

## 9,200,000 Shares of Common Stock

### Pre-Funded Warrants to Purchase Up to 13,656,000 Shares of Common Stock

### Warrants to Purchase up to 17,142,000 Shares of Common Stock



This is an offering of up to 9,200,000 shares of our common stock, \$0.001 par value per share and warrants to purchase up to 17,142,000 shares of our common stock (and the common stock issuable from time to time upon exercise of the warrants). Each share of our common stock is being sold together with a warrant, or a purchase warrant, to purchase up to 0.75 shares of our common stock. Each purchase warrant has an exercise price per share of \$2.80, will be exercisable immediately, and will expire on the fifth anniversary of the original issuance date. The shares of our common stock and purchase warrants are immediately separable and will be issued separately, but will be purchased together in this offering.

We are also offering 13,656,000 pre-funded warrants to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the consummation of this offering, the opportunity to purchase, if any such purchaser so chooses, pre-funded warrants, in lieu of shares of common stock that would otherwise result in such purchaser's beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant is exercisable for one share of our common stock.

The purchase price of each pre-funded warrant is equal to the price at which a share of common stock is sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant will be \$0.001 per share. The pre-funded warrants are immediately exercisable and may be exercised at any time until all of the pre-funded warrants are exercised in full. Each pre-funded warrant purchased in this offering in lieu of common stock also is being sold together with a purchase warrant. Pursuant to this prospectus, we are also offering the shares of common stock issuable upon the exercise of the purchase warrants and pre-funded warrants offered hereby. This offering also relates to the shares of common stock issuable upon exercise of the purchase warrants and any pre-funded warrants sold in this offering. The shares of common stock, purchase warrants and pre-funded warrants can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "ADXS." The last reported sale price of our common stock on The Nasdaq Global Select Market on July 23, 2019 was \$0.70 per share. There is no established public trading market for the purchase warrants or the pre-funded warrants, and we do not expect a market to develop. In addition, we do not intend to apply for a listing of the purchase warrants or the pre-funded warrants on any national securities exchange or other nationally recognized trading system.

**Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 11 for a discussion of information that should be considered in connection with an investment in our securities.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed on the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

	Per Share and Accompanying Purchase Warrant	Per Pre-Funded Warrant and Accompanying Purchase Warrant	Total
Public offering price <sup>(1)</sup>	\$ 0.70	\$ 0.699	\$ 15,985,544.00
Underwriting discounts and commissions <sup>(2)</sup>	\$ 0.049	\$ 0.04893	\$ 1,118,988.08
Proceeds to us, before expenses	\$ 0.651	\$ 0.65007	\$ 14,866,555.92

(1) The public offering price is \$0.70 per share of common stock and accompanying purchase warrant and \$0.699 per pre-funded warrant and accompanying purchase warrant.

(2) We have agreed to reimburse the underwriters for certain expenses. See "Underwriting" beginning on page 31 of this prospectus for a description of the compensation payable to the underwriters.

We have granted a 30-day option to the representative of the underwriters to purchase up to 1,450,000 additional shares of common stock and/or purchase warrants to purchase up to 1,087,500 additional shares of common stock from us solely to cover over-allotments, if any.

The underwriters expect to deliver the shares, pre-funded warrants and purchase warrants to purchasers in the offering on or about July 25, 2019.

**A.G.P.**

Prospectus dated July 23, 2019

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We are responsible for the information contained in this prospectus and in any free-writing prospectus we prepare or authorize. We have not, and the underwriters have not, authorized anyone to provide you with different information, and we take no responsibility for any other information others may give you. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the cover page of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

Through and including August 17, 2019 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

For investors outside the United States: We have not, and the underwriters have not, 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 the shares of common stock and the distribution of this prospectus outside the United States.

This prospectus and the documents incorporated by reference contain references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM 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 or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere or incorporated by reference in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, purchase warrants or pre-funded warrants, you should read the entire prospectus carefully, including the section entitled “Risk Factors” and the information in our filings with the U.S. Securities and Exchange Commission, or the SEC, incorporated by reference in this prospectus. Unless the context otherwise requires, we use the terms “Advaxis,” “the Company,” “we,” “us,” “our” and similar designations in this prospectus to refer to Advaxis, Inc. and its wholly owned subsidiaries.*

### Overview

Advaxis, Inc. (“Advaxis” or the “Company”) is a clinical-stage biotechnology company focused on the discovery, development and commercialization of proprietary *Listeria monocytogenes* (“*Lm*”) based antigen delivery products. We are using our *Lm* platform directed against tumor-specific targets in order to engage the patient’s immune system to destroy tumor cells. Through a license from the University of Pennsylvania, we have exclusive access to this proprietary formulation of attenuated *Lm* called *Lm* Technology<sup>TM</sup>. Our proprietary approach is designed to deploy a unique mechanism of action that redirects the immune system to attack cancer in three distinct ways:

- Alerting and training the immune system by activating multiple pathways in Antigen-Presenting Cells (“APCs”) with the equivalent of multiple adjuvants;
- Attacking the tumor by generating a strong, cancer-specific T cell response; and
- Breaking down tumor protection through suppression of the protective cells in the tumor microenvironment (“TME”) that shields the tumor from the immune system. This enables the activated T cells to begin working to attack the tumor cells.

Our proprietary *Lm* platform technology has demonstrated clinical activity in several of its programs and has been dosed in over 470 patients across multiple clinical trials and in various tumor types. We believe that *Lm* Technology immunotherapies can complement and address significant unmet needs in the current oncology treatment landscape. Specifically, our product candidates have the potential to work synergistically with other immunotherapies, including checkpoint inhibitors, while having a generally well-tolerated safety profile.

### The Advaxis Corporate Strategy

Our strategy is to advance the *Lm* Technology platform and leverage its unique capabilities to design and develop an array of cancer treatments. We are currently conducting or planning clinical studies of *Lm* Technology immunotherapies in, non-small cell lung cancer, melanoma, bladder, head and neck, and prostate cancers. We are working with, or are in the process of identifying, collaborators for many of these programs.

Moving forward, we expect that we will continue to invest in our core clinical program areas and will also remain opportunistic in evaluating Investigator Sponsored Trials (“ISTs”) as well as licensing opportunities. The *Lm* Technology platform is protected by a range of patents, covering both product and process, some of which we believe can be maintained into 2039.

## Clinical Pipeline

Program	Cancer Indication	IND	PHASE 1	PHASE 2	PHASE 3
ADXS - NEO	NSCLC, MSS-CRC, Head & Neck, Melanoma, Bladder				
ADXS - HOT	Non-Small Cell Lung				
	Prostate	★ IND Submission 2H 2019			
	Bladder	★ IND Submission 1H 2020			
ADXS - HPV (AXAL)	HPV+ Head and Neck (Partners to be announced)		★ 2H 2019		
ADXS - PSA	Metastatic Prostate in Combination with KEYTRUDA® (pembrolizumab)				

Adovis Funded
  Investigator Funded

★ = Planned

### Personalized Neoantigen-Directed Therapies (ADXS-NEO)

ADXS-NEO is an individualized *Lm* Technology antigen delivery product developed using whole-exome sequencing of a patient’s tumor to identify mutation specific neoantigens. ADXS-NEO is designed to work by presenting a large payload of neoantigens directly into dendritic cells within the patient’s immune system and stimulating a T cell response against cancerous cells.

The U.S. Food and Drug Administration (“FDA”) allowed the Investigational New Drug (“IND”) application of ADXS-NEO and in June 2018 we announced the commencement of a Phase 1 trial with the dosing of the first patient with ADXS-NEO. ADXS-NEO is being evaluated in an open-label, dose-escalation, multicenter clinical trial in the United States. The study is open to patients with metastatic non-small cell lung cancer (NSCLC), metastatic microsatellite stable colon cancer and metastatic squamous head and neck cancer. The study had been in development in collaboration with Amgen until December 2018, when Amgen provided us with a notice of termination of their existing collaboration. During 2019, we presented early immune response and clinical data from this study, which showed that two microsatellite stable (MSS) colorectal cancer patients dosed with ADXS-NEO at  $1 \times 10^8$  colony forming units (cfu) demonstrated increased CD8+ T cell infiltration in the tumor microenvironment after three doses of ADXS-NEO. Both patients had metastatic colorectal cancer, which is considered to be a “cold” tumor and typically exhibits little CD8+ T cell infiltration and resistance to immunotherapy, yet both successfully transitioned from “cold” tumors into “hot” tumors with ADXS-NEO therapy. An estimated 80-85% of colorectal cancer patients are MSS. Dosing of ADXS-NEO at  $1 \times 10^8$  cfu has been well-tolerated in two patients. ADXS-NEO dosed at  $1 \times 10^9$  cfu was beyond the maximum tolerated dose (MTD) leading to reversible Grade 3 hypoxia (n=2) and Grade 3 hypotension (n=1) and as a result were dose-limiting toxicities (DLTs). See “Recent Developments”.

### Disease Focused Hotspot/Off-the-Shelf Neoantigen Therapies (ADXS-HOT)

We have created a new group of immunotherapy constructs for major cancers that is designed to combine our optimized *Lm* Technology vector with promising targets to generate potent anti-cancer immunity. The ADXS-HOT program is a series of novel cancer immunotherapies that target somatic mutations (“hotspots”), cancer testis antigens (“CTAs”) and oncofetal antigens (“OFAs”). These three types of targets form the basis of the ADXS-HOT program because they are designed to be more capable of generating potent, tumor specific, and high strength killer T cells, versus more traditional over-expressed native sequence TAAs. Most hotspot mutations and OFA/CTA proteins play critical roles in oncogenesis; targeting both at once could significantly impair cancer proliferation. The ADXS-HOT products combine many of the potential high avidity targets that are expressed in all patients with the target disease into one “off-the-shelf,” ready to administer treatment. The ADXS-HOT technology has a strong Intellectual Property (“IP”) position, with potential protection into 2038, and an IP filing strategy providing for broad coverage opportunities across multiple disease platforms and combination therapies.

In July 2018, we announced that the FDA allowed our IND application for our ADXS-HOT drug candidate for non-small cell lung cancer (NSCLC). In February 2019, we announced that the first patient has been enrolled into the study. We anticipate a preliminary readout of safety, tolerability and immune correlative data during 2019.

### HPV-Related Cancers

#### *Cervical Cancer: Axalimogene Filolisbac*

In June 2019, we announced the closing of our AIM2CERV Phase 3 clinical trial with axalimogene filolisbac (AXAL) in high-risk locally advanced cervical cancer. We intend to continue to support the clinical development of AXAL, our single-antigen construct, in other HPV-related cancers including an anticipated Investigator Sponsor Trial (IST) in head and neck cancer to be initiated near the end of 2019. We estimated that the remaining cost to complete the AIM2CERV trial ranged from \$80 million to \$90 million, and initial efficacy data was not anticipated for at least three years. Therefore, results from the clinical trial were not the basis for the decision to close the study, nor was safety as the trial recently underwent its third Independent Data Monitoring Committee (IDMC) review with no safety issues noted. We plan to unblind the AIM2CERV clinical data generated to date and anticipates submitting these data for publication. In addition, we will continue to pursue monetization opportunities for AXAL.

#### *Head and Neck Cancer*

Squamous Cell Carcinoma of the Head and Neck (“SCCHN”) is the most frequently occurring malignant tumor of the head and neck and is a major cause of morbidity and mortality worldwide. More than 90% of SCCHNs originate from the mucosal linings of the oral cavity, pharynx, or larynx and 70% of these cancers are caused by HPV. According to the Surveillance, Epidemiology, and End Results (“SEER”) database head and neck cancer accounts for about 3% of all cancers in the United States. But while the Pap smear and other HPV tests have reduced rates of cervical cancer, rates of oral cavity and pharynx cancer are growing, with 53,000 new cases projected to be diagnosed in the United States in 2019 according to the SEER database.

A study published in the Annals of Internal Medicine found that approximately 12% of U.S. men and 3% of women were actively infected with oral HPV between 2011 and 2014. That totals 11 million men and 3 million women who are at risk for developing SCCHN. SCCHN is typically asymptomatic until it has metastasized, and screening options do not exist. The only way to prevent infection is the HPV vaccine, but compliance has been low to date. Another challenge is that preventative vaccines cannot protect those already infected or older than age 26, leaving several generations of Americans vulnerable to SCCHN with no way of knowing if cancer is silently growing.

We conducted a clinical trial in collaboration with MedImmune on a Phase 1/2, open-label, multicenter, two part trial to evaluate safety and efficacy of axalimogene filolisbac, in combination with durvalumab (MEDI4736), for patients with metastatic squamous or non-squamous carcinoma of the cervix and metastatic HPV-associated SCCHN. Part 1 of this trial is complete and the Company and MedImmune have decided to not continue further enrollment into the expansion phases of this study.

We plan to initiate an investigator-sponsored trial with a major research center in head and neck cancer by the end of 2019 or in the first half of 2020. Axalimogene filolisbac has received FDA orphan drug designation for HPV-associated head and neck cancer.

#### Prostate Cancer (ADXS-PSA)

According to the American Cancer Society, prostate cancer is the second most common type of cancer found in American men and is the second leading cause of cancer death in men, behind only lung cancer. According to the SEER database, more than 174,000 men are estimated to be diagnosed with prostate cancer in 2019, with approximately 32,000 deaths each year. Unfortunately, in about 10 – 20% of cases, men with prostate cancer will go on to develop castration-resistant prostate cancer (“CRPC”), which refers to prostate cancer that progresses despite androgen deprivation therapy. Metastatic CRPC (“mCRPC”) occurs when the cancer spreads to other parts of the body and there is a rising prostate-specific antigen (“PSA”) level. This stage of prostate cancer has an average survival of 9-13 months, is associated with deterioration in quality of life, and has few therapeutic options available.

According to a data review published by MD Anderson Cancer Center in 2016, checkpoint inhibitor monotherapy has not shown significant activity in mCRPC to date. The authors hypothesize that may be due to the inability of the checkpoint inhibitor to infiltrate the tumor microenvironment, and that combination therapy with agents that induce T cell infiltration within the tumor may improve performance of checkpoints in prostate cancer. Data from the Keynote-199 trial in bone predominant-mCRPC patients treated with KEYTRUDA<sup>®</sup> (“pembrolizumab”) was presented at the 2018 ASCO Annual Meeting. In this trial, only 4 out of 60 patients (7%) had decrease PSA post-baseline, with only one case that was  $\geq 50\%$ . The total SD/disease stabilization rate was 37%.

*Lm* Technology constructs have been shown by multiple labs to reduce number and suppressive function of Tregs and MDSCs in the tumor microenvironment and cause the destruction of Tregs in the TME as soon as five days after dosing in models. This reduction of immune suppression in the tumors has been attributed to our proprietary *tLLO* -fusion peptides expressed by multiple copies of the plasmids in each bacteria. We feel that the combination of ADXS-PSA, our immunotherapy designed to target the PSA antigen, with a checkpoint inhibitor may provide an alternative treatment option for patients with mCRPC. Clinical benefit in prostate cancer could be a significant value creator to expand the *Lm* Technology platform into the prostate cancer market.

We have entered into a clinical trial collaboration and supply agreement with Merck to evaluate the safety and efficacy of ADXS-PSA as monotherapy and in combination with KEYTRUDA<sup>®</sup> (“pembrolizumab”), Merck’s anti PD-1 antibody, in a Phase 1/2, open-label, multicenter, dose determination and expansion trial in patients with previously treated metastatic, castration-resistant prostate cancer (Keynote-046). ADXS-PSA was tested alone or in combination with KEYTRUDA<sup>®</sup> in an advanced and heavily pretreated patient population who had progressed on androgen deprivation therapy. A total of 13 and 37 patients were evaluated on monotherapy and combination therapy, respectively. For the ADXS-PSA monotherapy dose escalation and determination portion of the trial, cohorts were started at a dose of  $1 \times 10^9$  cfu (n=7) and successfully escalated to higher dose levels of  $5 \times 10^9$  cfu (n=3) and  $1 \times 10^{10}$  cfu (n=3) without achieving a maximum tolerated dose. Treatment emergent adverse events noted at these higher dose levels were generally consistent with those observed at the lower dose level ( $1 \times 10^9$  cfu) other than a higher occurrence rate of Grade 2/3 hypotension. The ADXS-PSA monotherapy dose-determination phase of the trial has been completed. The Recommended Phase II Dose (RP2D) of ADXS-PSA monotherapy was determined to be  $1 \times 10^9$  cfu based on a review of the totality of the clinical data. This dose was used in combination with 200mg of pembrolizumab in a cohort of six patients to evaluate the safety of the combination before moving into an expanded cohort of patients. The safety of the combination was confirmed and enrollment in the expansion cohort phase was initiated. Enrollment in this phase of the trial (n=37) was completed in January 2017.

Data from this study in mCRPC patients treated with ADXS-PSA monotherapy (Part A) and in combination with pembrolizumab (Part B) were presented at the American Society of Clinical Oncology (ASCO) Annual Meeting in June 2018 and updated survival data presented at the American Association of Cancer Research (AACR) in March 2019. At entry, Part A and Part B patients were similar in age (~70 yrs), Gleason score (~8.3), absence of visceral metastases (71% vs. 70%) and prior abiraterone use. Part B patients had higher median baseline PSA values (40.6 vs. 20.8 ng/ml), and more prior enzalutamide (53% vs. 26%) and chemotherapy (49% vs. 36%) use versus Part A patients. A total of 49 patients (98%) experienced treatment-related adverse events (TRAE), mainly chills, fever, nausea and hypotension. Five Part A and 13 Part B patients had grade 3-4 events: fatigue, hypotension, hypertension, anemia. Treatment-related adverse events (TRAEs) were mostly mild or moderate constitutional symptoms such as fever, chills, rigors, hypotension, nausea and fatigue, consistent with immune activation and manageable with standard care. One patient in the monotherapy arm was discontinued from the study due to a grade 4 TRAE related to cytokine release, which resolved within 24 hours using medical management. Overall, two Part A (14%) v 16 Part B patients (43%) had a decreased PSA post-baseline. Of these, seven Part B (22%) versus 0 Part A patients achieved a PSA reduction  $\geq 50\%$  from baseline. Part B patients had higher rates (56.8%) of stable disease/disease stabilization than Part A patients (38.5%). Part B patients had higher rates (27%) of stable disease than monotherapy patients (7.7%). Median overall survival (mOS) was 21.1 months at data cutoff in Part B patients and 36 of the 37 patients were microsatellite instability-high (MSI-high) negative which often do not respond to checkpoint inhibitors. In this population of heavily pretreated mCRPC patients, ADXS-PSA + pembrolizumab had a manageable safety profile (mostly grade 1-2 TRAEs) and showed a greater level of activity compared to monotherapy.

## **Other Lm Technology Products**

### HER2 Expressing Solid Tumors

HER2 is overexpressed in a percentage of solid tumors including osteosarcoma. According to published literature, up to 60% of osteosarcomas are HER2 positive, and this overexpression is associated with poor outcomes for patients. ADXS-HER2 is an *Lm* Technology antigen delivery product candidate designed to target HER2 expressing solid tumors including human and canine osteosarcoma. ADXS-HER2 has received FDA and EMA orphan drug designation for osteosarcoma and has received Fast Track designation from the FDA for patients with newly-diagnosed, non-metastatic, surgically-resectable osteosarcoma.

In September 2018, we announced that we had granted a license to OS Therapies, LLC (“OS Therapies”) for the use of ADXS31-164, also known as ADXS-HER2, for evaluation in the treatment of osteosarcoma in humans. Under the terms of the license agreement, OS Therapies, will be responsible for the conduct and funding of a clinical study evaluating ADXS-HER2 in recurrent, completely resected osteosarcoma. Pursuant to the agreement, we are to receive an upfront payment, reimbursement for product supply and other support, clinical, regulatory, and sales-based milestone payments, and royalties on future product sales. Additional details of the financial terms have not been disclosed.

### Canine Osteosarcoma

On March 19, 2014, we entered into a definitive Exclusive License Agreement (the “Aratana Agreement”) with Aratana Therapeutics, Inc. (“Aratana”), where we granted Aratana an exclusive, worldwide, royalty-bearing license, with the right to sublicense, certain of our proprietary technology that enables Aratana to develop and commercialize animal health products that will be targeted for treatment of osteosarcoma and other cancer indications in animals. A product license request was filed by Aratana for ADXS-HER2 (also known as AT-014 by Aratana) for the treatment of canine osteosarcoma with the United States Department of Agriculture (“USDA”). Aratana received communication in December 2017 that the USDA granted Aratana conditional licensure for AT-014 for the treatment of dogs diagnosed with osteosarcoma, one year of age or older. Aratana is currently conducting an extended field study which is a requirement for full USDA licensure.

Under the terms of the Aratana Agreement, Aratana paid an upfront payment to us in the amount of \$1,000,000 upon signing of the Aratana Agreement. Aratana will also pay us: (a) up to \$36.5 million based on the achievement of milestone relating to the advancement of products through the approval process with the USDA in the United States and the relevant regulatory authorities in the European Union (“E.U.”) in all four therapeutic areas and up to an additional \$15 million in cumulative sales milestones based on achievement of gross sales revenue targets for sales of any and all products for use in non-human animal health applications (the “Aratana Field”) (regardless of therapeutic area), and (b) tiered royalties starting at 5% and going up to 10%, which will be paid based on net sales of any and all products (regardless of therapeutic area) in the Aratana Field in the United States. Royalties for sales of products outside of the United States will be paid at a rate equal to half of the royalty rate payable by Aratana on net sales of products in the United States (starting at 2.5% and going up to 5%). Royalties will be payable on a product-by-product and country-by-country basis from first commercial sale of a product in a country until the later of (a) the 10th anniversary of first commercial sale of such product by Aratana, its affiliates or sub licensees in such country or (b) the expiration of the last-to-expire valid claim of our patents or joint patents claiming or covering the composition of matter, formulation or method of use of such product in such country. Aratana will also pay us 50% of all sublicense royalties received by Aratana and its affiliates. In fiscal year 2018, we received approximately \$3,000 in royalty revenue from Aratana.

## **Risks Affecting Us**

Our business is subject to a number of risks and uncertainties, including those highlighted in the section titled “Risk Factors” immediately following this prospectus summary and in our Annual Report on Form 10-K for the year ended October 31, 2018, which is incorporated by reference in this prospectus. These risks and uncertainties include, but are not limited to, the following:

- We are a clinical-stage company.
- The successful development of immunotherapies is highly uncertain.
- If we are unable to establish, manage or maintain strategic collaborations in the future, our revenue and drug development may be limited.
- The biotechnology and immunotherapy industries are characterized by rapid technological developments and a high degree of competition. We may be unable to compete with more substantial enterprises.
- Drug discovery and development is a complex, time-consuming and expensive process that is fraught with risk and a high rate of failure.

- We may be required to suspend or discontinue clinical trials for a number of reasons, which could delay or preclude approval of any of our product candidates.
- We can provide no assurance that our clinical product candidates will obtain regulatory approval or that the results of clinical studies will be favorable.
- We rely upon patents to protect our technology. We may be unable to protect our intellectual property rights and we may be liable for infringing the intellectual property rights of others.
- We have incurred significant losses since our inception and anticipate that we will continue to incur losses for the foreseeable future.
- We will require additional capital to fund our operations and if we fail to obtain necessary financing we will not be able to complete the development and commercialization of our product candidates.
- Our auditor's report includes a going concern paragraph.
- The price of our common stock and warrants may be volatile.

## Recent Developments

### *Resignation of Robert Petit*

On May 13, 2019, Robert Petit, Ph.D., our Executive Vice President and Chief Scientific Officer, announced that he is stepping down as our Chief Scientific Officer effective as of the close of business on June 3, 2019. Dr. Petit will continue to support us as an advisor and consultant as the new Chair of the Advaxis Scientific Advisory Board.

### *FDA Clinical Hold Release*

On May 15, 2019, we announced that the United States Food and Drug Administration ("FDA") has lifted the partial clinical hold on AIM2CERV, (AXAL) for the treatment of patients with high-risk locally advanced cervical cancer. In its letter, the FDA acknowledged that we satisfactorily addressed all hold questions.

### *Closing of AIM2CERV*

On June 27, 2019, we announced the closing of our AIM2CERV Phase 3 clinical trial with axalimogene filolisbac (AXAL) in high-risk locally advanced cervical cancer. We intend to continue to support the clinical development of AXAL, our single-antigen construct, in other HPV-related cancers including an anticipated Investigator Sponsor Trial (IST) in head and neck cancer to be initiated by the end of 2019 or in the first half of 2020. We plan to increase our focus on our neoantigen programs, specifically, ADXS-NEO and ADXS-HOT.

### *Immune Data from Ongoing ADXS-NEO Phase 1 Study*

On July 15, 2019, we announced new immune data from our ongoing ADXS-NEO Phase 1 clinical trial that further support the clinical potential for our platform in neoantigen-directed immunotherapies. The new data were derived from deconvolution of neoantigen pools using single peptides and *in vitro* stimulation ELISpot assays (minimal CD8+ peptides). This has now been completed for the first two patients enrolled in this study, one with NSCLC and one with MSS-CRC.

Highlights of the new post-vaccination data with ADXS-NEO are as follows:

- CD8+ T cells were generated against 90% of the 40 neoantigen targets contained in the drug construct for the MSS-CRC patient (the NSCLC patient in the study did not have 40 neoantigen targets and there were certain other issues with this patient's sample that, together, made it unsuitable for inclusion in this "hit rate" analysis). This is consistent with our previously reported data from our preclinical studies as well as from clinical studies using pooled neoantigen peptides which were presented at the American Association of Cancer Research Annual Meeting last year and earlier this year, respectively. This is the highest "hit rate" publicly reported to-date in the neoantigen field. This high "hit rate", along with the rapid immune responses seen and antigen spreading, lay the foundation for the ADXS-NEO platform to be best-in-class for personalized, neoantigen-directed immunotherapies.
- CD8+ T cells were also generated against the hotspot mutations found within each of the two patients' tumors (i.e., EGFR L858R in the NSCLC patient and KRAS G12A in the MSS-CRC patient). This is important for the ADXS-NEO program as we believe that a number of patient tumors likely will present with hotspot mutations, and generating or maintaining CD8+ T cell activity against these targets may increase the potential for killing cancer cells. All of the first four patients in this Phase 1 trial had a hotspot mutation. This is also relevant for our ADXS-HOT program in that this is the first time we have observed the ability to generate or maintain specific CD8+ T cell activity against hotspot mutations. Hotspot mutations are important targets contained within the numerous drug constructs within the ADXS-HOT program and the specific hotspot mutations in these two patients, EGFR L858R and KRAS G12A, are included in our ADXS-503 (HOT Lung) and ADXS-508 (HOT Colorectal) drug constructs, respectively.
- Antigen spreading was confirmed in the MSS-CRC patient showing specific CD8+ T cells against neoepitopes that were not contained in the drug construct prepared for this patient (the NSCLC patient's sample was not re-tested for antigen spreading). Thus, we believe ADXS-NEO may be able to induce a specific immune response against neoantigen-bearing tumor cells with the resultant cell death releasing secondary (nontargeted) tumor antigens. These secondary antigens can then prime subsequent immune responses (antigen spread) that are thought to be responsible for the improved clinical outcomes documented with other immunotherapies. Of note, antigen spreading has also been induced with other *Lm* constructs such as ADXS-HPV and ADXS-PSA in cervical and prostate cancer patients, respectively.
- To date, dosing of ADXS-NEO at  $1 \times 10^8$  colony forming units (CFU) has been well-tolerated in two patients. ADXS-NEO dosed at  $1 \times 10^9$  CFU was beyond the maximum tolerated dose with reversible Grade 3 hypoxia (n=2) and Grade 3 hypotension (n=1) dose-limiting toxicities.

We continue to enroll patients in this Phase 1 study for ADXS-NEO and expect to start Part B with ADXS-NEO in combination with a checkpoint inhibitor later this year.

## Corporate Information

We were originally incorporated in the State of Colorado on June 5, 1987 under the name Great Expectations, Inc. We were a publicly-traded “shell” company without any business until November 12, 2004 when we acquired Advaxis, Inc., a Delaware corporation, through a Share Exchange and Reorganization Agreement, dated as of August 25, 2004, which we refer to as the Share Exchange, by and among Advaxis, the stockholders of Advaxis and us. As a result of the Share Exchange, Advaxis became our wholly owned subsidiary and our sole operating company. On December 23, 2004, we amended and restated our articles of incorporation and changed our name to Advaxis, Inc. On June 6, 2006, our stockholders approved the reincorporation of our company from Colorado to Delaware by merging the Colorado entity into our wholly owned Delaware subsidiary. Our date of inception, for financial statement purposes, is March 1, 2002 and we were uplisted to Nasdaq in 2013.

Our principal executive offices are located at 305 College Road East, Princeton, New Jersey 08540 and our telephone number is (609) 452-9813. We maintain a corporate website at [www.advaxis.com](http://www.advaxis.com) which contains descriptions of our technology, our /product candidates and the development status of each drug. We are not including the information on our website as a part of, nor incorporating it by reference into, this prospectus. For further information regarding us and our financial information, you should refer to our recent filings with the SEC. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

## THE OFFERING

Common stock offered by us	9,200,000 shares.
Pre-funded warrants offered by us	We are also offering 13,656,000 pre-funded warrants to certain purchasers whose purchase of shares of common stock in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock immediately following the closing of this offering, the opportunity to purchase, if such purchasers so choose, pre-funded warrants to purchase shares of common stock, in lieu of shares of common stock that would otherwise result in any such purchaser's beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant is exercisable for one share of our common stock. The purchase price of each pre-funded warrant is equal to the price at which a share of common stock is being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant is \$0.001 per share. The pre-funded warrants are exercisable immediately and may be exercised at any time until all of the pre-funded warrants are exercised in full. The pre-funded warrants also provide that in the event of a fundamental transaction we are required to cause any successor entity to assume our obligations under the pre-funded warrants. In addition, the holder of the pre-funded warrant will be entitled to receive upon exercise of the pre-funded warrant the kind and amount of securities, cash or property that the holder would have received had the holder exercised the pre-funded warrant immediately prior to such fundamental transaction. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering.
Purchase warrants offered by us	Purchase warrants to purchase an aggregate of 17,142,000 shares of our common stock. Each share of our common stock and each pre-funded warrant is being sold together with a purchase warrant to purchase up to 0.75 shares of our common stock. Each purchase warrant has an exercise price per share of \$2.80, will be exercisable immediately, and will expire on the fifth anniversary of the original issuance date. Each holder of purchase warrants will be prohibited from exercising its purchase warrant for shares of our common stock if, as a result of such exercise, the holder, together with its affiliates, would own more than 4.99% of the total number of shares of our common stock then issued and outstanding. However, any holder may increase such percentage to any other percentage not in excess of 9.99%. This offering also relates to the offering of the shares of common stock issuable upon exercise of the purchase warrants.
Common stock to be outstanding immediately after this offering	17,220,370 shares (or 18,670,370 shares if the underwriter exercises its option to purchase additional shares in full), in each case assuming no exercise of the pre-funded warrants or purchase warrants issued in this offering.
Option to purchase additional shares	We have granted a 30-day option to the representative of the underwriters to purchase up to an aggregate of 1,450,000 additional shares of common stock and/or purchase warrants to purchase up to an aggregate of 1,087,500 additional shares of common stock at the public offering price, less the underwriting discount.
Use of proceeds	<p>We estimate that our net proceeds from this offering will be approximately \$14.5 million (or \$15.5 million if the underwriters exercise their option to purchase additional shares in full), based upon the public offering price of \$0.70 per share, and assuming that none of the purchase warrants are exercised, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.</p> <p>We intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and investments, to fund our continued research and development initiatives in connection with our product pipeline including, but not limited to (i) investment in our ADXS-HOT program in both monotherapy and combination therapy and new cancer types; (ii) investment in ongoing clinical research in ADXS-PSA and ADXS-NEO, in combination therapy; and (iii) general corporate purposes. See "Use of Proceeds" for additional information.</p>
Risk factors	See "Risk Factors" beginning on page 11 of this prospectus and the other information included in, or incorporated by reference into, this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock and warrants.

Nasdaq Global Select Market symbol

“ADXS.” There is no established trading market for the pre-funded warrants or purchase warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the pre-funded warrants or purchase warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the pre-funded warrants or purchase warrants will be limited.

The number of shares of our common stock to be outstanding after this offering is based on 8,020,370 shares of our common stock outstanding as of April 30, 2019, and excludes:

- 400,260 shares of common stock issuable upon the exercise of stock options outstanding as of April 30, 2019 at a weighted-average exercise price of \$101.82 per share;
- 17,063 shares of common stock reserved for issuance upon settlement of restricted stock units;
- 72,304 shares of common stock issuable upon the exercise of warrants outstanding as of April 30, 2019 at a weighted-average exercise price of \$3.82 per share; and
- 17,142,000 shares of common stock issuable upon the exercise of the purchase warrants being offered in this prospectus;
- 188,658 shares of common stock reserved for the future awards under our 2015 Incentive Plan.

Unless otherwise indicated, all information in this prospectus reflects or assumes the following:

- No exercise or forfeiture of the outstanding options or remaining warrants or settlement of restricted stock units after April 30, 2019;
- No exercise of the pre-funded warrants or the purchase warrants being offered in this prospectus; and
- No exercise by the underwriters of their option to purchase up to an additional 1,450,000 shares of common stock or warrants to purchase up to 1,087,500 additional shares of common stock in this offering.

## SUMMARY CONSOLIDATED FINANCIAL DATA

You should read the following summary consolidated financial data together with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended October 31, 2018, which is incorporated by reference in this prospectus. We have derived the consolidated statement of operations data for the years ended October 31, 2018 and 2017 from our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended October 31, 2018, which is incorporated by reference in this prospectus. The consolidated statements of operations data for the six months ended April 30, 2018 and 2019 and the consolidated balance sheet data as of April 30, 2019 have been derived from our unaudited consolidated financial statements included elsewhere in this prospectus and have been prepared on the same basis as the audited consolidated financial statements. In the opinion of management, the unaudited data reflects all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the financial information contained in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and interim results are not necessarily indicative of results to be expected for the full year or any other period.

### ADVAXIS, INC.

#### STATEMENTS OF OPERATIONS

(In thousands, except share and per share data)

	Year Ended October 31,		Six Months Ended April 30,	
	2018	2017	2019	2018
Revenue	\$ 6,063	\$ 12,031	\$ 20,877	\$ 3,803
Operating expenses:				
Research and development expenses	56,970	70,508	12,675	27,119
General and administrative expenses	19,472	39,969	5,759	10,785
Total operating expenses	76,442	110,477	18,434	37,904
(Loss) income from operations	(70,379)	(98,446)	2,443	(34,101)
Other income (expense):				
Interest income, net	577	670	259	291
Net changes in fair value of derivative liabilities	3,400	20	2,395	-
Loss on shares issued in settlement of warrants	-	-	(1,607)	-
Other expense	(63)	(82)	(6)	(40)
Net (loss) income before benefit for income taxes	(66,465)	(97,838)	3,484	(33,850)
Income tax expense (benefit)	50	(4,403)	50	50
Net (loss) income	\$ (66,515)	\$ (93,435)	\$ 3,434	\$ (33,900)
Net (loss) income per common share				
Basic	\$ (19.36)	\$ (34.58)	\$ 0.65	\$ (11.16)
Diluted	\$ (19.36)	\$ (34.58)	\$ 0.20	\$ (11.16)
Weighted average number of common shares outstanding				
Basic	3,434,824	2,701,856	5,259,677	3,038,439
Diluted	3,434,824	2,701,856	5,282,772	3,038,439

The accompanying notes should be read in conjunction with the financial statements.

	As of April 30, 2019	
	Actual	As Adjusted <sup>(2)</sup>
	(in thousands)	
<b>Consolidated Balance Sheet Data:</b>		
Cash and cash equivalents	\$ 33,706	\$ 48,213
Working capital <sup>(1)</sup>	32,965	47,472
Total assets	49,771	64,278
Loan payable, net of current portion and discount	-	-
Total stockholders' equity	43,170	57,677

(1) We define working capital as current assets less current liabilities. See our consolidated financial statements incorporated by reference into this prospectus for further details regarding our current assets and current liabilities.

(2) The as adjusted data reflects the sale by us of 22,856,000 shares of our common stock and/or pre-funded warrants in this offering at the public offering price of \$0.70 per share and \$0.699 per pre-funded warrant, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

## RISK FACTORS

*Investing in our common stock, purchase warrants or pre-funded warrants involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this prospectus, or incorporated by reference, including our financial statements and the related notes and the risks and uncertainties discussed under “Risk Factors” in our Annual Report on Form 10-K for the year ended October 31, 2018 and our Quarterly Report on Form 10-Q for the quarter ended April 30, 2019, which are incorporated by reference herein in their entirety, before deciding to invest in our common stock, purchase warrants or pre-funded warrants. If any of these risks actually occur, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock and value of the purchase warrants and pre-funded warrants could decline and you might lose all or part of your investment. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business. Certain statements below are forward-looking statements. See “Cautionary Note Regarding Forward-Looking Statements” in this prospectus.*

### **Risks Related to the Development and Regulatory Approval of Our Product Candidates**

***We may elect or be required to suspend or discontinue clinical trials for a number of reasons, which could preclude approval of any of our product candidates.***

Our clinical trials may be suspended at any time for a number of reasons. A clinical trial may be suspended or terminated by us, an Institutional Review Board, the FDA or other regulatory authorities due to a failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, presentation or identification of unforeseen safety signals or issues, failure to demonstrate a benefit from using the investigational drug, changes in governmental regulations or administrative actions, lack of adequate funding to continue the clinical trial, or for other business-related reasons, including a decision by us to allocate our resources to our other existing or potential development programs. For example, in June 2019, we announced that we are increasing our focus on neoantigen-directed immunotherapies and are terminating our AIM2CERV Phase 3 clinical trial with AXAL in high-risk locally advanced cervical cancer. While we intend to continue to support the clinical development of AXAL in HPV-related cancers and expect to continue to seek monetization opportunities for AXAL, the full effects of our termination of the AIM2CERV trial cannot yet be predicted and our AXAL program as well as our business in general may be materially impacted by the termination of AIM2CERV. As a result of the decision to terminate our AIM2CERV Phase 3 clinical trial, we expect to record a writedown of property and equipment and intangible assets of approximately \$500,000 for the period ending July 31, 2019.

In addition, clinical trials for our product candidates could be suspended due to adverse side effects. Drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. We may also voluntarily suspend or terminate our clinical trials if at any time we believe that they present an unacceptable risk to patients or do not demonstrate clinical benefit. If we elect or are forced to suspend or terminate any clinical trial of any product candidates that we develop, the commercial prospects of such product candidates will be harmed and our ability to generate product revenues from any of these product candidates will be delayed or eliminated. In addition, to the extent that we suspend or discontinue a clinical trial for a program on which we are pursuing with one or more collaborators, such suspension or discontinuation may damage our relationships with our collaborators or increase the challenges of entering into collaborations in the future. Any of these occurrences may significantly harm our business, financial condition, results of operations and prospects.

### **Risks Related to this Offering and Ownership of our Common Stock and Warrants**

***Our stock price can be volatile, which increases the risk of litigation, and may result in a significant decline in the value of your investment.***

The trading price of our common stock is likely to be highly volatile and subject to wide fluctuations in price in response to various factors, many of which are beyond our control and may not be related to our operating performance. These fluctuations could cause you to lose part or all of your investment in our common stock. These factors include, but are not limited to, the following:

- price and volume fluctuations in the overall stock market from time to time;
- changes in the market valuations, stock market prices and trading volumes of similar companies;
- actual or anticipated changes in our net loss or fluctuations in our operating results or in the expectations of securities analysts;
- the issuance of new equity securities pursuant to a future offering, including potential issuances of preferred stock;
- general economic conditions and trends;
- positive and negative events relating to healthcare and the overall pharmaceutical and biotech sector;

- major catastrophic events;
- sales of large blocks of our stock;
- additions or departures of key personnel;
- changes in the regulatory status of our immunotherapies, including results of our pre-clinical and clinical trials;
- positive and negative changes in relationships with partners;
- events affecting the University of Pennsylvania or any of our other current or future collaborators;
- announcements of new products or technologies, commercial relationships or other events by us or our competitors;
- regulatory developments in the United States and other countries;
- failure of our common stock, purchase warrants or pre-funded warrants to be listed or quoted on the Nasdaq Stock Market, NYSE Amex Equities or other national market system;
- changes in accounting principles; and
- discussion of us or our stock price by the financial and scientific press and in online investor communities.

In addition, equity markets in general, and the market for biotechnology and life sciences companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies traded in those markets. These broad market and industry factors may materially affect the market price of our common stock, regardless of our development and operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Due to the volatility of our stock price, we have been and may be the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's in the future attention and resources from our business.

***Future sales or other issuances of our common stock could depress the market for our common stock.***

Sales of a substantial number of shares of our common stock, or the perception by the market that those sales could occur, could cause the market price of our common stock to decline or could make it more difficult for us to raise funds through the sale of equity in the future.

In connection with this offering, we and our directors and executive officers have entered into lock-up agreements for a period of 90 days, respectively, following this offering (which period may be extended under certain circumstances). We and our directors and executive officers may be released from lock-up prior to the expiration of the lock-up period at the sole discretion of A.G.P./Alliance Global Partners (See "Underwriting" beginning on page 31 of this prospectus). Upon expiration or earlier release of the lock-up, we and our directors and executive officers may sell shares into the market, which could adversely affect the market price of shares of our common stock.

Future issuances of common stock or other equity securities could further depress the market for our common stock. We expect to continue to incur drug development and selling, general and administrative costs, and to satisfy our funding requirements, we will need to sell additional equity securities, which may be subject to registration rights and warrants with anti-dilutive protective provisions. The sale or the proposed sale of substantial amounts of our common stock or other equity securities in the public markets may adversely affect the market price of our common stock and our stock price may decline substantially. Our stockholders may experience substantial dilution and a reduction in the price that they are able to obtain upon sale of their shares. New equity securities issued may have greater rights, preferences or privileges than our existing common stock. In addition, we have a significant number of shares of restricted stock, restricted stock units, stock options and warrants outstanding. To the extent that outstanding stock options or warrants have been or may be exercised or other shares issued, investors purchasing our common stock in this offering may experience a further decline in the market value of their shares.

If we make one or more significant acquisitions in which the consideration includes stock or other securities, our stockholders' holdings may be significantly diluted. In addition, stockholders' holdings may also be diluted if we enter into arrangements with third parties permitting us to issue shares of common stock in lieu of certain cash payments upon the achievement of milestones.

***There is no public market for the purchase warrants or pre-funded warrants being offered in this offering.***

There is no established public trading market for the purchase warrants or pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the purchase warrants or pre-funded warrants on any securities exchange or nationally recognized trading system. Without an active market, the liquidity of the purchase warrants or pre-funded warrants will be limited.

***Holders of our purchase warrants or pre-funded warrants will have no rights as a common stockholder until they acquire our common stock.***

Until you acquire shares of our common stock upon exercise of your purchase warrants or pre-funded warrants, you will have no rights with respect to shares of our common stock issuable upon exercise of your purchase warrants or pre-funded warrants. Upon exercise of your purchase warrants or pre-funded warrants, you 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 do not maintain a current and effective prospectus relating to the common stock issuable upon exercise of the purchase warrants or pre-funded warrants, public holders will only be able to exercise such purchase warrants or pre-funded warrants on a “cashless basis.”***

If we do not maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of the purchase warrants or pre-funded warrants at the time that holders wish to exercise such warrants, they will only be able to exercise them on a “cashless basis,” and under no circumstances would we be required to make any cash payments or net cash settle such warrants to the holders. As a result, the number of shares of common stock that holders will receive upon exercise of the purchase warrants or pre-funded warrants will be fewer than it would have been had such holders exercised their purchase warrants or pre-funded for cash. Under the terms of the purchase warrants and pre-funded warrants, we have agreed to use our best efforts to maintain a current and effective prospectus relating to the shares of common stock issuable upon exercise of such warrants until the expiration of such warrants. However, we cannot assure you that we will be able to do so. If we are unable to do so, the potential “upside” of the holder’s investment in our company may be reduced.

***The pre-funded warrants are speculative in nature.***

The pre-funded warrants offered hereby do not confer any rights of common stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price. Specifically, commencing on the date of issuance, holders of the pre-funded warrants may acquire the common stock issuable upon exercise of such warrants at an exercise price of \$0.001 per share of common stock. Moreover, following this offering, the market value of the pre-funded warrants is uncertain and there can be no assurance that the market value of the pre-funded warrants will equal or exceed their public offering price. There can be no assurance that the market price of the common stock will ever equal or exceed the exercise price of the pre-funded warrants, and consequently, whether it will ever be profitable for holders of the pre-funded warrants to exercise the pre-funded warrants.

***The purchase warrants may not have any value.***

Each purchase warrant has an exercise price of \$2.80 and will expire on the fifth anniversary of the date they first become exercisable. In the event our common stock price does not exceed the exercise price of the purchase warrants during the period when the warrants are exercisable, the purchase warrants may not have any value.

***We have broad discretion to use the net proceeds from this offering and our investment of these proceeds pending any such use may not yield a favorable return.***

Our management has broad discretion as to how to spend the proceeds from this offering and may spend these proceeds in ways with which our stockholders may not agree. Pending any such uses, we plan to invest the net proceeds of this offering in short-term and long-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. See “Use of Proceeds.”

***Even if this offering is successful, we expect that we will need to raise additional funding to complete the development and commercialization of our product candidates. This additional financing may not be available on acceptable terms, or at all. Failure to obtain this necessary capital when needed may force us to delay, limit, or terminate our product development efforts or other operations.***

We estimate that our current cash, cash equivalents and investments, along with the net proceeds from this offering, will be sufficient for us to fund our operating expenses and capital expenditure requirements through July 2020. Without giving effect to the anticipated net proceeds from this offering, we do not believe that our existing capital resources will be sufficient to meet our projected operating requirements for at least 12 months from the date of issuance of our unaudited interim condensed consolidated financial statements as of April 30, 2019 and for the six months then ended, and our audit for the year ended October 31, 2018, our independent registered public accounting firm has concluded that there is substantial doubt about our ability to continue as a going concern. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. In addition, the expected net proceeds of this offering will not be sufficient for us to fund any of our product candidates through regulatory approval, and we will need to raise substantial additional capital to complete the development and commercialization of our product candidates. We will continue to seek funds through equity or debt financings, collaborative or other arrangements with corporate sources, or through other sources of financing. Adequate additional funding may not be available to us on acceptable terms, or at all. Any failure to raise capital as and when needed, as a result of insufficient authorized shares or otherwise, could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies.

***We do not intend to pay cash dividends.***

We have not declared or paid any cash dividends on our common stock, and we do not anticipate declaring or paying cash dividends for the foreseeable future. Any future determination as to the payment of cash dividends on our common stock will be at our Board of Directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our Board of Directors considers to be relevant.

***Certain anti-takeover provisions in our charter documents and Delaware law could make a third-party acquisition of us difficult. This could limit the price investors might be willing to pay in the future for our common stock.***

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, or control us. These factors could limit the price that certain investors might be willing to pay in the future for shares of our common stock. Our amended and restated certificate of incorporation allows us to issue preferred stock without the approval of our stockholders. The issuance of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of our common stock or could adversely affect the rights and powers, including voting rights, of such holders. In certain circumstances, such issuance could have the effect of decreasing the market price of our common stock. Our amended and restated bylaws also provide our board of directors with the ability to alter such bylaws without stockholder approval. Any of these provisions could also have the effect of delaying or preventing a change in control.

***Provisions of the purchase warrants or pre-funded warrants offered by this prospectus could discourage an acquisition of us by a third party.***

In addition to the discussion of the provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, certain provisions of the purchase warrants or pre-funded warrants offered by this prospectus could make it more difficult or expensive for a third party to acquire us. The purchase warrants and pre-funded warrants prohibit us from engaging in certain transactions constituting "fundamental transactions" unless, among other things, the surviving entity assumes our obligations under the pre-funded warrants. Further, the pre-funded warrants provide that, in the event of certain transactions constituting "fundamental transactions," with some exception, holders of such warrants will have the right, at their option, to require us to repurchase such purchase warrants or pre-funded warrants at a price described in such warrants. These and other provisions of the purchase warrants or pre-funded warrants offered by this prospectus could prevent or deter a third party from acquiring us even where the acquisition could be beneficial to you.

***The exercise price of the purchase warrants or pre-funded warrants offered by this prospectus will not be adjusted for certain dilutive events.***

The exercise price of the purchase warrants or pre-funded warrants offered by this prospectus is subject to adjustment for certain events, including, but not limited to, certain issuances of capital stock, options, convertible securities and other securities. However, the exercise prices will not be adjusted for dilutive issuances of securities considered "excluded securities" and there may be transactions or occurrences that may adversely affect the market price of our common stock or the market value of such purchase warrants or pre-funded warrants without resulting in an adjustment of the exercise prices of such purchase warrants or pre-funded warrants.

***The tax reform bill passed in 2017 could adversely affect our business and financial condition.***

The "Tax Cuts and Jobs Act," or the TCJA, was enacted in 2017 and significantly amends the Internal Revenue Code of 1986, or the Code. The TCJA, among other things, reduces the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limits the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limits the deduction for net operating losses to 80% of current year taxable income and eliminates net operating loss carrybacks, in each case, for losses generated after December 31, 2017 (though any such net operating losses may be carried forward indefinitely), and modifies or repeals many business deductions and credits (including reducing the business tax credit for certain clinical testing expenses incurred in the testing of certain drugs for rare diseases or conditions generally referred to as "orphan drugs"). We continue to examine the impact these changes may have on our business.

***Our ability to use estimated net operating losses and research and development credits to offset future taxable income may be subject to certain limitations.***

As of October 31, 2018, we had federal and state net operating loss carryforwards of \$265.8 million and \$129.2 million, respectively, which begin to expire in various amounts in 2023. As of October 31, 2018, we also had federal and state research and development tax credit carryforwards of \$6.3 million and \$0.5 million, respectively, which begin to expire in 2025. These net operating loss and tax credit carryforwards could expire unused and be unavailable to offset future income tax liabilities (except for federal net operating loss carryforwards generated in taxable years ending after December 31, 2017, which are not subject to expiration). In addition, in general, under Sections 382 and 383 of the Code a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its pre-change net operating losses or tax credits, or NOLs or credits, to offset future taxable income or taxes. For these purposes, an ownership change generally occurs where the aggregate stock ownership of one or more stockholders or groups of stockholders who owns at least 5% of a corporation's stock increases its ownership by more than 50 percentage points over its lowest ownership percentage within a specified testing period. Our existing NOLs or credits are subject to limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs or credits could be further limited by Sections 382 and 383 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code. Our NOLs or credits may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOLs or credits.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements, contains forward-looking statements. These statements include all matters that are not related to present facts or current conditions or that are not historical facts, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth. The words “anticipate,” “believe,” “could,” “continue,” “should,” “predict,” “estimate,” “expect,” “intend,” “may,” “plan,” “potentially,” “will,” “may,” “would,” or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, and healthcare, regulatory and scientific developments and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this prospectus. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this prospectus, they may not be predictive of results or developments in future periods.

Some of the factors that we believe could cause actual results to differ from those anticipated or predicted include:

- the success and timing of our clinical trials, including patient accrual;
- our ability to obtain and maintain regulatory approval and/or reimbursement of our product candidates for marketing;
- our ability to obtain the appropriate labeling of our products under any regulatory approval;
- our plans to develop and commercialize our products;
- the successful development and implementation of our sales and marketing campaigns;
- the change of key scientific or management personnel;
- the size and growth of the potential markets for our product candidates and our ability to serve those markets;
- our ability to successfully compete in the potential markets for our product candidates, if commercialized;
- regulatory developments in the United States and other countries;
- the rate and degree of market acceptance of any of our product candidates;
- new products, product candidates or new uses for existing products or technologies introduced or announced by our competitors and the timing of these introductions or announcements;
- market conditions in the pharmaceutical and biotechnology sectors;
- our available cash;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- our ability to obtain additional funding;
- our ability to obtain and maintain intellectual property protection for our product candidates;

- the success and timing of our preclinical studies including IND enabling studies;
- the ability of our product candidates to successfully perform in clinical trials;
- our ability to obtain and maintain approval of our product candidates for trial initiation;
- our ability to manufacture and the performance of third-party manufacturers;
- our ability to identify license and collaboration partners and to maintain existing relationships;
- the performance of our clinical research organizations, clinical trial sponsors, clinical trial investigators and collaboration partners for any clinical trials we conduct; and
- our ability to successfully implement our strategy.

These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this prospectus and the documents incorporated by reference. Other sections of this prospectus may include additional factors that could adversely impact our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

We have included important factors in the cautionary statements included in this prospectus, particularly those described or incorporated by reference in the “Risk Factors” section, 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 future acquisitions, mergers, dispositions, joint ventures or investments we may make. No forward-looking statement is a guarantee of future performance.

You should read this prospectus and the documents that we reference and incorporate by reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements in this prospectus, and the documents incorporated by reference, represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

## INDUSTRY AND MARKET DATA

This prospectus and the documents incorporated by reference include statistical and other industry and market data that we obtained from our own internal estimates and research, as well as from industry publications and research, surveys and studies conducted by us and third parties. Industry publications, studies, and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that each of these studies and publications is reliable, we have not independently verified market and industry data from third-party sources. While we believe our internal company research is reliable and the market definitions are appropriate, neither such research nor these definitions have been verified by any independent source. The industry in which we operate is subject to a high degree of uncertainty and risks due to various factors, including those described in the section titled “Risk Factors.”

## USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the shares of our common stock and purchase warrants offered by us in this offering will be approximately \$14.5 million, based on the public offering price of \$0.70 per share, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the purchase warrants and pre-funded warrants. If the underwriters' option to purchase additional shares and/or purchase warrants in this offering is exercised in full, we estimate that our net proceeds from this offering will be approximately \$15.5 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We expect to use the net proceeds from this offering to fund our continued research and development initiatives in connection with expanding our product pipeline including, but not limited to:

- investment in our ADXS-HOT program in both monotherapy and combination therapy and new cancer types;
- investment in ongoing clinical research in ADXS-PSA and ADXS-NEO, in combination therapy; and
- general corporate purposes.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of the net proceeds from this offering will vary depending on numerous factors, including the progress of our clinical trials and other development efforts for our product candidates and other factors described in "Risk Factors" beginning on page 11 or incorporated by reference herein, as well as the amount of cash we use in our operations. As a result, our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds from this offering. In addition, we might decide to postpone or not pursue clinical trials or preclinical activities if the net proceeds from this offering and the other sources of cash are less than expected.

Pending application of the net proceeds, we intend to invest the net proceeds from this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. government.

## **DIVIDEND POLICY**

We have never declared or paid any cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements and other factors that our board of directors considers to be relevant.

## CAPITALIZATION

The following table sets forth our cash, cash equivalents and investments and capitalization as of April 30, 2019:

- on an actual basis;
- on a pro forma basis to reflect the shares of common stock and accompanying purchase warrants offered by us in this offering at the public offering price of \$0.70 per share, after deducting underwriting discounts and estimated offering expenses payable by us. The pro forma basis assumes no sale of pre-funded warrants, which, if sold, would reduce the number of shares of common stock that we are offering on a one-for-one basis, and excludes the proceeds, if any, from the exercise of any purchase warrants or pre-funded warrants issued in this offering.

You should read this information together with our financial statements and the notes to those statements incorporated by reference into this prospectus.

April 30, 2019 (unaudited) (in thousands, except share and par value data)	Actual	Pro Forma
Cash, cash equivalents and investments	\$ 33,706	\$ 48,213
<b>Stockholders' equity:</b>		
Preferred stock, \$0.001 par value per share, 5,000,000 shares authorized; 0 shares issued and outstanding actual, pro forma and pro forma as adjusted	—	—
Common stock, \$0.001 par value per share, 170,000,000 shares authorized; 8,020,370 shares issued and outstanding, actual, 17,220,370 shares issued and outstanding, pro forma	8	17
Additional paid-in capital	407,385	421,892
Accumulated deficit	(364,223)	(364,223)
Total stockholders' equity	43,170	57,687
Total capitalization	\$ 43,170	\$ 57,687

The number of shares of common stock to be outstanding immediately after the offering is based on 8,020,370 shares of common stock outstanding as of April 30, 2019. The number of shares outstanding as of April 30, 2019 excludes:

- 400,260 shares of common stock issuable upon the exercise of stock options outstanding as of April 30, 2019 at a weighted-average exercise price of \$101.82 per share;
- 17,063 shares of common stock reserved for issuance upon settlement of restricted stock units;
- 72,304 shares of common stock issuable upon the exercise of warrants outstanding as of April 30, 2019 at a weighted-average exercise price of \$3.82 per share;
- 17,142,000 shares of common stock issuable upon the exercise of the purchase warrants being offered in this prospectus; and
- 188,658 shares of common stock reserved for the future awards under our 2015 Incentive Plan.

## PRINCIPAL STOCKHOLDERS

Except as noted below, the following table sets forth certain information with respect to the beneficial ownership of our Common Stock as of June 1, 2019:

- each person who is known by us to be the beneficial owner of more than 5% of our outstanding Common Stock;
- each of our directors;
- each of our named executive officers and current executive officers; and
- all of our current directors and executive officers as a group.

As used in the table below, the term beneficial ownership with respect to our Common Stock consists of sole or shared voting power (which includes the power to vote, or to direct the voting of shares of our Common Stock) or sole or shared investment power (which includes the power to dispose, or direct the disposition of, shares of our Common Stock) through any contract, arrangement, understanding, relationship or otherwise, including a right to acquire such power(s) during the 60 days following April 30, 2019.

Unless otherwise indicated in the footnotes to this table, and subject to community property laws where applicable, we believe each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 8,020,370 shares of Common Stock outstanding as of April 30, 2019, adjusted as required by the rules promulgated by the SEC. Unless otherwise indicated, the address for each of the individuals and entities listed in this table is 305 College Road East, Princeton, New Jersey 08540.

Name of Beneficial Owner	Total # of Shares Beneficially Owned	Percentage of Ownership
Kenneth Berlin (1)	27,223	*%
David Sidransky (2)	15,357	*%
Roni Appel (3)	23,157	*%
Richard Berman (4)	11,770	*%
Samir Khleif (5)	14,751	*%
James Patton (6)	27,375	*%
Andres Gutierrez (7)	9,306	-%
Molly Henderson (8)	11,389	*%
Robert Petit (9)	34,647	*%
All Directors and Officers as a Group (10)	<b>174,975</b>	<b>2.16%</b>

\*Less than 1%

(1) Represents 10,556 issued shares of our Common Stock and options to purchase 16,667 shares of our Common Stock exercisable within 60 days.

(2) Represents 7,357 issued shares of our Common Stock and options to purchase 8,000 shares of our Common Stock exercisable within 60 days.

(3) Represents 13,476 issued shares of our Common Stock, options to purchase 7,792 shares of our Common Stock exercisable within 60 days and warrants to purchase 1,889 shares of our Common Stock exercisable within 60 days.

(4) Represents 3,711 issued shares of our Common Stock and options to purchase 8,059 shares of our Common Stock exercisable within 60 days.

(5) Represents 4,639 issued shares of our Common Stock and options to purchase 10,112 shares of our Common Stock exercisable within 60 days.

(6) Represents 19,116 issued shares of our Common Stock and options to purchase 8,259 shares of our Common Stock exercisable within 60 days.

(7) Represents 3,750 issued shares of our Common Stock and options to purchase 5,556 shares of our Common Stock exercisable within 60 days.

(8) Represents 5,833 issued shares of our Common Stock and options to purchase 5,556 shares of our Common Stock exercisable within 60 days.

(9) Represents 12,856 issued shares of our Common Stock and options to purchase 21,791 shares of our Common Stock exercisable within 60 days. On May 13, 2019, Dr. Petit stepped down as our Chief Scientific Officer effective as of the close of business on June 3, 2019.

(10) Represents 81,294 issued shares of our Common Stock and options to purchase 91,792 shares of our Common Stock exercisable within 60 days and warrants to purchase 1,889 shares of our Common Stock exercisable within 60 days.

## DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information we may incorporate by reference herein, summarizes the material terms and provisions of our capital stock. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws, which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. We refer in this section to our Amended and Restated Certificate of Incorporation as our “certificate of incorporation”, and we refer to our Amended and Restated Bylaws as our “bylaws.” The terms of our common stock and preferred stock may also be affected by Delaware law.

### **Authorized Capital Stock**

Under our certificate of incorporation, we are authorized to issue a total of 170,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of “blank check” preferred stock, par value \$0.001 per share. As of June 1, 2019, we had issued and outstanding 8,020,815 shares of our common stock and no shares of preferred stock outstanding. As of such date, there were approximately 102 holders of record.

### **Common Stock**

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of shareholders and do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by the board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions. In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. All outstanding shares are fully-paid and non-assessable.

### **Listing**

Our common stock is listed on the Nasdaq Global Select Market under the symbol “ADXS.” On July 23, 2019, the closing price for our common stock, as reported on the Nasdaq Global Select Market, was \$0.70 per share.

### **Transfer Agent**

The transfer agent and registrar for our common stock is Continental Stock Transfer and Trust Company, 17 Battery Place, 8th Floor, New York, NY 10004.

### **Preferred Stock**

Our board of directors is authorized, without action by the stockholders, to designate and issue up to an aggregate of 5,000,000 shares of preferred stock in one or more series. Our board of directors can designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock.

The issuance of preferred stock, while providing flexibility in connection with possible future financings and acquisitions and other corporate purposes could, under certain circumstances, have the effect of restricting dividends on our common stock, diluting the voting power of our common stock, impairing the liquidation rights of our common stock, or delaying, deferring or preventing a change in control of our company, which might harm the market price of our common stock. See also “Antitakeover Effects of Delaware Law and Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws—Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws—Undesignated preferred stock” below.

## **Dividends**

Subject to the dividend rights of the holders of any outstanding series of preferred stock, holders of our common stock are entitled to receive ratably such dividends and other distributions of cash or any other right or property as may be declared by our board of directors out of our assets or funds legally available for such dividends or distributions.

## **Voting Rights**

The holders of our common stock are entitled to one vote for each share held of record on each matter submitted to a vote of stockholders. Holders of our common stock do not have a cumulative voting right, which means that the holders of more than one-half of the outstanding shares of common stock, subject to the rights of the holders of the preferred stock, if any, can elect all of our directors, if they choose to do so. In this event, the holders of the remaining shares of common stock would not be able to elect any directors. Except as otherwise required by Delaware law, and subject to the rights of the holders of preferred stock, if any, all stockholder action is taken by the vote of a majority of the outstanding shares of common stock voting as a single class present at a meeting of stockholders at which a quorum consisting of one-third of the outstanding shares of common stock is present in person or proxy.

## **Liquidation and Dissolution**

In the event of any voluntary or involuntary liquidation, dissolution or winding up of our affairs, holders of common stock would be entitled to share ratably in our assets that are legally available for distribution to stockholders after payment of liabilities. If we have any preferred stock outstanding at such time, holders of the preferred stock may be entitled to distributions and/or liquidation preferences. In either such case, we must pay the applicable distribution to the holders of our preferred stock (if any) before we may pay distributions to the holders of common stock.

## **Anti-Takeover Provisions**

### ***Delaware Law***

We are subject to Section 203 of the Delaware General Corporation Law, or Section 203. This provision generally prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date the stockholder became an interested stockholder, unless:

- prior to such date, the board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to such date, the business combination is approved by the board of directors and authorized at an annual meeting or special meeting of stockholders and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an “interested stockholder” as any entity or person beneficially owning 15% or more of the outstanding voting stock of a corporation, or an affiliate or associate of the corporation and was the owner of 15% or more of the outstanding voting stock of a corporation at any time within three years prior to the time of determination of interested stockholder status; and any entity or person affiliated with or controlling or controlled by such entity or person.

These statutory provisions could delay or frustrate the removal of incumbent directors or a change in control of our company. They could also discourage, impede, or prevent a merger, tender offer, or proxy contest, even if such event would be favorable to the interests of stockholders.

***Amended and Restated Certificate of Incorporation and Bylaw Provisions***

Our amended and restated certificate of incorporation and bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or making a tender offer or delaying or preventing a change in control, including changes a stockholder might consider favorable. In particular, the certificate of incorporation and bylaws, as applicable, among other things:

- provide our board of directors with the ability to alter its bylaws without stockholder approval; and
- provide that vacancies on our board of directors may be filled by a majority of directors in office, although less than a quorum.

Such provisions may have the effect of discouraging a third-party from acquiring us, even if doing so would be beneficial to our stockholders. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by them, and to discourage some types of transactions that may involve an actual or threatened change in control of our company. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage some tactics that may be used in proxy fights. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company outweigh the disadvantages of discouraging such proposals because, among other things, negotiation of such proposals could result in an improvement of their terms. However, these provisions could have the effect of discouraging others from making tender offers for our shares that could result from actual or rumored takeover attempts. These provisions also may have the effect of preventing changes in our management.

## DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering 9,200,000 shares of our common stock and/or pre-funded warrants to purchase up to 13,656,000 shares of common stock and purchase warrants to purchase up to 17,142,000 shares of our common stock. The shares of common stock and pre-funded warrants will be issued separately. We are also registering the shares of common stock issuable from time to time upon exercise of the pre-funded warrants offered hereby.

### Common Stock

The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption “Description of Capital Stock” in this prospectus.

### Purchase Warrants to be Issued in this Offering

*The following summary of certain terms and provisions of purchase warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the purchase warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of purchase warrant for a complete description of the terms and conditions of the purchase warrants.*

**Book Entry Form.** The purchase warrants will be issued in book-entry form and shall be represented only by one or more global pre-funded warrants deposited with the Continental Stock Transfer and Trust Company, as custodian on behalf of The Depository Trust Company (“DTC”) and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

**Duration and Exercise Price.** The purchase warrants have an initial exercise price of \$2.80 per share. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders. The purchase warrants are exercisable immediately, and at any time up to the date that is five years after their original issuance.

**Exercisability.** The purchase 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, at any time a registration statement registering the issuance of the shares of common stock underlying the purchase warrants under the Securities Act is effective and available for the issuance of such shares, or an exemption from registration under the Securities Act is available for the issuance of such shares, by payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise (except in the case of a cashless exercise as described below). A holder will not have the right to exercise any portion of the purchase warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or, upon election of the holder, 9.99%) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the purchase warrants. However, any holder may increase or decrease such percentage, provided that any increase will not be effective until the 61st day after such election.

**Cashless Exercise.** If a registration statement registering the issuance of the shares of common stock underlying the purchase warrants under the Securities Act is not effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, the holder may elect to exercise the purchase warrant only through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the purchase warrant. In addition, the purchase warrants also provide that, beginning on the earlier of (i) 30 days after issuance and (ii) if the Common Stock trades an aggregate of more than 35,000,000 shares, inclusive of shares traded during a trading day or during pre or after-market trading, after the pricing of this offering as reported by Bloomberg L.P., and ending on the fifteenth (15) month anniversary thereof, each purchase warrant may be exercised at the option of the holder on a cashless basis, in whole or in part for a whole number of shares if the volume weighted average price of the Common Stock on any trading day prior to the exercise date fails to exceed the initial exercise price of the purchase warrant. No fractional shares of common stock will be issued in connection with the exercise of a purchase warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price. Notwithstanding anything to the contrary, in the event we do not have or maintain an effective registration statement, there are no circumstances that would require us to make any cash payments or net cash settle the purchase warrants to the holders.

*Transferability.* Subject to applicable laws, the purchase warrants may be offered for sale, sold, transferred or assigned without our consent.

*Exchange Listing.* There is no established trading market for the purchase warrants and we do not expect a market to develop. In addition, we do not intend to apply for the listing of the purchase warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the purchase warrants will be limited.

*Rights as a Stockholder.* Except as otherwise provided in the purchase warrants or by virtue of such holder's ownership of shares of our common stock, the holder of a purchase warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the purchase warrant.

*Fundamental Transactions.* If a fundamental transaction occurs, then the successor entity will succeed to, and be substituted for us, and may exercise every right and power that we may exercise and will assume all of our obligations under the purchase warrants with the same effect as if such successor entity had been named in the purchase warrant itself. If holders of our common stock are given a 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 consideration it receives upon any exercise of the purchase warrant following such fundamental transaction.

## **Pre-funded Warrants**

*The following summary of certain terms and provisions of pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.*

*Book Entry Form.* The pre-funded warrants will be issued in book-entry form and shall be represented only by one or more global pre-funded warrants deposited with the Continental Stock Transfer and Trust Company, as custodian on behalf of DTC and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

*Duration and Exercise Price.* Each pre-funded warrant offered hereby has an initial exercise price per share equal to \$0.001. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price.

*Exercisability.* The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by 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). A holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% (or, at the election of the holder, 9.99%) of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's pre-funded warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Purchasers of pre-funded warrants in this offering may also elect prior to the issuance of the pre-funded warrants to have the initial exercise limitation set at 9.99% of our outstanding common stock. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

*Cashless Exercise.* If, at the time a holder exercises its pre-funded warrants, a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) only the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants. Notwithstanding anything to the contrary, in the event we do not have or maintain an effective registration statement, there are no circumstances that would require us to make any cash payments or net cash settle the pre-funded warrants to the holders.

*Transferability.* Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

*Exchange Listing.* There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

*Right as a Stockholder.* Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their pre-funded warrants.

*Fundamental Transaction.* In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction.

## SHARES ELIGIBLE FOR FUTURE SALE

We cannot predict the effect, if any, that future sales of shares of common stock, or the availability for future sale of shares of common stock, will have on the market price of shares of our common stock prevailing from time to time. The sale of substantial amounts of shares of our common stock in the public market, or the perception that such sales could occur, could harm the prevailing market price of shares of our common stock.

Based on the number of shares outstanding as of April 30, 2019, upon completion of this offering, we will have a total of 17,220,370 shares of our common stock outstanding (or 18,670,370 shares of common stock if the underwriters exercise in full their option to purchase additional shares of common stock and/or purchase warrants) in each case assuming no exercise of the pre-funded warrants or purchase warrants issued in this offering. Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares, including shares sold to an entity affiliated with an existing shareholder that may purchase shares in this offering, held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below.

### Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale and (ii) we are subject to the Securities Exchange Act of 1934, as amended, or the Exchange Act, periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned restricted shares for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any six-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares then outstanding, which will equal approximately 172,204 shares immediately after this offering assuming no exercise of the underwriters' option to purchase additional shares, and assuming that none of the pre-funded or purchase warrants are exercised, based on the number of shares outstanding as of April 30, 2019; or
- the average weekly trading volume of our common stock on The Nasdaq Global Select Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144 of the Securities Act, or Rule 144.

### Rule 701

Rule 701 under the Securities Act, or Rule 701, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below in the section titled "Underwriting" included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

### Lock-up Agreements

In connection with this offering, we, along with our directors, executive officers and certain stockholders have agreed with the underwriters that for a period of 90 days (the restricted period), after the date of this prospectus, subject to specified exceptions, we or they will not offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock.

## MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax considerations applicable to non-U.S. holders (as defined below) with respect to their ownership and disposition of shares of our common stock or pre-funded warrants issued pursuant to this offering. For purposes of this discussion, a non-U.S. holder means a beneficial owner of our common stock and/or pre-funded warrants that is for U.S. federal income tax purposes:

- a non-resident alien individual;
- a foreign corporation or any other foreign organization taxable as a corporation for U.S. federal income tax purposes; or
- a foreign estate or trust, the income of which is not subject to U.S. federal income tax on a net income basis.

This discussion does not address the tax treatment of partnerships or other entities that are pass-through entities for U.S. federal income tax purposes or persons that hold their common stock and/or pre-funded warrants through partnerships or other pass-through entities. A partner in a partnership or other pass-through entity that will hold our common stock and/or pre-funded warrants should consult his, her or its tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock and/or pre-funded warrants through a partnership or other pass-through entity, as applicable.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus and, all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any such change or differing interpretation could alter the tax consequences to non-U.S. holders described in this prospectus. There can be no assurance that the Internal Revenue Service, which we refer to as the IRS, will not challenge one or more of the tax consequences described herein. We assume in this discussion that a non-U.S. holder holds shares of our common stock and/or pre-funded warrant as a capital asset within the meaning of Section 1221 of the Code, generally property held for investment.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any U.S. state, local or non-U.S. taxes, the alternative minimum tax, the Medicare tax on net investment income, the rules regarding qualified small business stock within the meaning of Section 1202 of the Code, or any other aspect of any U.S. federal tax other than the income tax. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt or governmental organizations;
- financial institutions;
- brokers or dealers in securities;
- regulated investment companies;
- pension plans;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- "qualified foreign pension funds," or entities wholly owned by a "qualified foreign pension fund";
- persons deemed to sell our common stock and/or pre-funded warrants under the constructive sale provisions of the Code;
- persons that hold our common stock and/or pre-funded warrants as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment; and
- certain U.S. expatriates.

This discussion is for general information only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock and/or pre-funded warrants should consult their tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock and/or pre-funded warrants.

### **Treatment of Pre-funded Warrants**

Although it is not entirely free from doubt, a pre-funded warrant should be treated as a share of our common stock for U.S. federal income tax purposes and a holder of pre-funded warrants should generally be taxed in the same manner as a holder of common stock, as described below. Accordingly, no gain or loss should be recognized upon the exercise of a pre-funded warrant and, upon exercise, the holding period of a pre-funded warrant should carry over to the share of common stock received. Similarly, the tax basis of the pre-funded warrant should carry over to the share of common stock received upon exercise, increased by the exercise price of \$0.001 per share. Each holder should consult his, her or its own tax advisor regarding the risks associated with the acquisition of pre-funded warrants pursuant to this offering (including potential alternative characterizations). The balance of this discussion generally assumes that the characterization described above is respected for U.S. federal income tax purposes.

## Distributions on Our Common Stock

Distributions, if any, on our common stock 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. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on Sale or Other Taxable Disposition of Our Common Stock and/or Pre-Funded Warrants." Any such distributions will also be subject to the discussions below under the sections titled "Backup Withholding and Information Reporting" and "Withholding and Information Reporting Requirements—FATCA."

Subject to the discussion in the following two paragraphs in this section, dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed-base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements. However, such U.S. effectively connected income, net of specified deductions and credits, is taxed at the same graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) to the applicable withholding agent and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty. A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing a U.S. tax return with the IRS.

The pre-funded warrants are not entitled to any distributions until such warrant is exercised.

## Gain on Sale or Other Taxable Disposition of Our Common Stock and/or Pre-Funded Warrants

Subject to the discussions below under "Backup Withholding and Information Reporting" and "Withholding and Information Reporting Requirements—FATCA," a non-U.S. holder generally will not be subject to any U.S. federal income tax on any gain realized upon such holder's sale or other taxable disposition of shares of our common stock and/or Pre-Funded Warrants unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a U.S. trade or business and, if an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed-base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the graduated U.S. federal income tax rates applicable to United States persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on Our Common Stock" also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder, if any (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses; or

- we are, or have been, at any time during the five-year period preceding such sale or other taxable disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation," unless any class of our stock is regularly traded on an established securities market and the non-U.S. holder disposes of such class of stock and holds no more than 5% of such class of stock, directly or indirectly, actually or constructively, during the shorter of the 5-year period ending on the date of the disposition or the period that the non-U.S. holder held such class of stock. Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. Our pre-funded warrants are expected to constitute a class of stock for purposes of the rules described above. However, we do not expect our pre-funded warrants to be regularly traded on an established securities market for purposes of such rule. Further, there can be no assurance that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

### **Backup Withholding and Information Reporting**

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to dividends on our common stock. Dividends paid to non-U.S. holders subject to withholding of U.S. federal income tax, as described above in "Distributions on Our Common Stock," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock and/or pre-funded warrants by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker.

Non-U.S. holders should consult their tax advisors regarding the application of the information reporting and backup withholding rules to them. Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement. Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is filed with the IRS in a timely manner.

### **Withholding and Information Reporting Requirements—FATCA**

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act, or FATCA, generally impose a U.S. federal withholding tax at a rate of 30% on payments of dividends on our common stock paid to a foreign entity unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA. Such withholding may also apply to gross proceeds from the sale or other disposition of our common stock and/or pre-funded warrants, although under recently proposed U.S. Treasury Regulations, no withholding would apply to such gross proceeds. The preamble to the proposed regulations specifies that taxpayers (including withholding agents) are permitted to rely on the proposed regulations pending finalization. Under certain circumstances, a non-U.S. holder may be eligible for refunds or credits of this withholding tax. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their tax advisors regarding the possible implications of this legislation on their investment in our common stock and/or pre-funded warrants and the entities through which they hold our common stock and/or pre-funded warrants, including, without limitation, the process and deadlines for meeting the applicable requirements to prevent the imposition of the 30% withholding tax under FATCA.

## UNDERWRITING

We have entered into an underwriting agreement, dated July 23, 2019, with A.G.P./Alliance Global Partners, acting as the representative of the several underwriters named below, with respect to the shares of common stock, the purchase warrants and pre-funded warrants. Subject to certain conditions, we have agreed to sell to the underwriters, and the underwriters have severally agreed to purchase, the shares of common stock, the purchase warrants and pre-funded warrants provided below opposite their respective names.

Underwriters	Number of Shares	Number of Pre-Funded Warrants	Number of Purchase Warrants	Total
A.G.P./Alliance Global Partners	9,200,000	13,656,000	17,142,000	39,998,000
<b>Total</b>	<b>9,200,000</b>	<b>13,656,000</b>	<b>17,142,000</b>	<b>39,998,000</b>

The underwriters are committed to purchase all the shares of common stock, purchase warrants and the pre-funded warrants offered by us other than those covered by the option to purchase additional shares, purchase warrants and pre-funded warrants described below. The obligations of the underwriters may be terminated upon the occurrence of certain events specified in the underwriting agreement. Furthermore, pursuant to the underwriting agreement, the underwriters' obligations are subject to customary conditions, representations and warranties contained in the underwriting agreement, such as receipt by the underwriters of officers' certificates and legal opinions.

### Discount, Commissions and Expenses

The underwriters have advised us that they propose to offer the shares of common stock, purchase warrants and the pre-funded warrants at the public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of \$0.0245 per share of common stock, the purchase warrant and pre-funded warrant. The underwriters may allow, and certain dealers may reallow, a discount from the concession not in excess of \$0.0245 per share of common stock, the purchase warrant and the pre-funded warrant to certain brokers and dealers. After this offering, the public offering price, concession and reallowance to dealers may be changed by the representative. No such change shall change the amount of proceeds to be received by us as set forth on the cover page of this prospectus. The shares of common stock, the purchase warrants and the pre-funded warrants are offered by the underwriters as stated herein, subject to receipt and acceptance by them and subject to their right to reject any order in whole or in part. The underwriters have informed us that they do not intend to confirm sales to any accounts over which they exercise discretionary authority.

The following table shows the underwriting discount payable to the underwriters by us in connection with this offering.

	Per Share and Accompanying Purchase Warrant	Per Pre-Funded Warrant and Accompanying Purchase Warrant	Total	
			Without Over-Allotment	With Over-Allotment
Public offering price	\$ 0.70	\$ 0.699	\$ 15,985,544	\$ 17,000,544
Underwriting discounts and commissions (7%)	\$ 0.049	\$ 0.04893	\$ 1,118,988.08	\$ 1,190,038.08
Proceeds, before expenses, to us	\$ 0.651	\$ 0.65007	\$ 14,866,555.92	\$ 15,810,505.92

We have agreed to reimburse the underwriters for accountable legal expenses not to exceed \$85,000 and non-accountable expenses not to exceed \$20,000 in the aggregate. We estimate that expenses payable by us in connection with this offering, including reimbursement of the underwriters' out-of-pocket expenses, but excluding the underwriting discount referred to above, will be approximately \$360,000.

The Representatives have informed us that they do not expect sales to accounts over which the underwriters have discretionary authority to exceed 5% of the shares of common stock, purchase warrants and the pre-funded warrants being offered.

## Over-allotment Option

We have granted to the underwriters an option exercisable not later than 30 days after the date of this prospectus to purchase up to an additional 1,450,000 shares of common stock and/or additional warrants to purchase up to an additional 1,087,500 shares of common stock at the public offering price per share of common stock set forth on the cover page hereto less the underwriting discounts and commissions. The underwriters may exercise the option solely to cover over-allotments, if any, made in connection with this offering. If any additional shares of common stock and/or purchase warrants are purchased pursuant to the over-allotment option, the underwriters will offer these shares of common stock and/or purchase warrants on the same terms as those on which the other securities are being offered.

## Indemnification

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act and liabilities arising from breaches of representations and warranties contained in the underwriting agreement, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

## Lock-up Agreements

Our directors and executive officers have entered into lock-up agreements. Under these agreements, these individuals have agreed, subject to specified exceptions, not to sell or transfer any shares of common stock or securities convertible into, or exchangeable or exercisable for, our shares of common stock during a period ending 90 days after the date of this prospectus, without first obtaining the written consent of A.G.P./Alliance Global Partners. Specifically, these individuals have agreed, in part, not to:

- offer, pledge, sell, contract to sell, grant, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock, whether now owned or hereafter acquired or with respect to which such person has or later acquires the power of disposition, whether any such transaction is to be settled by delivery of our securities, in cash, or otherwise;
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our securities, whether any such transaction is to be settled by delivery of our shares of common stock, in cash or otherwise;
- make any demand for or exercise any right with respect to the registration of any of our securities; or
- publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement relating to any of our securities.

Notwithstanding these limitations, these shares of common stock may be transferred under limited circumstances, including, without limitation, by gift, will or intestate succession.

In addition, we have agreed that, for a period of sixty (60) days from the date of this prospectus, we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any of our shares of common stock or any securities convertible into or exercisable or exchangeable for our shares of common stock; (ii) file or caused to be filed any registration statement with the SEC relating to the offering of any of our shares of common stock or any securities convertible into or exercisable or exchangeable for our shares of common stock; (iii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of capital stock of the Company, whether any such transaction described in clause (i), (ii) or (iii) is to be settled by delivery of our shares of common stock or such other securities, in cash or otherwise. However, we will not be precluded from selling over 25% of our outstanding common stock to a strategic investor, so long as such investor agrees not to resell such shares into the public markets during such three month period.

Beginning on the public announcement of the final pricing of this offering and ending 60 days after such date (the "Leak-out Period"), certain investors who decide to purchase more than \$10,000 of securities offered in this offering through Delivery versus Payment (DVP) settlement, if they decide to sell any securities during the Leak-out Period, may only be permitted to sell securities in such amount as shall equal up to 35% in the aggregate of the average daily volume of the Common Stock on any given trading day, as reported by Nasdaq.

## Stabilization

In connection with this offering, the underwriters may engage in over-allotment transactions, syndicate-covering transactions, stabilizing transactions, penalty bids and purchases to cover positions created by short sales.

- Stabilizing transactions permit bids to purchase shares, so long as the stabilizing bids do not exceed a specified maximum and are engaged in for the purpose of preventing or retarding a decline in the market price of the shares while the offering is in progress.

- Over-allotment transactions involve sales by the underwriters of shares of common stock in excess of the number of shares the underwriters are obligated to purchase. This creates a syndicate short position, which may be either a covered short position or a naked short position. In a covered short position, the number of shares of 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 securities involved is greater than the number of shares in the over-allotment option. The underwriters may close out any short position by exercising their over-allotment option and/or purchasing common stock in the open market.
- Syndicate covering transactions involve purchases of common stock in the open market after the distribution has been completed in order to cover syndicate short positions. In determining the source of common stock to close out the short position, the underwriters will consider, among other things, the price of common stock available for purchase in the open market as compared to the price at which they may purchase common stock through exercise of the over-allotment option. If the underwriters sell more shares of common stock than could be covered by exercise of the over-allotment option, and, therefore, have a naked short position, the position can be closed out only by buying common stock in the open market. A naked short position is more likely to be created if the underwriters are concerned that after pricing there could be downward pressure on the price of the shares in the open market that could adversely affect investors who purchase in the offering.
- Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the common stock originally sold by that syndicate member are purchased in stabilizing or syndicate covering transactions to cover syndicate short positions.

These stabilizing transactions, syndicate covering transactions and penalty bids may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock in the open market may be higher than it would otherwise be in the absence of these transactions.

Neither we nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the prices of our securities. These transactions may occur on the Nasdaq Global Select Market or on any other trading market. If any of these transactions are commenced, they may be discontinued without notice at any time.

### **Passive Market Making**

In connection with this offering, the underwriters and any selling group members may engage in passive market making transactions in our common shares on Nasdaq in accordance with Rule 103 of Regulation M under the Exchange Act during a period before the commencement of offers or sales of common shares and extending through the completion of the distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specified purchase limits are exceeded.

### **Electronic Distribution**

This prospectus in electronic format may be made available on websites or through other online services maintained by one or more of the underwriters, or by their affiliates. Other than this 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 this 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.

### **Other**

From time to time, certain of the underwriters and/or their affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees. In the course of their businesses, the underwriters and their affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the underwriters and their affiliates may at any time hold long or short positions in such securities or loans.

## **Offer restrictions outside the United States**

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus and the accompanying prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

### **Australia**

This prospectus is not a disclosure document under Chapter 6D of the Australian Corporations Act, has not been lodged with the Australian Securities and Investments Commission and does not purport to include the information required of a disclosure document under Chapter 6D of the Australian Corporations Act. Accordingly, (i) the offer of the securities under this prospectus is only made to persons to whom it is lawful to offer the securities without disclosure under Chapter 6D of the Australian Corporations Act under one or more exemptions set out in section 708 of the Australian Corporations Act, (ii) this prospectus is made available in Australia only to those persons as set forth in clause (i) above, and (iii) the offeree must be sent a notice stating in substance that by accepting this offer, the offeree represents that the offeree is such a person as set forth in clause (i) above, and, unless permitted under the Australian Corporations Act, agrees not to sell or offer for sale within Australia any of the securities sold to the offeree within twelve (12) months after its transfer to the offeree under this prospectus.

### **China**

The information in this document does not constitute a public offer of the securities, whether by way of sale or subscription, in the People's Republic of China (excluding, for purposes of this paragraph, Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan). The securities may not be offered or sold directly or indirectly in the PRC to legal or natural persons other than directly to "qualified domestic institutional investors."

### **European Economic Area-Belgium, Germany, Luxembourg and Netherlands**

The information in this document has been prepared on the basis that all offers of common stock will be made pursuant to an exemption under the Directive 2003/71/EC ("Prospectus Directive"), as implemented in Member States of the European Economic Area (each, a "Relevant Member State"), from the requirement to produce a prospectus for offers of securities.

An offer to the public of the securities has not been made, and may not be made, in a Relevant Member State except pursuant to one of the following exemptions under the Prospectus Directive as implemented in that Relevant Member State:

- (a) to legal entities that are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- (b) to any legal entity that has two or more of (i) an average of at least 250 employees during its last fiscal year; (ii) a total balance sheet of more than €43,000,000 (as shown on its last annual unconsolidated or consolidated financial statements) and (iii) an annual net turnover of more than €50,000,000 (as shown on its last annual unconsolidated or consolidated financial statements);
- (c) to fewer than 100 natural or legal persons (other than qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive) subject to obtaining the prior consent of the Company or any underwriter for any such offer; or
- (d) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of common stock shall result in a requirement for the publication by the Company of a prospectus pursuant to Article 3 of the Prospectus Directive.

### **France**

This document is not being distributed in the context of a public offering of financial securities (offre au public de titres financiers) in France within the meaning of Article L.411-1 of the French Monetary and Financial Code (Code monétaire et financier) and Articles 211-1 et seq. of the General Regulation of the French Autorité des marchés financiers ("AMF"). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France.

This document and any other offering material relating to the securities have not been, and will not be, submitted to the AMF for approval in France and, accordingly, may not be distributed or caused to be distributed, directly or indirectly, to the public in France.

Such offers, sales and distributions have been and shall only be made in France to (i) qualified investors (investisseurs qualifiés) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-1 to D.411-3, D. 744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation and/or (ii) a restricted number of non-qualified investors (cercle restreint d'investisseurs) acting for their own account, as defined in and in accordance with Articles L.411-2-II-2° and D.411-4, D.744-1, D.754-1 and D.764-1 of the French Monetary and Financial Code and any implementing regulation.

Pursuant to Article 211-3 of the General Regulation of the AMF, investors in France are informed that the common stock cannot be distributed (directly or indirectly) to the public by the investors otherwise than in accordance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 to L.621-8-3 of the French Monetary and Financial Code.

## **Ireland**

The information in this document does not constitute a prospectus under any Irish laws or regulations and this document has not been filed with or approved by any Irish regulatory authority as the information has not been prepared in the context of a public offering of securities in Ireland within the meaning of the Irish Prospectus (Directive 2003/71/EC) Regulations 2005 (the "Prospectus Regulations"). The securities have not been offered or sold, and will not be offered, sold or delivered directly or indirectly in Ireland by way of a public offering, except to (i) qualified investors as defined in Regulation 2(1) of the Prospectus Regulations and (ii) fewer than 100 natural or legal persons who are not qualified investors.

## **Israel**

The securities offered by this prospectus has not been approved or disapproved by the Israeli Securities Authority, or "ISA," nor have such been registered for sale in Israel. The securities may not be offered or sold, directly or indirectly, to the public in Israel, absent the publication of a prospectus. The ISA has not issued permits, approvals or licenses in connection with the offering or publishing the prospectus; nor has it authenticated the details included herein, confirmed their reliability or completeness, or rendered an opinion as to the quality of the securities being offered. Any resale in Israel, directly or indirectly, to the public of the offered by this prospectus is subject to restrictions on transferability and must be effected only in compliance with the Israeli securities laws and regulations.

## **Italy**

The offering of the securities in the Republic of Italy has not been authorized by the Italian Securities and Exchange Commission (Commissione Nazionale per le Società e la Borsa, "CONSOB") pursuant to the Italian securities legislation and, accordingly, no offering material relating to the securities may be distributed in Italy and such securities may not be offered or sold in Italy in a public offer within the meaning of Article 1.1(t) of Legislative Decree No. 58 of 24 February 1998 ("Decree No. 58"), other than:

- to Italian qualified investors, as defined in Article 100 of Decree no. 58 by reference to Article 34-ter of CONSOB Regulation no. 11971 of 14 May 1999 ("Regulation no. 11971") as amended ("Qualified Investors"); and
- in other circumstances that are exempt from the rules on public offer pursuant to Article 100 of Decree No. 58 and Article 34-ter of Regulation No. 11971 as amended.

Any offer, sale or delivery of the securities or distribution of any offer document relating to the securities in Italy (excluding placements where a Qualified Investor solicits an offer from the issuer) under the paragraphs above must be:

- made by investment firms, banks or financial intermediaries permitted to conduct such activities in Italy in accordance with Legislative Decree No. 385 of 1 September 1993 (as amended), Decree No. 58, CONSOB Regulation No. 16190 of 29 October 2007 and any other applicable laws; and
- in compliance with all relevant Italian securities, tax and exchange controls and any other applicable laws.

Any subsequent distribution of the securities in Italy must be made in compliance with the public offer and prospectus requirement rules provided under Decree No. 58 and the Regulation No. 11971 as amended, unless an exception from those rules applies. Failure to comply with such rules may result in the sale of such shares being declared null and void and in the liability of the entity transferring the shares for any damages suffered by the investors.

## **Japan**

The securities have not been and will not be registered under Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948), as amended (the “FIEL”) pursuant to an exemption from the registration requirements applicable to a private placement of securities to Qualified Institutional Investors (as defined in and in accordance with Article 2, paragraph 3 of the FIEL and the regulations promulgated thereunder). Accordingly, the securities may not be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan other than Qualified Institutional Investors. Any Qualified Institutional Investor who acquires common stock may not resell them to any person in Japan that is not a Qualified Institutional Investor, and acquisition by any such person of common stock is conditional upon the execution of an agreement to that effect.

## **Portugal**

This document is not being distributed in the context of a public offer of financial securities (oferta pública de valores mobiliários) in Portugal, within the meaning of Article 109 of the Portuguese Securities Code (Código dos Valores Mobiliários). The securities have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in Portugal. This document and any other offering material relating to the securities have not been, and will not be, submitted to the Portuguese Securities Market Commission (Comissão do Mercado de Valores Mobiliários) for approval in Portugal and, accordingly, may not be distributed or caused to be distributed, directly or indirectly, to the public in Portugal, other than under circumstances that are deemed not to qualify as a public offer under the Portuguese Securities Code. Such offers, sales and distributions of shares in Portugal are limited to persons who are “qualified investors” (as defined in the Portuguese Securities Code). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

## **Sweden**

This document has not been, and will not be, registered with or approved by Finansinspektionen (the Swedish Financial Supervisory Authority). Accordingly, this document may not be made available, nor may the securities be offered for sale in Sweden, other than under circumstances that are deemed not to require a prospectus under the Swedish Financial Instruments Trading Act (1991:980) (Sw. lag (1991:980) om handel med finansiella instrument)). Any offering of common stock in Sweden is limited to persons who are “qualified investors” (as defined in the Financial Instruments Trading Act). Only such investors may receive this document and they may not distribute it or the information contained in it to any other person.

## **Switzerland**

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (“SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering material relating to the shares may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering material relating to the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of common stock will not be supervised by, the Swiss Financial Market Supervisory Authority.

This document is personal to the recipient only and not for general circulation in Switzerland.

## **United Arab Emirates**

Neither this document nor the securities has been approved, disapproved or passed on in any way by the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates, nor has the Company received authorization or licensing from the Central Bank of the United Arab Emirates or any other governmental authority in the United Arab Emirates to market or sell the securities within the United Arab Emirates. This document does not constitute and may not be used for the purpose of an offer or invitation. No services relating to the securities, including the receipt of applications and/or the allotment or redemption of such shares, may be rendered within the United Arab Emirates by us.

No offer or invitation to subscribe for the securities is valid or permitted in the Dubai International Financial Centre.

## **United Kingdom**

Neither the information in this document nor any other document relating to the offer has been delivered for approval to the Financial Services Authority in the United Kingdom and no prospectus (within the meaning of section 85 of the Financial Services and Markets Act 2000, as amended (“FSMA”)) has been published or is intended to be published in respect of the securities. This document is issued on a confidential basis to “qualified investors” (within the meaning of section 86(7) of FSMA) in the United Kingdom, and the securities may not be offered or sold in the United Kingdom by means of this document, any accompanying letter or any other document, except in circumstances which do not require the publication of a prospectus pursuant to section 86(1) FSMA. This document should not be distributed, published or reproduced, in whole or in part, nor may its contents be disclosed by recipients to any other person in the United Kingdom.

Any invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received in connection with the issue or sale of the securities has only been communicated or caused to be communicated and will only be communicated or caused to be communicated in the United Kingdom in circumstances in which section 21(1) of FSMA does not apply to the Company.

In the United Kingdom, this document is being distributed only to, and is directed at, persons (i) who have professional experience in matters relating to investments falling within Article 19(5) (investment professionals) of the Financial Services and Markets Act 2000 (Financial Promotions) Order 2005 (“FPO”); (ii) who fall within the categories of persons referred to in Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the FPO; or (iii) to whom it may otherwise be lawfully communicated (together “relevant persons”). The investments to which this document relates are available only to, and any invitation, offer or agreement to purchase will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

## LEGAL MATTERS

The validity of the common stock, purchase warrants and pre-funded warrants offered in this prospectus will be passed upon for us by Goodwin Procter LLP, New York, NY. Certain legal matters will be passed upon for the underwriters by Zysman, Aharoni, Gayer and Sullivan & Worcester LLP, New York, NY.

## EXPERTS

The consolidated financial statements of Advaxis, Inc. appearing in the Annual Report on Form 10-K for the year ended October 31, 2018 and 2017 and the effectiveness of internal control over financial reporting as of October 31, 2018 and 2017 have been audited by Marcum LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock, purchase warrants and pre-funded warrants offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed therewith. For further information with respect to us and the common stock, the purchase warrants and pre-funded warrants offered hereby, reference is made to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. The SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants, including this registration statement that file electronically with the SEC. The address is [www.sec.gov](http://www.sec.gov).

We are subject to the information and periodic reporting requirements of the Exchange Act. Under the Exchange Act, we will file annual, quarterly and current reports, as well as proxy statements and other information with the SEC. These periodic reports, proxy statements, and other information will be available for inspection and copying at the SEC's Public Reference Room and the website of the SEC referred to above.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus. We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (SEC File No. 001-38268):

- our Annual Report on Form 10-K for the year ended October 31, 2018, filed with the SEC on January 11, 2019;
- our Quarterly Reports on Form 10-Q for the quarters ended January 31, 2019, filed with the SEC on March 12, 2019, and April 30, 2019, filed with the SEC on June 10, 2019;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on January 11, 2019; and
- our Current Reports on Form 8-K filed with the SEC on December 13, 2018, January 23, 2019, February 7, 2019, February 22, 2019, March 1, 2019, March 14, 2019, March 15, 2019, March 29, 2019, April 5, 2019, April 15, 2019, May 13, 2019, May 15, 2019, June 27, 2019 and July 15, 2019.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to our corporate headquarters at the following address: 305 College Road East, Princeton, New Jersey 08540 Attn: Molly Henderson, or by calling (609) 452-9813.

You also may access these filings on our website at [www.advaxis.com](http://www.advaxis.com). We do not incorporate the information contained on or accessible through our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

9,200,000 Shares of Common Stock

Pre-Funded Warrants to Purchase Up to 13,656,000 Shares of Common Stock

Warrants to Purchase up to 17,142,000 Shares of Common Stock



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PROSPECTUS

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**A.G.P.**

Through and including August 17, 2019 (the 25th day after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions

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