering (the “Rights Offering”) to holders of record of Common Stock, par value \$0.18 per share, of the Company (the “Common Stock”) and holders of record of warrants issued December 22, 2017, (ii) up to 20,000 units (the “Units”) issuable upon exercise of the Rights, each Unit consisting of one share of Series B Convertible Preferred Stock, par value \$0.001 per share (the “Preferred Stock”), and 284 warrants, with each warrant exercisable for one share of Common Stock (the “Warrants”), (iii) the Preferred Stock, (iv) the Warrants, (v) up to 5,680,000 shares of Common Stock issuable upon conversion of the Preferred Stock (the “Conversion Shares”); and (vi) up to 5,680,000 shares of Common Stock issuable upon exercise of the Warrants (the “Warrant Shares”).

For purposes of this opinion, we have reviewed originals, or copies certified or otherwise identified to our satisfaction, of the Registration Statement and the exhibit thereto and such other documents and matters of law and fact as we have considered necessary or appropriate. In addition, we have not made an independent investigation or audit of the facts set forth in the above referenced documents or otherwise provided to us. We have assumed (i) the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies, (ii) that the Rights Offering will be consummated as described in the Registration Statement; (iii) that the statements concerning the terms of the Rights Offering set forth in the Registration Statement are true, complete and correct and will remain true, complete and correct at all relevant times; and (iv) that any such statements made in the Registration Statement qualified by knowledge, intention, belief or any other similar qualification are true, complete and correct, and will remain true, complete and correct at all relevant times, in each case as if made without such qualification. If any of the above described assumptions are untrue for any reason or if the Rights Offering is consummated in a manner that is different from the manner described in the Registration Statement, our opinion as expressed below may be adversely affected.

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New York • Orange County • Palo Alto • Paris • San Francisco • São Paulo • Singapore • Washington, D.C.

GIBSON DUNN

Based upon and subject to the foregoing, and our consideration of such other matters of fact and law as we have considered necessary or appropriate, in our opinion, the statements set forth under the caption "MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES" in the Registration Statement, to the extent such statements summarize U.S. federal income tax law, and subject to the limitations, qualifications, exceptions, and assumptions set forth herein and therein, is accurate in all material respects.

We express no opinion on any issue relating to the tax consequences of the transactions contemplated by the Registration Statement other than the opinion set forth above. Our opinion set forth above is based on the Internal Revenue Code of 1986, as amended, Treasury Regulations promulgated thereunder, administrative pronouncements and judicial precedents, all as of the date hereof. The foregoing authorities may be repealed, revoked or modified, and any such change may have retroactive effect. Any change in applicable laws or facts and circumstances surrounding the Rights Offering, or any inaccuracy in the statements, facts, assumptions and representations on which we have relied may affect the validity of the opinion set forth herein. We assume no responsibility to inform the Company of any such change or inaccuracy that may occur or come to our attention.

Our opinion is not binding on the Internal Revenue Service or a court. There can be no assurance that the Internal Revenue Service will not take a contrary position or that a court would agree with our opinion if litigated.

We are furnishing this opinion in connection with the filing of the Registration Statement and this opinion is not to be relied upon for any other purpose without our prior written consent. We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this consent, we do not hereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP

Consent of Independent Registered Public Accounting Firm

Atossa Genetics Inc.
Seattle, Washington

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Amendment No. 1 to Registration Statement on Form S-1 of our report dated March 8, 2018, relating to the consolidated financial statements of Atossa Genetics Inc., appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2017. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP
Seattle, Washington

April 23, 2018

**FORM OF
INSTRUCTIONS AS TO USE OF SUBSCRIPTION RIGHTS CERTIFICATES
ATOSSA GENETICS INC.**

Please consult Broadridge Corporate Issuer Solutions, Inc., your bank or broker as to any questions.

The following instructions relate to a rights offering by Atossa Genetics Inc., a Delaware corporation (“Atossa”), to the holders of record of its common stock, \$0.18 par value (the “Common Stock”) or of December 22, 2017 warrants, as described in Atossa’s prospectus dated [●], 2018. Each holder of record of Common Stock or of December 22, 2017 warrants at the close of business on May 9, 2018, the record date, will receive, at no charge, a non-transferable subscription right for every share of Common Stock held or deemed to be held at the record date.

Subscription rights exercisable into an aggregate of 20,000 units of Atossa are being distributed in connection with the rights offering. Each unit is comprised of one share of Series B Convertible Preferred Stock and 284 warrants. Each warrant will be exercisable for one share of Common Stock. Each whole subscription right is exercisable, upon payment of the subscription price of \$1,000 in cash to purchase one unit, which we refer to as the basic subscription right. In addition, each subscription right also carries the right to subscribe at the subscription price for additional units that are not purchased by other holders pursuant to their basic subscription right (to the extent available, and subject to proration and ownership limitations), which we refer to as the over-subscription privilege. A holder is entitled to exercise an over-subscription privilege only if the holder fully exercises the basic subscription right. See “The Rights Offering” in the prospectus.

No fractional subscription rights or cash in lieu thereof will be issued or paid. Fractional subscription rights will be rounded down to the nearest whole number.

The subscription rights will expire at 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date, unless extended. If you do not exercise your subscription rights before that time, your subscription rights will expire and will no longer be exercisable. Atossa will not be required to issue shares to you if the subscription agent receives your subscription rights certificate or your subscription payment after that time. Atossa has the option to extend the rights offering in its sole discretion, although it does not presently intend to do so. Atossa may extend the rights offering by giving oral or written notice to the subscription agent before the expiration date. If Atossa elects to extend the rights offering, Atossa will issue a press release announcing the extension no later than 9:00 a.m., Eastern Time, on the next business day after the most recently announced expiration date of the rights offering.

The number of subscription rights to which you are entitled is printed on the face of your subscription rights certificate. You should indicate your wishes with regard to the exercise of your subscription rights by completing the appropriate section on the back of your subscription rights certificate and returning the subscription rights certificate with your payment to the subscription agent in the envelope provided.

Warrants that are issued as a component of the unit pursuant to the exercise of the basic subscription rights and over-subscription privilege entitle the holder to purchase one share of Common Stock at an exercise price (subject to adjustment) of \$4.05 per share. The warrants are exercisable for cash, or solely during any period when a registration statement for the exercise of the warrants is not in effect, on a cashless basis. The warrants may be redeemed for \$0.18 per warrant if the volume-weighted average price of Atossa’s Common Stock closes at or above \$10.56 for 10 consecutive trading days, upon 30 days’ prior written notice of redemption. See “The Rights Offering” in the prospectus.

YOUR SUBSCRIPTION RIGHTS CERTIFICATE MUST BE RECEIVED BY THE SUBSCRIPTION AGENT ON OR BEFORE THE EXPIRATION DATE. PAYMENT OF THE SUBSCRIPTION PRICE OF ALL SUBSCRIPTION RIGHTS EXERCISED, INCLUDING SUBSCRIPTION RIGHTS PURSUANT TO THE OVER-SUBSCRIPTION PRIVILEGE, INCLUDING FINAL CLEARANCE OF ANY CHECKS, MUST BE RECEIVED BY THE SUBSCRIPTION AGENT ON OR BEFORE THE EXPIRATION DATE.

ONCE YOU EXERCISE YOUR SUBSCRIPTION RIGHTS, YOU CANNOT REVOKE THE EXERCISE OF SUCH SUBSCRIPTION RIGHTS. SUBSCRIPTION RIGHTS NOT VALIDLY EXERCISED PRIOR TO THE EXPIRATION DATE OF THE RIGHTS OFFERING WILL EXPIRE. IN CASE YOU HOLD SUBSCRIPTION RIGHTS THROUGH A BROKER OR OTHER NOMINEE, YOU SHOULD VERIFY WITH YOUR BROKER OR NOMINEE BY WHEN YOU MUST DELIVER YOUR INSTRUCTION.

1. Subscription Rights. To exercise subscription rights, complete your subscription rights certificate and send your properly completed and executed subscription rights certificate, together with payment in full of the subscription price for each unit subscribed for pursuant to the basic subscription right and the over-subscription privilege, to the subscription agent. **PLEASE DO NOT SEND RIGHTS CERTIFICATES OR PAYMENTS TO ATOSSA** . The method of delivery of the subscription rights certificate and the payment of the subscription price to the subscription agent is at your election and risk. subscription rights certificates and payments must be received by the subscription agent prior to the expiration date. If you send your subscription rights certificate and payment by mail, then they should be sent by registered mail, properly insured, to arrive before the expiration date. If more units are subscribed for pursuant to the over-subscription privilege than are available for sale, additional units will be allocated pro rata among holders and subject to ownership limitations, as described in the prospectus. The subscription rights are non-transferable, and may not be sold, transferred, assigned or given away to anyone.

2. Acceptance of Payments. Payments will be deemed to have been received by the subscription agent only upon the (i) clearance of an uncertified personal check drawn against a Wells Fargo Bank payable to “Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc.,” (ii) receipt of a certified check drawn against a Wells Fargo Bank payable to “Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc.,” (iii) receipt of a U.S. Postal money order payable to “Broadridge Corporate Issuer Solutions, Inc., as subscription agent for Atossa Genetics Inc.”; or (iv) receipt of a wire transfer of immediately available funds directly to the account maintained by Broadridge Corporate Issuer Solutions, Inc., as subscription agent, for purposes of accepting subscriptions in this rights offering at Wells Fargo Bank, ABA, # 121000248, Account # 4124218686 FBO Atossa Genetics Inc., with reference to the name of the subscription rights holder. Funds paid by uncertified personal check may take several business days to clear. Accordingly, if you wish to pay the subscription price by uncertified personal check, then you should make payment sufficiently in advance of the expiration date to ensure its receipt and clearance by that time. To avoid disappointment caused by a failure of your subscription due to your payment not clearing prior to the expiration date, Atossa urges you to consider payment by means of certified or cashier’s check, money order or wire transfer. It is highly recommend that if you intend to pay the subscription price by personal check, then your subscription payment should be received by the subscription agent well before the expiration date. If your personal check does not clear before the expiration date, then you will not receive any units, and Atossa’s only obligation will be to return your subscription payment, without interest or deduction.

3. Contacting the Subscription Agent. The address and telephone number of the subscription agent are shown below. Delivery to an address other than shown below does not constitute valid delivery.

By mail:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS Re-Organization Dept.
P.O. Box 1317
Brentwood, New York 11717-0693
(855) 793-5068 (toll free)

By hand or overnight courier:

Broadridge Corporate Issuer Solutions, Inc.
Attn: BCIS IWS
51 Mercedes Way
Edgewood, New York 11717
(855) 793-5068 (toll free)

4. Partial Exercises; Effect of Over- and Under-Payments. If you exercise less than all of the subscription rights evidenced by your subscription rights certificate, the subscription agent will issue to you a new subscription rights certificate evidencing the unexercised subscription rights. However, if you choose to have a new subscription rights certificate sent to you, you may not receive any such new subscription rights certificate in sufficient time to permit exercise of the subscription rights evidenced thereby. If you do not indicate the number of units to be subscribed for on your subscription rights certificate, or if you indicate a number of units that does not correspond with the aggregate subscription price payment you delivered, you will be deemed to have subscribed for the maximum number of units that may be subscribed for, under both the basic subscription right and the over-subscription privilege, for the aggregate subscription price you delivered. If the subscription agent does not apply your full subscription price payment to your purchase of units, then the subscription agent will return the excess amount to you by mail, without interest or deduction, within 10 business days after the expiration date. If you subscribe for fewer than all of the units represented by your subscription rights certificate, then the unexercised subscription rights will become null and void on the expiration date.

5. Deliveries to holders. The following deliveries and payments to you will be made to the address shown on the face of your subscription rights certificate:

(a) **Basic Subscription Right.** The shares of Series B Convertible Preferred Stock and warrants that are purchased pursuant to the valid exercise of basic subscription rights to purchase units will be issued in book-entry, or uncertificated, form meaning that you will receive a direct registration (DRS) account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of Common Stock or of December 22, 2017 warrants. The subscription agent will arrange for the issuance of the Series B Convertible Preferred Stock and warrants as soon as practicable after the expiration of the rights offering, payment for the units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected. If you hold your shares of Common Stock or participating warrants in the name of a custodian bank, broker, dealer, or other nominee, The Depository Trust Company (“DTC”) will credit your account with your nominee with the securities you purchased in the rights offering.

(b) **Over-Subscription Privilege.** The shares of Series B Convertible Preferred Stock and warrants that are purchased pursuant to the valid exercise of over-subscription privileges to purchase additional units will also be issued in book-entry, or uncertificated, form meaning that you will receive a DRS account statement from our transfer agent reflecting ownership of these securities if you are a holder of record of Common Stock or of December 22, 2017 warrants. The subscription agent will arrange for the issuance of the Series B Convertible Preferred Stock and warrants as soon as practicable after the expiration of the rights offering, payment for the units subscribed for has cleared, and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected. If you hold your shares of Common Stock or participating warrants in the name of a custodian bank, broker, dealer, or other nominee, DTC will credit your account with your nominee with the securities you purchased in the rights offering.

(c) **Excess Payments.** If you exercised your over-subscription privilege and are allocated less than all of the units for which you wished to oversubscribe, then your excess subscription price payment for units that were not allocated to you will be returned by the subscription agent to you by mail, without interest or deduction, within 10 business days after the expiration date.

6. Execution.

(a) **Execution by Registered Holder.** The signature on the subscription rights certificate must correspond with the name of the registered holder exactly as it appears on the face of the subscription rights certificate without any alteration or change whatsoever. Persons who sign the subscription rights certificate in a representative or other fiduciary capacity must indicate their capacity when signing and, unless waived by the subscription agent in its sole and absolute discretion, must present to the subscription agent satisfactory evidence of their authority so to act.

(b) **Execution by Person Other Than Registered Holder.** If the subscription rights certificate is executed by a person other than the holder named on the face of the subscription rights certificate, proper evidence of authority of the person executing the subscription rights certificate must accompany the same unless the subscription agent, in its discretion, dispenses with proof of authority.

7. Method of Delivery. The method of delivery of subscription rights certificates and payment of the subscription price to the subscription agent will be at the election and risk of the subscription rights holder. If sent by mail, it is recommended that they be sent by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to and receipt by the subscription agent prior to the expiration date.

8. No Revocation. If you exercise any of your basic subscription rights or over-subscription privilege, you will not be permitted to revoke or change the exercise or request a refund of monies paid. You should not exercise your subscription rights unless you are sure that you wish to purchase units at the subscription price. Once you exercise your subscription rights, you cannot revoke the exercise of such subscription rights even if you later learn information that you consider to be unfavorable.

9. Special Provisions Relating to the Exercise of subscription rights through the Depository Trust Company. In the case of subscription rights that are held of record through DTC, exercises of the subscription rights may be effected by instructing DTC to transfer subscription rights from the DTC account of such holder to the DTC account of the subscription agent, together with certification as to the aggregate number of subscription rights exercised pursuant to the subscription right by each beneficial owner of subscription rights on whose behalf such nominee is acting, and payment of the subscription price for each unit subscribed for. Banks, brokers and other nominee holders of subscription rights who exercise the basic subscription right and the over-subscription privilege on behalf of beneficial owners of subscription rights will be required to certify to the subscription agent and Atossa as to the aggregate number of subscription rights that have been exercised, and the number of units that are being subscribed for pursuant to the over-subscription privilege, by each beneficial owner of subscription rights (including such nominee itself) on whose behalf such nominee holder is acting. In the event such certification is not delivered in respect of a subscription rights certificate, the subscription agent shall for all purposes (including for purposes of any allocation in connection with the over-subscription privilege) be entitled to assume that such certificate is exercised on behalf of a single beneficial owner.

10. Questions and Request for Additional Materials. For questions regarding the rights offering, assistance regarding the method of exercising subscription rights or for additional copies of relevant documents, please contact the Information Agent as follows:

Broadridge Corporate Issuer Solutions, Inc.
(855) 793-5068 (toll free)

**FORM OF
LETTER TO STOCKHOLDERS WHO ARE RECORD HOLDERS
ATOSSA GENETICS INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Stockholders and Holders of Participating Warrants of
Atossa Genetics Inc.

[●], 2018

Dear Stockholder:

This letter is being distributed by Atossa Genetics Inc. (the “Company”) to all holders of record of shares of its common stock, \$0.18 par value per share (the “Common Stock”) or of December 22, 2017 warrants as of 5:00 p.m., Eastern Time, on May 9, 2018, the record date, in connection with a distribution in a rights offering of non-transferable subscription rights to subscribe for and purchase units. Each unit entitles the holder to one share of the Company’s Series B Convertible Preferred Stock and 284 warrants. Each warrant will be exercisable for one share of Common Stock. The subscription rights and units are described in the prospectus dated [●], 2018 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 20,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on May 10, 2018 and ends at 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date, unless extended in the sole discretion of the Company and Maxim Group LLC.

As described in the prospectus, holders will receive one subscription right for every share of Common Stock owned on the record date, evidenced by non-transferable subscription rights certificates. Each subscription right entitles the holder to purchase one unit at the subscription price, which we refer to as the basic subscription right.

Based on 2,651,895 shares of common stock outstanding as of April 20, 2018, and 883,333 shares of common stock issuable upon exercise of warrants issued December 22, 2017, we would grant subscription rights to acquire 3,535,228 units but will only accept subscriptions for 20,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If exercises of basic subscription rights exceed the number of units available in the rights offering, we will allocate the available units pro-rata among the record holders exercising the basic subscription rights in proportion to the number of shares of our common stock each of those record holders owned on the record date (including shares of common stock issuable upon exercise of warrants issued December 22, 2017), relative to the number of shares owned on the record date by all record holders exercising the over-subscription privilege. If this pro-rata allocation results in any record holders receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the basic subscription rights, then such record holder will be allocated only that number of units for which the record holder subscribed, and the remaining units will be allocated among all other record holders exercising their basic subscription rights on the same pro rata basis described above. The proration process will be repeated until all units have been allocated. If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the subscription agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

The Company will not issue fractional shares or warrants. Fractional shares or warrants resulting from the exercise of the basic subscription rights and the over-subscription privileges will be eliminated by rounding down to the nearest whole unit. Any excess subscription payment received by the subscription agent will be returned, without interest or penalty, within 10 business days following the expiration of the offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Subscription Rights Certificate
3. Instructions As to Use of Subscription Rights Certificates
4. Notice of Important Tax Information
5. A return envelope, addressed to Broadridge Corporate Issuer Solutions, Inc. , the subscription agent

Your prompt attention is requested. To exercise your subscription rights, you should deliver the properly completed and signed subscription rights certificate, with payment of the subscription price in full for each unit subscribed for pursuant to the basic subscription right and over-subscription privilege, if applicable, to the subscription agent, as indicated in the prospectus. The subscription agent must receive the properly completed and duly executed subscription certificate and full payment of the subscription price, including final clearance of any checks, prior to the expiration date.

You cannot revoke the exercise of your subscription right. Subscription rights not exercised at or prior to 5:00 p.m., Eastern Time, on the expiration date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

**FORM OF
LETTER TO BROKERS, DEALERS, BANKS AND OTHER NOMINEES
ATOSSA GENETICS INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Stockholders and Holders of Participating Warrants of
Atossa Genetics Inc.

[●], 2018

To Brokers, Dealers, Banks and Other Nominees:

This letter is being distributed by Atossa Genetics Inc. (the “Company”) to brokers, dealers, banks and other nominees in connection with the rights offering by Atossa Genetics Inc. (the “Company”) to subscribe for and purchase units, pursuant to non-transferable subscription rights distributed to all holders of record of the Company’s common stock, \$0.18 par value per share (the “Common Stock”) or of December 22, 2017 warrants, as of 5:00 p.m., Eastern Time, on May 9, 2018, the record date. Each unit entitles the holder to one share of the Company’s Series B Convertible Preferred Stock, \$0.001 par value per share, and 284 warrants. Each warrant will be exercisable for one share of Common Stock. The subscription rights and units are described in the prospectus dated [●], 2018 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 20,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on May 10, 2018 and ends at 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date, unless extended in the sole discretion of the Company and Maxim Group LLC.

As described in the prospectus, each beneficial owner of shares of Common Stock or of December 22, 2017 warrants is entitled to one subscription right for every share of Common Stock owned by such beneficial owner (including such shares issuable upon the exercise of December 22, 2017 warrants) on the record date, evidenced by non-transferable subscription rights certificates registered in the record holder’s name or its nominee. Each subscription right entitles holder to purchase one unit at the subscription price, which we refer to as the basic subscription right.

Holders who fully exercise their basic subscription right will be entitled to subscribe for additional units that remain unsubscribed as a result of any unexercised basic subscription right (the “over-subscription privilege”). Subject to stock ownership limitations described in the prospectus, if sufficient units are available, all over-subscription privilege requests will be honored in full. If over-subscription privilege requests for units exceed the remaining units available, the remaining units will be allocated pro-rata among holders who over-subscribe based on the number of shares of Common Stock held by all holders exercising the over-subscription privilege. If this pro rata allocation results in any holder receiving a greater number of units than the holder subscribed for, then such holder will be allocated only the number of units for which the holder oversubscribed, and the remaining units will be allocated among all holders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all units have been allocated.

The Company will not issue fractional shares. Fractional shares resulting from the exercise of the basic subscription rights and the over-subscription privileges will be eliminated by rounding down to the nearest whole unit. Any excess subscription payment received by the subscription agent will be returned, without interest or penalty, within 10 business days following the expiration of the offering.

The Company is asking persons who hold shares of the Company’s Common Stock or December 22, 2017 warrants beneficially, and who have received the subscription rights distributable with respect to those securities through a broker, dealer, bank, or other nominee, to contact the appropriate institution or nominee and request it to effect the transactions for them.

If you exercise subscription rights on behalf of beneficial owners, you will be required to certify to the subscription agent and the Company, in connection with such exercise, as to the aggregate number of subscription rights that have been exercised pursuant to the basic subscription right, whether the basic subscription rights of each beneficial owner of subscription rights on whose behalf you are acting has been exercised in full, and the number of units being subscribed for pursuant to the over-subscription privilege by each beneficial owner of subscription rights on whose behalf you are acting.

The Company is asking you to contact your clients for whom you hold shares of Common Stock or December 22, 2017 warrants registered in your name or the name of your nominee to obtain instruction with respect to the subscription rights.

Enclosed are copies of the following documents:

1. Prospectus
2. Subscription Rights Certificate
3. Instructions as to Use of Subscription Rights Certificates
4. Form of Letter to Shareholders Who are Beneficial Holders
5. Form of Beneficial Owner Election Form
6. Form of Nominee Holder Certification

All commissions, fees and other expenses (including brokerage commissions and transfer taxes), other than fees and expenses of the subscription agent, incurred in connection with the exercise of the subscription rights will be for the account of the holder, and none of such commissions, fees or expenses will be paid by the Company or the subscription agent.

Your prompt action is requested. To exercise the subscription rights, you should deliver the properly completed and signed subscription rights certificate, with payment of the subscription price in full for each unit subscribed for pursuant to the basic subscription right and over-subscription privilege, if applicable, to the subscription agent, as indicated in the prospectus. The subscription agent must receive the properly completed and duly executed subscription rights certificate and full payment of the subscription price, including final clearance of any checks, prior to the expiration date.

A holder cannot revoke the exercise of a subscription right. Subscription rights not exercised at or prior to 5:00 p.m., Eastern Time, on the expiration date will expire.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

**FORM OF
BROKER LETTER TO CLIENTS WHO ARE BENEFICIAL HOLDERS
ATOSSA GENETICS INC.**

Subscription Rights to Purchase Units
Offered Pursuant to Subscription Rights Distributed to Stockholders and Holders of Participating Warrants of
Atossa Genetics Inc.

[●], 2018

To our Clients:

This letter is being distributed to our clients who are holders of Atossa Genetics Inc. (the “Company”) common stock, \$0.18 par value per share (the “Common Stock”) or of December 22, 2017 warrants, as of 5:00 p.m., Eastern Time, on May 9, 2018, the record date, in connection with a distribution in a rights offering of non-transferable subscription rights to subscribe for and purchase units. Each unit entitles the holder to one share of the Company’s Series B Convertible Preferred Stock, \$0.001 par value per share, and 284 warrants. Each warrant will be exercisable for one share of Common Stock. The subscription rights and units are described in the prospectus dated [●], 2018 (a copy of which accompanies this notice).

Pursuant to the rights offering, the Company is issuing subscription rights to subscribe for up to 20,000 units on the terms and subject to the conditions described in the prospectus, at a subscription price of \$1,000 per unit.

The subscription rights may be exercised at any time during the subscription period, which commences on May 10, 2018 and ends at 5:00 p.m., Eastern Time, on May 24, 2018, the expiration date, unless extended by the Company in its sole discretion.

As described in the prospectus, holders will receive one subscription right for every share of Common Stock owned on the record date, evidenced by non-transferable subscription rights certificates. Each subscription right entitles the holder to purchase one unit at the subscription price, which we refer to as the basic subscription right.

Based on 2,651,895 shares of Common Stock outstanding as of April 20, 2018, and 883,333 shares of Common Stock issuable upon exercise of warrants issued December 22, 2017, we would grant subscription rights to acquire 3,535,228 units but will only accept subscriptions for 20,000 units. Accordingly, sufficient units may not be available to honor your subscription in full. If exercises of basic subscription rights exceed the number of units available in the rights offering, we will allocate the available units pro-rata among the record holders exercising the basic subscription rights in proportion to the number of shares of our Common Stock each of those record holders owned on the record date (including shares issuable upon exercise of warrants issued December 22, 2017), relative to the number of shares owned on the record date by all record holders exercising the over-subscription privilege. If this pro-rata allocation results in any record holders receiving a greater number of units than the record holder subscribed for pursuant to the exercise of the basic subscription rights, then such record holder will be allocated only that number of units for which the record holder subscribed, and the remaining units will be allocated among all other record holders exercising their basic subscription rights on the same pro rata basis described above. The proration process will be repeated until all units have been allocated. If for any reason the amount of units allocated to you is less than you have subscribed for, then the excess funds held by the Subscription Agent on your behalf will be returned to you, without interest, as soon as practicable after the rights offering has expired and all prorating calculations and reductions contemplated by the terms of the rights offering have been effected, and we will have no further obligations to you.

The Company will not issue fractional shares. Fractional shares resulting from the exercise of the basic subscription rights and the over-subscription privileges will be eliminated by rounding down to the nearest whole unit. Any excess subscription payment received by the subscription agent will be returned, without interest or penalty, within 10 business days following the expiration of the offering.

Enclosed are copies of the following documents:

1. Prospectus
2. Form of Beneficial Owner Election Form
3. Instructions As to Use of subscription rights Certificates

THE MATERIALS ENCLOSED ARE BEING FORWARDED TO YOU AS THE BENEFICIAL OWNER OF COMMON STOCK HELD BY US IN YOUR ACCOUNT BUT NOT REGISTERED IN YOUR NAME. EXERCISES OF SUBSCRIPTION RIGHTS MAY BE MADE ONLY BY US AS THE RECORD OWNER AND PURSUANT TO YOUR INSTRUCTIONS.

Accordingly, we request instructions as to whether you wish us to elect to subscribe for any units to which you are entitled pursuant to the terms and subject to the conditions set forth in the enclosed prospectus and other materials. However, we urge you to read the prospectus and other enclosed materials carefully before instructing us to exercise your subscription rights.

Your instructions to us should be forwarded as promptly as possible in order to permit us to exercise subscription rights on your behalf in accordance with the provisions of the rights offering. The rights offering will expire at 5:00 p.m., Eastern Time, on the expiration date. You are encouraged to forward your instructions to us before the expiration date to allow us ample time to act upon your instructions. A holder cannot revoke the exercise of a subscription right.

If you wish to have us, on your behalf, exercise the subscription rights for any units to which you are entitled, please so instruct us by timely completing, executing, and returning to us the Beneficial Owner Election Form enclosed with this notice.

ANY QUESTIONS OR REQUESTS FOR ASSISTANCE CONCERNING THE RIGHTS OFFERING SHOULD BE DIRECTED TO BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC., THE INFORMATION AGENT, TOLL-FREE AT (855) 793-5068.

**FORM OF
BENEFICIAL OWNER ELECTION FORM
ATOSSA GENETICS INC.**

The undersigned acknowledge(s) receipt of your letter and the enclosed materials referred to therein relating to the rights offering by Atossa Genetics Inc., a Delaware corporation (the "Company"), of non-transferable subscription rights to purchase units, each such unit comprised of one share of the Company's Series B Convertible Preferred Stock, \$0.001 par value, and 284 warrants. Each warrant will be exercisable for one share of the Company's common stock, \$0.18 par value ("Common Stock").

This will instruct you whether to exercise subscription rights to purchase units distributed with respect to the shares of the Common Stock held by you for the account of the undersigned, pursuant to the terms and subject to the conditions set forth in the prospectus. (Check the applicable boxes and provide all required information.)

- Please DO NOT EXERCISE SUBSCRIPTION RIGHTS for units.
- Please EXERCISE SUBSCRIPTION RIGHTS for units as set forth below:

	No. of Units		Per Unit Subscription Price		Payment
Basic Subscription Right	[]	X	\$1,000	=	\$[]
Over-Subscription Privilege	[]	X	\$1,000	=	\$[]
Total Payment Required					\$[]

If you spoke with a broker who solicited such exercise, please indicate the name of the person you spoke with: _____.

- Payment in the following amount is enclosed \$_____ (must match Total Payment Required above)
- Please deduct payment from the following account maintained by you as follows:

Type of Account:
Account No.:
Amount to be deducted: \$

I (we) on my (our) own behalf, or on behalf of any person(s) on whose behalf, or under whose directions, I am (we are) signing this form:

- irrevocably elect to purchase the number of units indicated above upon the terms and conditions specified in the prospectus; and
- agree that if I (we) fail to pay for the shares I (we) have elected to purchase, the exercise will be invalid.

Signature:

Name:
Title:
Address:
Telephone:
Date: _____, 2018



**FORM OF
NOMINEE HOLDER CERTIFICATION
ATOSSA GENETICS INC.**

The undersigned, a bank, broker, dealer, trustee, depository, or other nominee of non-transferable subscription rights to purchase units of Atossa Genetics Inc. (the "Company"), said units each comprised of one share of Series B Convertible Preferred Stock and 284 warrants pursuant to the subscription rights offering described and provided for in the Company's prospectus dated [____], 2018, hereby certifies to the Company and Broadridge Corporate Issuer Solutions, Inc., as subscription agent for such rights offering, that (1) the undersigned has exercised, on behalf of the beneficial owners thereof (which may include the undersigned), the number of subscription rights on the terms and subject to the conditions set forth in the prospectus specified below pursuant to the basic subscription right (as defined in the prospectus) and, on behalf of beneficial owners of subscription rights who have subscribed for the purchase of additional units pursuant to the over-subscription privilege (as defined in the prospectus), the number of units specified below, listing separately below each such exercised basic subscription right and the corresponding over-subscription privilege (without identifying any such beneficial owner), and (2) to the extent a beneficial owner has elected to subscribe for units pursuant to the over-subscription privilege, each such beneficial owner's basic subscription right has been exercised in full:

Number of Shares Owned on the Record Date	Individual Soliciting Broker (if any)	Number of Units Subscribed for Pursuant to the Basic Subscription Right	Number of Units Subscribed for Pursuant to the Over-Subscription Privilege
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Name of Nominee Holder

By:

Name:

Title:

Phone Number:

Fax Number:

Dated:

Provide the following information, if applicable:

DTC Participant Number

DTC Participant

By:

Name:

Title:

DTC Basic Subscription
Confirmation Number(s)

Dated:

**FORM OF
NOTICE OF IMPORTANT TAX INFORMATION
ATOSSA GENETICS INC.**

This notice is provided in connection with the prospectus of Atossa Genetics Inc. (“Atossa”) dated [____], 2018.

Under the U.S. federal income tax laws, distributions (including constructive distributions) that may be made by Atossa in respect of shares of its Series B Convertible Preferred Stock or warrants acquired through the exercise of the subscription rights or shares of its common stock acquired through conversion of its Series B Convertible Preferred Stock or exercise of the warrants, themselves issued through the exercise of the subscription rights, may be subject to backup withholding. Generally such payments will be subject to backup withholding unless the holder (i) is exempt from backup withholding and timely and properly establishes an exemption from backup withholding or (ii) furnishes the payer with its correct taxpayer identification number (“TIN”) and certifies, under penalties of perjury, that the number provided is correct and provides certain other certifications. Each holder that exercises subscription rights and wants to avoid backup withholding must, unless an exemption applies, provide the subscription agent, as Atossa’s agent in respect of the exercised subscription rights, with such holder’s correct TIN and certain other certifications by completing the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification). The TIN that must be provided is the TIN of the record owner of the subscription rights. If such record owner is an individual, the TIN is generally the taxpayer’s social security number. For most entities, the TIN is the employer identification number. If the subscription rights are in more than one name or are not in the name of the actual owner, consult the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification) for additional guidelines on which number to report. If the subscription agent is not provided with the correct TIN in connection with such payments, the holder may be subject to a penalty imposed by the IRS.

Certain holders (including, among others, certain corporations and foreign persons) are not subject to these backup withholding rules. In general, in order for a holder that is a “U.S. person” for U.S. federal income tax purposes to qualify as an exempt recipient, that holder must timely submit a properly completed Form W-9 attesting to such holder’s exempt status. See the enclosed Form W-9 (Request for Taxpayer Identification Number and Certification) for additional instructions. In general, in order for a holder that is not a “U.S. person” for U.S. federal income tax purposes to qualify as an exempt recipient, that holder must timely submit a properly completed Form W-8BEN, Certificate of Foreign Status of Beneficial Owner for United States Tax Withholding and Reporting (Individuals), Form W-8BEN-E, Certificate of Status of Beneficial Owner for United States Tax Withholding and Reporting (Entities) or other appropriate Form W-8, signed under the penalties of perjury, attesting to such holder’s foreign status. Such Form W-8BEN or Form W-8BEN-E may be obtained from the subscription agent. Holders are urged to consult their own tax advisors to determine whether they are exempt from withholding and reporting requirements. If backup withholding applies, Atossa or the subscription agent, as the case may be, will be required to withhold (currently at a 24% rate) on any reportable payments made to a holder that exercises subscription rights. Backup withholding is not an additional tax. Rather, the amount of backup withholding can be credited against the U.S. federal income tax liability of the holder subject to backup withholding, provided that the required information is timely provided to the Internal Revenue Service (“IRS”). If backup withholding results in an overpayment of taxes, a refund may be obtained, provided that the required information is timely provided to the IRS.

THIS DISCUSSION IS FOR INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE BACKUP WITHHOLDING RULES TO THEM.
