Filed Pursuant to Rule 424(b)(3)
Registration Statement No. 333-250820

Units Consisting of an Aggregate of
14,575,000 Shares of Common Stock
5,425 Shares of Series C Convertible Preferred Stock and
Warrants Convertible Into Up to 15,000,000 Shares of Common Stock
(and the Shares of Common Stock Underlying the Preferred Stock and Warrants)

Units consisting of an aggregate of 14,575,000 shares of our common stock, par value $0.18 per share (the "common stock") and warrants exercisable into an aggregate of 10,931,250 shares of common stock (the "common units"). We are also offering to certain large investors beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering, in lieu of common units, the opportunity to purchase units consisting of an aggregate of 5,425 shares of Series C convertible preferred stock, par value $0.001 per share (the "Series C preferred stock") convertible into an aggregate of 5,425,000 shares of common stock, subject to certain beneficial ownership limitations, and warrants exercisable into 4,068,750 shares of common stock (the "preferred units" and, together with the common units, the "units"). The warrants included in the units will be immediately exercisable at $1.00 per warrant, subject to certain beneficial ownership limitations, and will expire 48 months from the issue date (the "warrants").

The maximum aggregate offering price of all units sold in this offering will be $23,000,000, which includes $3,000,000 in units that may be sold pursuant to the underwriter's over-allotment option. This offering also relates to the shares of common stock issuable upon conversion of the Series C preferred stock and the warrants sold in this offering. The shares of common stock and Series C preferred stock, if any, can each be purchased in this offering only with the accompanying warrants (other than pursuant to the underwriters' option to purchase additional units) as part of units, but the components of the units will immediately separate upon issuance.

Our common stock is currently quoted on The Nasdaq Capital Market ("Nasdaq") under the symbol "ATOS". On December 8, 2020, the last reported sale price per share of our common stock on Nasdaq was $1.43. There is no trading market for the Series C convertible preferred stock or the warrants and we do not currently intend to apply for listing of the Series C convertible preferred stock or the warrants on any securities exchange or recognized trading system.

Investing in our securities involves risks. You should carefully consider the Risk Factors included in this prospectus before you make an investment in our securities.

	Per common Unit (common stock and warrants)	Per preferred Unit (Series C preferred stock and warrants)	Total
Public offering price	$ 1.00	$ 1,000	$ 20,000,000
Underwriting discount (1)	$ 0.08	$ 80	$ 1,600,000
Proceeds, before expenses, to us (2)	$ 0.92	$ 920	$ 18,400,000

(1) See the section titled "Underwriting" for additional information regarding compensation payable to the underwriter.
(2) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the warrants being issued in this offering.

We have granted the underwriter an option to purchase up to an additional 3,000,000 shares of common stock and warrants to purchase up to an aggregate of 2,250,000 shares of common stock at the public offering price, less the underwriting discount, for 45 days after the date of this prospectus.

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.

The common stock, Series C preferred stock and warrants contained in the units will be ready for delivery on or about December 11, 2020.

Sole Book-Running Manager

MAXIM GROUP LLC

The date of this prospectus is December 8, 2020

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ABOUT THIS PROSPECTUS

We have not, and the underwriters have not, authorized anyone to provide you with information that is different from that contained in this prospectus we may authorize to be delivered or made available to you. When you make a decision about whether to invest in our securities, you should not rely upon any information other than the information in this prospectus or in any free writing prospectus that we may authorize to be delivered or made available to you. Neither the delivery of this prospectus nor the sale of our securities means that the information contained in this prospectus or any free writing prospectus is correct after the date of this prospectus or such free writing prospectus. This prospectus is not an offer to sell or the solicitation of an offer to buy our securities in any circumstances under which the offer or solicitation is unlawful.

For investors outside the United States: We have not, and the underwriters have not, taken any action 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 the securities covered hereby and the distribution of this prospectus outside the United States.

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market share, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. Our management estimates have not been verified by any independent source, and we have not independently verified any third-party information. In addition, assumptions and estimates of our and our industry's future performance are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause our future performance to differ materially from our assumptions and estimates. See "Cautionary Note Regarding Forward-Looking Statements."

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to the registration statement of which this prospectus is a part were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties thereto, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context otherwise requires, references in this prospectus to "Atossa," "the Company," "we," "us" and "our" refer to Atossa Therapeutics, 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 or the accompanying prospectus are the property of their respective owners.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains, 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”). 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:

- the impact of the ongoing coronavirus pandemic and the degree to which the pandemic negatively impacts our supply chain, clinical trial enrollment and timing and our ability to access capital markets;
- whether we can obtain approval from the U.S. Food and Drug Administration ("FDA"), and foreign regulatory bodies, to commence our clinical trials, including our planned COVID-19 trials, and to sell, market and distribute our therapeutics under development;
- our ability to successfully initiate and complete clinical trials of our pharmaceutical candidates under development, including our oral and topical Endoxifen (an active metabolite of Tamoxifen);
- the success, cost and timing of our product and drug development activities and clinical trials, including whether our study using our oral Endoxifen will enroll a sufficient number of subjects or be completed in a timely fashion or at all;
- whether we will successfully initiate and complete our clinical trial of oral Endoxifen to reduce mammographic breast density and whether the study will meet its objective;
- 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;
- whether the final study results will vary from preliminary study results that we may announce;
- 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.

These and other forward-looking statements made herein are presented as of the date of this prospectus. We have included important factors in the cautionary statements included in this prospectus, particularly in the section titled Risk Factors that we believe could cause actual results or events to differ materially from the anticipated results as set forth in 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

Company Overview

We are a clinical-stage biopharmaceutical company seeking to discover and develop innovative medicines in areas of significant unmet medical need with a focus on coronavirus ("COVID-19"), breast cancer and other breast conditions. Our two COVID-19 drugs under development are AT-H201, to improve lung function of moderate to severely ill, hospitalized COVID-19 patients by inhalation, and AT-301, a nasal spray for COVID-19 patients for at-home use. Our drug under development for breast cancer and other breast conditions is Endoxifen which is being developed primarily in two settings: one to reduce tumor cell activity in breast cancer patients in the "window of opportunity" between diagnosis of breast cancer and surgery; and another for women with dense breast tissue to reduce the density and/or to act as an adjunct to mammography.

Summary of Leading Programs

A summary of our four leading programs is as follows:

AT-301. AT-301 is our proprietary drug candidate intended for nasal administration in patients immediately following diagnosis of COVID-19 but who have not yet exhibited symptoms severe enough to require hospitalization. It is intended for at-home use to proactively reduce symptoms of COVID-19 and to slow the infection rate so that a person's immune system can more effectively fight COVID-19. We also intend to conduct testing to determine whether AT-301 can be used as a prophylaxis to prevent or mitigate SARS-CoV-2, with the goal that it could complement any traditional vaccine that may be developed in that a traditional vaccine may not be effective in all people and may not be taken by all people.

AT-301 is being developed with a nasal spray delivery mechanism because many COVID-19 patients are infected via the nasal passage. Collectively, the components of AT-301 are believed to help maintain a protective mucosal like layer within the nasal cavity with both anti-viral properties and a protective mucosal like barrier that may lead to lower infectivity and reduced symptoms in COVID-19 patients due to their interference with the spike protein of the virus in the nasal cavity and upper respiratory tract. Our nasal spray formulation AT-301 is being designed to contain ingredients that can potentially block SARS-CoV-2 viral entry gene proteins in nasal epithelial cells by interfering with spike protein activation by host proteases, by masking receptor binding domains (RBD) via electrostatic mechanisms, and by providing a generalized mucoadhesive epithelial barrier.

In July 2020, we completed in vitro testing of AT-301 which showed that AT-301 inhibits SARS-CoV-2 infectivity of VERO cells in a laboratory culture.

We recently completed a Phase 1 study of AT-301 which was a double-blinded, randomized, and placebo-controlled safety study of AT-301 nasal spray in 32 healthy adult subjects divided into two study groups. Part A consisted of two single-dose cohorts receiving either active therapy, AT-301B, or the placebo comparator AT-301A at two doses. Part B was a multiple dose arm with cohorts receiving either AT-301A or AT-301B for 14 days at two doses. The primary objective of the study is to evaluate the safety and tolerability of single and multiple doses of AT-301 administered via nasal instillation to healthy volunteers. Secondary objectives are to assess the incidence and severity of local irritation and bronchospasm following administration of AT-301 via nasal instillation. Dosing is complete and data output is expected in January 2021. A preliminary evaluation of the blinded data indicates that there we no serious adverse events, no discontinuations, and only one of the subjects in the study experienced adverse events that were considered moderate in severity; all other adverse events were considered mild. Our preliminary assessment is that our AT-301 nasal spray was safe and well tolerated in this study. These results support advancing this program into a Phase 2 study. We are in the process of preparing a pre-IND meeting request with the U.S. FDA which we plan to submit in December 2020.

AT-H201. AT-H201 is a proprietary combination of two drugs previously approved by the FDA to treat other diseases. It is intended to improve compromised lung function for moderate to severely ill, hospitalized COVID-19 patients by inhalation. There are five known key steps the coronavirus must take to signal the cell to open up and let the virus in. AT-H201 is being designed to function like a "chemical vaccine" by blocking all five of those steps, similar to what antibodies would be expected to do when a vaccine is administered. In May 2020, we completed in vitro testing of AT-H201 which showed that the components of AT-H201 inhibit SARS-CoV-2 infectivity of VERO cells, which is a standard cell type being used to study infectivity of the coronavirus. The AT-H201 components were found to be at least four times more potent than remdesivir and at least 20 times more potent than hydroxychloroquine. Potency was measured by microscopic examination of the cytopathic effect caused by SARS-CoV-2 in VERO cells. Developing new drugs that combine drugs previously approved by the FDA typically requires pre-clinical and clinical studies of the individual components of the new drug as well as the combination of the components in the new drug. In the second quarter 2020, we requested a pre-IND meeting with the FDA to discuss the AT-201 program, including a proposed study at NYC Health + Hospitals/Metropolitan in New York City. The FDA requested that we provide, among other things, additional pre-clinical and other information on AT-H201. We also requested a pre-IND meeting with the FDA to discuss one of the components of AT-H201, to which the FDA provided guidance. We are evaluating conducting the study outside the United States. We plan to commence the initial clinical study of AT-H201 in the first quarter of 2021.

We have filed provisional patent applications on AT-H201 to treat COVID-19 patients and on AT-301 to treat patients diagnosed with, or to prevent, COVID-19 via nasal spray.

Endoxifen for MBD. Mammographic breast density (MBD) is an emerging public health issue affecting over 10 million women in the U.S. Studies conducted by others have shown that MBD increases the risk of developing breast cancer and that reducing MBD can reduce the incidence of breast cancer. In December 2019, we contracted with Stockholm South General Hospital to conduct a randomized, double-blinded, placebo-controlled study of our oral Endoxifen in pre-menopausal women with MBD who will be dosed over six months. This study will evaluate safety, tolerability and efficacy. The primary endpoint is the change of MBD after six months of daily Endoxifen treatment. The study is subject to approval by the European Medical Product Authority and ethics board. Subject to receipt of all necessary regulatory approvals, we are planning for the study to be conducted in Stockholm, Sweden commencing in the first quarter 2021.

In June 2019, we reported preliminary analysis from our Phase 2 study of proprietary daily topical Endoxifen to reduce MBD, showing significant (p=0.02) and rapid reduction in MBD at the 20mg daily dose level. MBD was reduced by an average of 14.3% in the group applying 20mg daily topical Endoxifen, which was statistically significant (p=0.02). In the lower dose group (10mg), MBD was reduced by an average of 9.0%, but was not statistically significant. Approximately 70% of participants receiving 20mg topical Endoxifen experienced a reduction in MBD, and of those, the mean reduction in MBD was 27%. Many participants in this study, however, experienced adverse skin reactions and dropped out of the study. We plan to reevaluate our development strategy for the topical form of Endoxifen once we complete the Phase 2 study of oral Endoxifen to reduce MBD.

Endoxifen for Window of Opportunity. We are currently conducting a Phase 2 study in Australia in the window of time between diagnosis of breast cancer and surgical treatment. The study will enroll up to 25 newly-diagnosed patients with ER+ and human epidermal growth factor receptor 2 negative (HER2-) stage 1 or 2 invasive breast cancer, requiring mastectomy or lumpectomy. Patients will receive Atossa's proprietary oral Endoxifen for at least 14 days from the time of diagnosis up to the day of surgery. The primary endpoint is to determine if the administration of oral Endoxifen reduces the tumor activity as measured by Ki-67. The secondary endpoints are safety and tolerability and assessment of the study drug on expression levels of both estrogen and progesterone receptors. The impact on additional markers of cellular activity will also be explored.

In May 2020, we reported interim results from our window of opportunity study. A statistically significant (p=0.031) reduction of about 74% in tumor cell proliferation, as measured by Ki-67, over the 22 days of dosing was achieved in the initial patients. Ki-67 is a recognized standard measurement of breast cancer cell proliferation. The purpose of this study is to determine if Atossa's oral Endoxifen reduces breast cancer tumor cell proliferation as measured by several biomarkers, including Ki-67. Six out of six (100%) patients experienced a significant reduction in Ki-67. A summary of these results includes:

- Ki-67 was reduced by more than 50% in every patient in the window of opportunity between initial biopsy and surgery, with an overall relative reduction of 74%.
- All six patients had a Ki-67 below 25% after treatment. In a paper entitled, "Prognostic value of different cut-off levels of Ki-67 in breast cancer: a systematic review and meta-analysis of 64,196 patients," Ki-67 was an independent prognostic value for predicting overall survival in ER+ breast cancer patients. Ki-67 levels below 25% were associated with the lowest risk of death in this systematic review and meta-analysis.

- Treatment ranged from 16-40 days with an average of 22 days.
- There were no safety or tolerability issues, including vasomotor symptoms such as hot flashes and night sweats, which are often a tolerability challenge for patients on tamoxifen.

This study continues to be open for enrollment; however, enrollment has been slower than anticipated in part due to fewer patients undergoing breast cancer surgery in Australia as a result of the Coronavirus pandemic.

About Endoxifen

Endoxifen is an active metabolite of tamoxifen which is an FDA-approved drug to treat and prevent breast cancer in high risk women. Endoxifen has been studied in 70 participants in Atossa-conducted Phase 1 clinical studies. No serious adverse events were reported in any of the studies.

In May 2020, we reported that the FDA recently provided written input on our clinical path for oral Endoxifen to reduce MBD. The input was provided pursuant to a pre-IND meeting request which was scheduled for April 30, 2020. The input received from the FDA was very useful and will inform our clinical trial strategy and study design both in the U.S. and in Stockholm, Sweden where we are planning a Phase 2 study to reduce MBD.

Compassionate Use of Endoxifen

In December 2018, we began providing our oral Endoxifen to a pre-menopausal, estrogen-receptor positive (ER+), lacking CYP2D6 function, breast cancer patient under an FDA-approved expanded access, single patient, or "compassionate use" program. The purpose of this therapeutic approach was to reduce activity of the cancer cells prior to surgery. The patient received daily doses of our oral Endoxifen for approximately three weeks prior to surgery. There were no safety or tolerability issues and her surgery was successfully completed. The cancer cell biological activity was reduced, based on the estrogen receptor activity of the tumor cells and a 50% reduction in Ki-67. The FDA has also permitted use of our Endoxifen for this patient following her surgery, under the compassionate use program, as part of her long-term breast cancer treatment regimen. The use of our proprietary oral Endoxifen is restricted solely to this patient. In July 2020, we reported an update on this patient, who has received Endoxifen for 18 months post-surgery. To date, the patient has not had a recurrence of breast cancer, has not had treatment-related changes in periodic laboratory blood tests and the treatment has been well tolerated, including an absence of typically seen vasomotor symptoms (night sweats and hot flashes).

Research and Development Phase

We are in the research and development phase and are not currently marketing any products. We do not anticipate generating revenue unless and until we develop and launch our pharmaceutical programs.

Impact of the Novel Coronavirus

The continued spread of the COVID-19 pandemic is affecting the United States and global economies and may affect the Company’s operations and those of third parties on which the Company relies, including causing possible disruptions in the supply of the Company’s Endoxifen, AT-H201, AT-301 and the conduct of current and future clinical trials. In addition, the COVID-19 pandemic may affect the operations of the U.S. Food and Drug Administration and other health authorities including similar entities/agencies in Sweden and Australia, which could result in delays in meetings, reviews and approvals. The evolving COVID-19 pandemic could also directly or indirectly impact the pace of enrollment in the Company’s clinical trials for at least the next several months and possibly longer as patients may avoid or may not be able to travel to healthcare facilities and physicians’ offices except for a health emergency. Such facilities and offices may also be required to focus limited resources on non-clinical trial activities, including treatment of COVID-19 patients, and may not be available, in whole or in part, for clinical trial activities related to the Company's products under development. Additionally, while the potential economic impact brought by, and the duration of, the COVID-19 pandemic is difficult to assess or predict, the impact of the COVID-19 pandemic on the global financial markets may reduce the Company’s ability to access capital, which could negatively impact the Company’s short-term and long-term liquidity. The ultimate impact of the COVID-19 pandemic is highly uncertain and subject to change. The Company does not yet know the full extent of potential delays or impacts on its business, financing or clinical trial activities or on healthcare systems or the global economy as a whole. However, these effects could have a material adverse impact on the Company’s liquidity, capital resources, operations, financial position and business and those of the third parties on which we rely. As of September 30, 2020, the Company has not experienced any delay in drug supply for its ongoing and planned clinical studies, including studies of Endoxifen, AT-301 and AT-H201. Currently, enrollment is open in Australia for the Endixofen Window of Opportunity study for which enrollment continues to be slow due in part to disruption caused by COVID-19. The Company anticipates commencing the MBD Endoxifen trial in the fourth quarter of 2020. The Company opened enrollment in the AT-301 trial during the third quarter of 2020 and completed enrollment in the fourth quarter 2020. We anticipate receiving regulatory approval to commence the initial clinical study of one of the components of AT-H201 in the first quarter of 2021. The Company will continue to monitor future enrollment in studies for potential restrictions on site visits, mammograms or the impositions of new restrictions on trials as a result of the COVID-19 pandemic.

Corporate Information

We were incorporated in the state of Delaware in 2009. On January 6, 2020, we changed our corporate name from Atossa Genetics Inc. to Atossa Therapeutics, Inc. Our corporate headquarters are located at 107 Spring Street, Seattle, Washington 98104. Our telephone number is (206) 588-0256 and our Internet website address is www.atossatherapeutics.com. We do not incorporate the information on our website into this prospectus, and you should not consider it part of this prospectus.

THE OFFERING

Securities Offered:	Units consisting of an aggregate of 14,575,000 shares of our common stock, par value $0.18 per share (the "common stock") and warrants convertible into 10,931,250 shares of common stock (the "common units"). We are also offering to certain large investors, if any, whose purchase of common stock in this offering would otherwise result in such purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering, in lieu of common units, the opportunity to purchase units consisting of 5,425 of Series C convertible preferred stock, par value $0.001 per share (the "Series C preferred stock") convertible into up to 5,425,000 shares of common stock, subject to certain beneficial ownership limitations, and warrants convertible into up to 4,068,750 shares of common stock (the "preferred units" and, together with the common units, the "units").
Underwriter Overallotment:	We have granted the Representative an option to purchase up to an additional 3,000,000 shares of common stock and warrants to purchase up to an aggregate of 2,250,000 shares of common stock at the public offering price, less the underwriting discounts and commissions (not included in "Securities Offered" totals above). This option is exercisable, in whole or in part, for a period of 45 days from the date of this prospectus.
Assumed price per unit:	$1.00 per common unit or $1,000 per preferred unit.
Series C Convertible Preferred Stock:	Each whole share of Series C convertible preferred stock is convertible into 1,000 shares of common stock at any time so long as the holder, together with its affiliates, and any other person acting as a group together with the holder or any of its affiliates, does not own excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its exercise. However, any holder may increase such percentage to any other percentage not in excess of 9.99%, provided that any increase in such percentage shall not be effective until 61 days after such notice to us.
Warrants	The warrants included in the units will be immediately exercisable for $1.00 per share, subject to certain beneficial ownership limitations, and will expire 48 months from the issue date.
Common stock outstanding before this offering:	10,464,250 shares of common stock.
Common stock outstanding after this offering:	25,039,250 shares of common stock, excluding warrant exercises and conversion of the Series C convertible preferred stock.
Use of proceeds:	We intend to use the net proceeds from this offering for general corporate purposes. See "Use of Proceeds."
Risk Factors:	Investing in our common or preferred stock involves a high degree of risk. See the information contained in or incorporated by reference under the heading "*Risk Factors*" and in the documents incorporated by reference and any free writing prospectus that we authorize for use in connection with this offering.
Market symbol and trading:	Our common stock is listed on the Nasdaq Capital Market under the symbol "ATOS." There is no established trading market for the warrants or the Series C convertible preferred stock and we do not expect a market to develop. We do not intend to apply for the listing of the warrants or preferred stock on any securities exchange or other trading market.

Unless otherwise stated, all information contained in this prospectus assumes no investor purchased preferred units in lieu of common stock units sold in this offering.

The number of shares of our common stock to be outstanding after this offering is based on 10,464,250 shares of our common stock outstanding as of September 30, 2020 and excludes:

- securities issued pursuant to the underwriters overallotment option;
- 15,000,000 shares of common stock issuable upon the exercise of the warrants offered herein exercisable for $1.00 per share;
- shares of our common stock that have been sold or may be sold in the future in connection with our current "at-the-market" offering;
- 1,070,028 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2020, at an exercise price of $4.05 per share;
- 7,079,831 shares of common stock issuable upon the exercise of options issued under the Company's 2010 and 2020 Stock Option and Incentive Plans at a weighted average exercise price of $2.77 per share as of September 30, 2020;
- 177,562 shares of common stock issuable upon the conversion of outstanding Series B convertible preferred stock as of September 30, 2020; and
- 670,000 shares of common stock reserved for issuance pursuant to future equity awards under our 2020 Plan as of September 30, 2020, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2020 Plan.

Except as otherwise indicated herein, all information in this prospectus, including the number of shares that will be outstanding after this offering, assumes no exercise by the underwriters of their option to purchase additional securities.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described below as well as the risks and uncertainties set forth under the section titled "*Risk Factors*" in our Annual Report on Form 10-K for the year ended December 31, 2019, and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, which are incorporated by reference herein, before deciding whether to purchase securities. You should also refer to the other information contained in this prospectus and the documents incorporated by reference herein, including our audited consolidated financial statements and related notes and the section titled "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" included in our Annual Report on Form 10-K for the year ended December 31, 2019, and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020, which are incorporated by reference herein. Our business, financial condition, results of operations and prospects could be materially and adversely affected by any of these risks or uncertainties. In any such case, the trading price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to this Offering

If you purchase our securities in this offering, you may incur immediate and substantial dilution in the book value of your shares.
The public offering price per share may be substantially higher than the net tangible book value per share of our common stock immediately prior to the offering. After giving effect to the assumed sale of 14,575,000 common units at an offering price of $1.00 per unit and 5,425 preferred units at an offering price of $1,000 per unit and after deducting estimated offering expenses and underwriter fees and expenses payable by us, purchasers of our common stock in this offering will incur immediate dilution of $0.08 per share in the net tangible book value of the common stock they acquire (assuming conversion of all Series C convertible preferred stock included in the preferred units). For a further description of the dilution that investors in this offering may experience, see "*Dilution*." In addition, to the extent that outstanding stock options or warrants have been or may be exercised or other shares issued, you may experience further dilution.

You may experience future dilution as a result of future equity offerings.
In order to raise additional capital, we may at any time, including during the pendency of this offering, offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering (including in our current "at-the-market" offering in which we are offering shares of our common stock pursuant to a prospectus supplement filed by the Company with the SEC on September 25, 2020 (Registration No. 333-248555)). We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering

We have broad discretion in the use of our cash and cash equivalents, including the net proceeds we receive in this offering, and may not use them effectively.
Our management has broad discretion to use our cash and cash equivalents, including the net proceeds we receive in this offering, to fund our operations and could spend these funds in ways that do not improve our results of operations or enhance the value of our common stock, and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use to fund our operations, we may invest our cash and cash equivalents, including the net proceeds from this offering, in a manner that does not produce income or that loses value.

Because we do not intend to declare cash dividends on our shares of common stock in the foreseeable future, stockholders must rely on appreciation of the value of our common stock for any return on their investment.
We have never declared or paid cash dividends on our common stock. We currently anticipate that we will retain future earnings, if any, for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends in the foreseeable future. In addition, the terms of any existing or future debt agreements may preclude us from paying dividends. As a result, we expect that only appreciation of the price of our common stock, if any, will provide a return to investors in this offering for the foreseeable future.

There is no public market for the warrants or the Series C Convertible Preferred Stock in this offering.
There is no established public trading market for the warrants or the Series C convertible preferred stock, and we do not expect a market to develop for either. In addition, we do not currently intend to apply for listing of the warrants or the Series C convertible preferred stock on any securities exchange or recognized trading system. The ability to exercise the warrants and to convert the Series C convertible preferred stock to common stock will be subject to a beneficial ownership conversion limit, which may further impair the liquidity of this investment.

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the securities offered by this prospectus in this offering will be approximately $18,179,500 (or $20,939,500 if the underwriters fully exercise their overallotment option) after deducting commissions and estimated offering expenses payable by us excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering.

We currently intend to use the net proceeds from this offering for general corporate purposes, including clinical studies of our products under development. We may also use a portion of the net proceeds for the acquisitions of businesses, products, technologies or licenses that are complementary to our business, although we have no present commitments or agreements to do so.

The allocation of the net proceeds of the offering set forth above represents our estimates based upon our current plans and assumptions regarding industry and general economic conditions, our future revenues and expenditures. The amounts and timing of our actual expenditures may vary significantly and will depend on numerous factors, regulatory requirements, cash used by our operations, the extent to which we receive project funding from government grants and other third party collaborators and other business developments and opportunities that may arise. We may find it necessary or advisable to use portions of the proceeds from this offering for other purposes.

We believe that the net proceeds of this offering, together with cash on hand, will be sufficient to fund our operations for at least the next 18 months. Additional capital may not be available on terms favorable to us, or at all. If we raise additional funds by issuing equity securities, including in our current at-the-market offering program, our stockholders may experience dilution. Debt financing, if available, may involve restrictive covenants or additional security interests in our assets. Any additional debt or equity financing that we complete may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or products or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to delay, reduce the scope of, or eliminate some or all of, our development programs or liquidate some or all of our assets.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment grade, interest bearing instruments and U.S. government securities.

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 C 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 C convertible preferred stock will likely be through a sale of those shares.

DILUTION

Purchasers of our common stock, including the common stock issuable upon conversion of the Series C 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 September 30, 2020 was approximately $9,794,381, or $0.94 per share of common stock, based on 10,464,250 shares of our common stock then outstanding (calculated on an as-converted basis). 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 (calculated on an as-converted basis).

Dilution per share of common stock equals the difference between the price per common unit (ascribing no value to the warrants contained therein) and the net tangible book value per share of our common stock immediately after this offering.

Based on the sale by us of 14,575,000 common units at the offering price of $1.00 per unit and 5,425 preferred units at the offering price of $1,000 per unit and after deducting estimated offering expenses and underwriter fees and expenses payable by us, our pro forma net tangible book value as of September 30, 2020 would have been approximately $27,973,881, or $0.92 per share (assuming conversion of all Series C convertible preferred stock included in the preferred units). This represents an immediate decrease in pro forma net tangible book value to existing stockholders of $0.02 per share and an immediate dilution to purchasers in this offering of $0.08 per share. The following table illustrates this per-share dilution:

Offering price per share			$	1.00
Tangible book value per common share as of September 30, 2020	$	0.94		
Decrease in tangible book value per common share attributable to this offering	$	(0.02)		
As adjusted tangible book value per common share after this offering			$	0.92
Dilution in tangible book value per common share to new investors			$	0.08

If the underwriters' option to purchase additional units is exercised in full, the pro forma tangible book value per share after giving effect to this offering would be approximately $0.92 per share, and the dilution in pro forma as adjusted tangible book value per share to investors in this offering would be approximately $0.08 per share.

The above discussion and table is as of September 30, 2020, and excludes:

- securities issued pursuant to the underwriters overallotment option;
- 15,000,000 shares of common stock issuable upon the exercise of the warrants offered herein exercisable for $1.00 per share;
- shares of our common stock that have been sold or may be sold in the future in connection with our current "at-the-market" offering;
- 1,070,028 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2020, at an exercise price of $4.05 per share;
- 7,079,831 shares of common stock issuable upon the exercise of options issued under the Company's 2010 and 2020 Stock Option and Incentive Plans at a weighted average exercise price of $2.77 per share as of September 30, 2020;
- 177,562 shares of common stock issuable upon the conversion of outstanding Series B convertible preferred stock as of September 30, 2020; and
- 670,000 shares of common stock reserved for issuance pursuant to future equity awards under our 2020 Plan as of September 30, 2020, as well as any future increases in the number of shares of our common stock reserved for future issuance under the 2020 Plan.

DESCRIPTION OF SECURITIES

Common Stock

The terms and provisions of our common stock are incorporated by reference to Exhibit 4.16 (Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934) of our Annual Report on Form 10-K for the year ended December 31, 2019.

Warrants

The warrants to be issued with the units will be separately transferable following their issuance and through their expiration 48 months from the date of issuance. Each warrant will entitle the holder to purchase one share of common stock at an exercise price of $1.00. 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 this offering as part of the units will be issued in book-entry, or uncertificated, form.

Exercisability. Each warrant will be exercisable at any time and will expire 48 months 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 $1.00. 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.

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.

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.

Series C Convertible Preferred Stock.

The terms and provisions of our Series C convertible preferred stock are:

Conversion. Each share of Series C convertible preferred stock is convertible into 1,000 shares of our common stock at any time so long as the holder, together with its affiliates, and any other person acting as a group together with the holder or any of its affiliates, does not own excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its exercise. In addition, the conversion ratio is subject to adjustment for stock dividends, distributions, subdivisions, combinations or reclassifications of the underlying common stock.

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 C convertible preferred stock, the holders of the Series C 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 C convertible preferred stock.

Dividends. Holders of Series C 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 C convertible preferred stock has no voting rights.

Liquidation Preference. Upon our liquidation, dissolution or winding-up, whether voluntary or involuntary, holders of Series C 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 C 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 C convertible preferred stock. Shares of Series C convertible preferred stock are not otherwise entitled to any redemption rights, or mandatory sinking fund or analogous provisions.

UNDERWRITING

We have entered into an underwriting agreement with Maxim Group LLC as the sole representative of the underwriters ("Maxim" or the "Representative"), with respect to the securities being offered. Maxim is the sole book running manager for the offering. Subject to the terms and conditions of an underwriting agreement between us and Maxim, we have agreed to sell to each underwriter named below, and each underwriter named below has severally agreed to purchase, at the public offering price less the underwriting discounts set forth on the cover page of this prospectus, the number of shares of common stock and corresponding warrants and Series C convertible preferred stock and corresponding warrants next to its name in the following table:

Name of Underwriter	Number of Common Units	Number of Preferred Units
Maxim Group LLC	14,575,000	5,425

The underwriters are committed to purchase all the shares of common stock and/or Series C convertible preferred stock (the "shares") and corresponding warrants offered by this prospectus if they purchase any securities. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may be increased or the offering may be terminated. The underwriters are not obligated to purchase the shares of common stock and warrants covered by the underwriters' over-allotment option described below. The underwriters are offering the securities, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Over-Allotment Option

We have granted to the underwriters an option, exercisable no later than 45 calendar days after the date of the underwriting agreement, to purchase up to 3,000,000 shares of common stock and warrants to purchase up to an aggregate of 2,250,000 shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions, solely for the purpose of covering over-allotments. To the extent the option is exercised and the conditions of the underwriting agreement are satisfied, we will be obligated to sell to the underwriters, and the underwriters will be obligated to purchase, these additional securities.

Discounts and Commissions; Expenses

The following table shows the public offering price, underwriting discount and proceeds, before expenses, to us.

	Per common Unit (common stock and warrants)	Per preferred Unit (Series C preferred stock and warrants)	Total
Public offering price	$ 1.00	$ 1,000	$ 20,000,000
Underwriting discount	$ 0.08	$ 80	$ 1,600,000
Proceeds, before expenses, to us (1)	$ 0.92	$ 920	$ 18,400,000

(1) The amount of the offering proceeds to us presented in this table does not give effect to any exercise of the warrants being issued in this offering or the over-allotment option.

The underwriters propose to offer the securities offered by us to the public at the public offering price per unit set forth on the cover of this prospectus. In addition, the underwriters may offer some of the securities to other securities dealers at such price less a concession of $0.04 per unit. After the initial offering, the public offering price and concession to dealers may be changed.

We have paid an expense deposit of $25,000 to the Representative, which will be applied against the accountable expenses that will be paid by us to the Representative in connection with this offering.

We have also agreed to reimburse the Representative for reasonable out-of-pocket legal and audit fees and expenses not to exceed $60,000 without our prior written consent. We estimate that total expenses payable by us in connection with this offering, other than the underwriting discount, will be approximately $220,000.

Lock-Up Agreements

We and each of our executive officers and directors have agreed, subject to certain exceptions, not to offer, issue, sell, contract to sell, encumber, grant any option for the sale of or otherwise dispose of any shares of our common stock or other securities convertible into or exercisable or exchangeable for shares of our common stock for a period of 90 days after this offering is completed without the prior written consent of Maxim. The foregoing does not prohibit (a) the Company from granting options or equity awards to the Company's Directors and executive officers pursuant to equity compensation arrangements approved or subject to approval by the stockholders of the Company and (b) commencing 75 days after the offering is completed transactions under trading plans pursuant to SEC Rule 10b5-1.

Maxim may in its sole discretion and at any time without notice release some or all of the shares subject to lock-up agreements prior to the expiration of the lock-up period. When determining whether or not to release shares from the lock-up agreements, the Representative will consider, among other factors, the security holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time.

Indemnification

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make for these liabilities.

Price Stabilization, Short Positions, and Penalty Bids

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock. Specifically, the underwriters may over-allot in connection with this offering by selling more shares than are set forth on the cover page of this prospectus. This creates a short position in our common stock for its own account. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares common stock over-allotted by the underwriters is not greater than the number of shares of common stock that they may purchase in the over-allotment option. In a naked short position, the number of shares of common stock involved is greater than the number of shares common stock in the over-allotment option. To close out a short position, the underwriters may elect to exercise all or part of the over-allotment option. The underwriters may also elect to stabilize the price of our common stock or reduce any short position by bidding for, and purchasing, common stock in the open market.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter or dealer repays selling concessions allowed to it for distributing a security in this offering because the underwriter repurchases that security in stabilizing or short covering transactions.

Finally, the underwriters may bid for, and purchase, shares of our common stock in market making transactions, including "passive" market making transactions as described below.

These activities may stabilize or maintain the market price of our common stock at a price that is higher than the price that might otherwise exist in the absence of these activities. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time without notice. These transactions may be effected on Nasdaq, in the over-the-counter market, or otherwise.

In connection with this offering, the underwriters and selling group members, if any, or their affiliates may engage in passive market making transactions in our common stock immediately prior to the commencement of sales in this offering, in accordance with Rule 103 of Regulation M under the Exchange Act. Rule 103 generally provides that:

- a passive market maker may not effect transactions or display bids for our common stock in excess of the highest independent bid price by persons who are not passive market makers;

- net purchases by a passive market maker on each day are generally limited to 30% of the passive market maker's average daily trading volume in our common stock during a specified two-month prior period or 200 shares, whichever is greater, and must be discontinued when that limit is reached; and
- passive market making bids must be identified as such.

Electronic Distribution

A prospectus in electronic format may be made available on a website maintained by the representatives of the underwriters and may also be made available on a website maintained by other underwriters. The underwriters may agree to allocate a number of securities to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives of the underwriters to underwriters that may make Internet distributions on the same basis as other allocations. In connection with the offering, the underwriters or syndicate members may distribute prospectuses electronically. No forms of electronic prospectus other than prospectuses that are printable as Adobe® PDF will be used in connection with this offering.

The underwriters have informed us that they do not expect to confirm sales of securities offered by this prospectus to accounts over which they exercise discretionary authority.

Other than the prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or any underwriter in its capacity as underwriter and should not be relied upon by investors.

Certain Relationships

Maxim is acting as our sales agent in an "at-the-market" offering pursuant to a prospectus supplement filed by the Company with the SEC on September 25, 2020 (Registration No. 333-248555).

Certain of the underwriters and their affiliates may provide, from time to time, investment banking and financial advisory services to us in the ordinary course of business, for which they may receive customary fees and commissions.

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 securities. 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 securities 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 securities 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 securities 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 securities outside of Canada.

Representations of Purchasers

Each Canadian investor who purchases securities 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 securities 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 securities or with respect to the eligibility of the securities 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 defenses 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.*

EXPERTS

The consolidated financial statements as of December 31, 2019 and 2018 and for each of the two years in the period ended December 31, 2019 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, 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. The underwriters are being represented by Ellenoff Grossman & Schole LLP, New York, New York.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

The Company files annual, quarterly and special reports, proxy statements and other information with the SEC. The SEC maintains an Internet site that contains all reports and other information that we file electronically with the SEC. The address of that website is *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.

We maintain a website at *www.atossatherapeutics.com*. Information contained in or accessible through our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement (or incorporated by reference). Neither we nor the underwriter 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 securities 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 securities. Our business, financial condition, results of operations and prospects may have changed since that date. We are not, and the underwriter is not, making an offer of these securities in any jurisdiction where such offer is not permitted. See "*About this Prospectus*."

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, 2019;
2. The Company's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2020, June 30, 2020 and September 30, 2020;
3. The Company's Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 13, 2020;
4. The Company's Current Reports on Form 8-K, filed with the SEC in 2020 on the following dates: January 7, February 10, April 13, May 19, September 25, November 30 and December 8;
5. 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, including any amendment or report filed for the purpose of updating that description; and
6. 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 Therapeutics, 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.atossatherapeutics.com*. The information on our website is not incorporated into this prospectus.

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Units Consisting of an Aggregate of
Up to 14,575,000 Shares of Common Stock
Up to 5,425 Shares of Series C Convertible Preferred Stock
Warrant Convertible Into Up to 15,000,000 Shares of Common Stock
(and the Shares of Common Stock Underlying the Preferred Stock and Warrants)

PROSPECTUS

Sole Book-Running Manager

Maxim Group LLC

December 8, 2020