

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended July 31, 2019

TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 001-36138

ADVAXIS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

305 College Road East, Princeton, NJ

(Address of principal executive offices)

02-0563870

(IRS Employer
Identification No.)

08540

(Zip Code)

(609) 452-9813

(Registrant's telephone number)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	ADXS	NASDAQ Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	<input type="checkbox"/>	Accelerated Filer	<input checked="" type="checkbox"/>
Non-accelerated Filer	<input type="checkbox"/>	Smaller Reporting Company	<input checked="" type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The number of shares of the registrant's Common Stock, \$0.001 par value, outstanding as of September 6, 2019 was 24,710,135.

TABLE OF CONTENTS

	<u>Page No.</u>
PART I FINANCIAL INFORMATION	5
Item 1. Financial Statements (unaudited)	5
Condensed Balance Sheets	5
Condensed Statements of Operations	6
Condensed Statements of Cash Flows	7
Notes to the Condensed Financial Statements	8
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	23
Item 3. Quantitative and Qualitative Disclosures About Market Risk	32
Item 4. Controls and Procedures	32
PART II OTHER INFORMATION	33
Item 1. Legal Proceedings	33
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds	32
Item 6. Exhibits	34
SIGNATURES	35

CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

This quarterly report on Form 10-Q (“Form 10-Q”) includes statements that are, or may be deemed, “forward-looking statements.” In some cases, these forward-looking statements can be identified by the use of forward-looking terminology, including the terms “believes,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “could,” “might,” “will,” “should,” “approximately” or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. They appear in a number of places throughout this Form 10-Q and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned discovery and development of drug candidates, the strength and breadth of our intellectual property, our ongoing and planned preclinical studies and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our product candidates, the degree of clinical utility of our product candidates, particularly in specific patient populations, expectations regarding clinical trial data, our results of operations, financial condition, liquidity, prospects, growth and strategies, the length of time that we will be able to continue to fund our operating expenses and capital expenditures, our expected financing needs and sources of financing, the industry in which we operate and the trends that may affect the industry or us.

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 Form 10-Q, 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 Form 10-Q. 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 Form 10-Q, 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;
- our ability to continue as a going concern
- 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.

Any forward-looking statements that we make in this Form 10-Q speak only as of the date of such statement, and we undertake no obligation to update such statements to reflect events or circumstances after the date of this Form 10-Q. You should also read carefully the factors described in the “Risk Factors” section of the Company’s annual report on Form 10-K for the year ended October 31, 2018, as filed with the SEC on January 11, 2019, to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Form 10-Q will prove to be accurate.

This Form 10-Q includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third-parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe these industry publications and third-party research, surveys and studies are reliable, we have not independently verified such data.

We qualify all of our forward-looking statements by these cautionary statements. In addition, with respect to all of our forward-looking statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

ADVAXIS, INC.
CONDENSED BALANCE SHEETS (Unaudited)
(In thousands, except share and per share data)

	July 31, 2019	October 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 41,755	\$ 44,141
Restricted cash	-	977
Accounts receivable	-	1,664
Deferred expenses	2,167	2,072
Prepaid expenses and other current assets	1,571	1,611
Total current assets	<u>45,493</u>	<u>50,465</u>
Property and equipment (net of accumulated depreciation)	5,592	6,684
Intangible assets (net of accumulated amortization)	4,768	4,838
Other assets	280	280
Total assets	<u>\$ 56,133</u>	<u>\$ 62,267</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 2,010	\$ 5,646
Accrued expenses	3,576	6,185
Deferred revenue	-	4,476
Common stock warrant liability	36	6,517
Other current liabilities	48	48
Total current liabilities	<u>5,670</u>	<u>22,872</u>
Deferred revenue-net of current portion	-	14,189
Other liabilities	1,194	1,155
Total liabilities	<u>6,864</u>	<u>38,216</u>
Commitments and contingencies – Note 9		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 5,000,000 shares authorized; Series B Preferred Stock; 0 shares issued and outstanding at July 31, 2019 and October 31, 2018 Liquidation preference of \$0 at July 31, 2019 and October 31, 2018	-	-
Common stock - \$0.001 par value; 170,000,000 shares authorized, 19,248,851 and 4,634,189 shares issued and outstanding at July 31, 2019 and October 31, 2018, respectively	20	5
Additional paid-in capital	423,330	391,703
Accumulated deficit	(374,081)	(367,657)
Total stockholders' equity	<u>49,269</u>	<u>24,051</u>
Total liabilities and stockholders' equity	<u>\$ 56,133</u>	<u>\$ 62,267</u>

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

ADVAXIS, INC.
CONDENSED STATEMENTS OF OPERATIONS (Unaudited)
(In thousands, except share and per share data)

	Three Months Ended July 31,		Nine Months Ended July 31,	
	2019	2018	2019	2018
Revenue	\$ 6	\$ 1,131	\$ 20,883	\$ 4,934
Operating expenses:				
Research and development expenses	7,060	10,560	19,735	37,679
General and administrative expenses	3,076	4,735	8,834	15,519
Total operating expenses	<u>10,136</u>	<u>15,295</u>	<u>28,569</u>	<u>53,198</u>
Loss from operations	(10,130)	(14,164)	(7,686)	(48,264)
Other income (expense):				
Interest income, net	95	149	354	439
Net changes in fair value of derivative liabilities	177	-	2,572	-
Loss on shares issued in settlement of warrants	-	-	(1,607)	-
Other expense	-	(2)	(7)	(42)
Net loss before benefit for income taxes	<u>(9,858)</u>	<u>(14,017)</u>	<u>(6,374)</u>	<u>(47,867)</u>
Income tax expense	<u>-</u>	<u>-</u>	<u>50</u>	<u>50</u>
Net loss	<u>\$ (9,858)</u>	<u>\$ (14,017)</u>	<u>\$ (6,424)</u>	<u>\$ (47,917)</u>
Net loss per common share, basic and diluted	<u>\$ (1.00)</u>	<u>\$ (3.99)</u>	<u>\$ (0.94)</u>	<u>\$ (14.98)</u>
Weighted average number of common shares outstanding, basic and diluted	<u>9,870,461</u>	<u>3,511,261</u>	<u>6,813,494</u>	<u>3,197,778</u>

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

ADVAXIS, INC.
CONDENSED STATEMENTS OF CASH FLOWS (Unaudited)
(In thousands)

	Nine Months Ended July 31,	
	2019	2018
OPERATING ACTIVITIES		
Net loss	\$ (6,424)	\$ (47,917)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock compensation	1,565	5,987
Employee stock purchase plan expense	3	13
Gain on change in value of warrants	(2,572)	-
Loss on shares issued in settlement of warrants	1,607	-
Loss on disposal of property and equipment	290	27
Abandonment of intangible assets	625	424
Depreciation expense	848	827
Amortization expense of intangible assets	290	288
Net accretion of premiums	-	(6)
<u>Change in operating assets and liabilities:</u>		
Accounts receivable	1,664	1,094
Prepaid expenses and other current assets	(54)	(2,433)
Income tax receivable	-	4,453
Other assets	-	(58)
Accounts payable and accrued expenses	(6,245)	(7,030)
Deferred revenue	(18,665)	(4,681)
Other liabilities	39	88
Net cash used in operating activities	<u>(27,029)</u>	<u>(48,924)</u>
INVESTING ACTIVITIES		
Purchases of short-term investment securities	-	(12,487)
Proceeds from maturities of short-term investment securities	-	58,891
Purchase of property and equipment	(54)	(1,381)
Proceeds from disposal of property and equipment	8	-
Cost of intangible assets	(845)	(1,132)
Net cash (used in) provided by investing activities	<u>(891)</u>	<u>43,891</u>
FINANCING ACTIVITIES		
Net proceeds of issuance of common stock and pre-funded warrants	24,471	21,042
Warrant exercise	68	-
Proceeds from employee stock purchase plan	19	22
Tax withholdings paid related to net share settlement of equity awards	-	(87)
Employee tax withholdings paid on equity awards	(15)	(458)
Tax shares sold to pay for employee tax withholdings on equity awards	14	438
Net cash provided by financing activities	<u>24,557</u>	<u>20,957</u>
Net (decrease) increase in cash, cash equivalents and restricted cash	(3,363)	15,924
Cash, cash equivalents and restricted cash at beginning of year	45,118	24,487
Cash, cash equivalents and restricted cash at end of year	<u>\$ 41,755</u>	<u>\$ 40,411</u>
The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the condensed balance sheets that sum to the total of the same such amounts shown in the condensed statements of cash flows:		
Cash and cash equivalents	\$ 41,755	\$ 39,434
Restricted cash	-	977
Total cash, cash equivalents and restricted cash shown in condensed statements of cash flows	<u>\$ 41,755</u>	<u>\$ 40,411</u>
SUPPLEMENTAL CASH FLOW INFORMATION		
Cash paid for taxes	\$ 50	\$ 50

SUPPLEMENTAL DISCLOSURE OF NON-CASH AND FINANCING
ACTIVITIES

Property and equipment included in accounts payable and accrued expenses	\$	-	\$	57
Shares issued in settlement of warrants	\$	5,462	\$	-
Warrant liability reclassified into equity	\$	53	\$	-
Pre-funded warrant exercises	\$	1	\$	-

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

ADVAXIS, INC.
NOTES TO THE CONDENSED FINANCIAL STATEMENTS
(Unaudited)

1. NATURE OF OPERATIONS

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. The Company is using its *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, Advaxis has exclusive access to this proprietary formulation of attenuated *Lm* called *Lm* TechnologyTM. Advaxis’ 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.

Advaxis’ 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. The Company believes 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.

On June 27, 2019, Advaxis announced that it is increasing its focus on neoantigen-directed immunotherapies and closing the AIM2CERV Phase 3 clinical trial with axalimogene filolisbac (AXAL) in high-risk locally advanced cervical cancer. Advaxis intends to continue to support the clinical development of AXAL, its single-antigen construct, in other HPV-related cancers while redirecting resources towards advancing its neoantigen-directed programs.

Going Concern and Management’s Plans

The Company has not yet commercialized any human products and the products that are being developed have not generated significant revenue. As a result, the Company has suffered recurring losses and requires significant cash resources to execute its business plans. These losses are expected to continue for an extended period of time. The aforementioned factors raise substantial doubt about the Company’s ability to continue as a going concern within one year from the date of filing. The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of asset amounts or the classification of liabilities that might be necessary should the Company be unable to continue as a going concern within one year after the date the financial statements are issued.

Historically, the Company’s major sources of cash have been comprised of proceeds from various public and private offerings of its common stock, clinical collaborations, option and warrant exercises, and interest income. From October 2013 through July 2019, the Company raised approximately \$292.2 million in gross proceeds (\$27.0 million in fiscal year 2019) from various public and private offerings of its common stock.

As of July 31, 2019, the Company had approximately \$41.8 million in cash and cash equivalents. Although the Company believes that it expects to have sufficient capital to fund its obligations, as they become due, in the ordinary course of business until at least September 2020, the actual amount of cash that it will need to operate is subject to many factors. Management’s plans to mitigate an expected shortfall of capital and to support future operations include obtaining additional funds through partnerships or strategic or financing investors. The Company has reduced its operating expenses to \$28.6 million for the nine months ended July 31, 2019 as compared to \$53.2 million during the comparable prior period. Furthermore, the Company expects operating expenses to be between \$33 million and \$37 million for fiscal year 2020, which includes approximately \$6 million in non-recurring costs related to programs that are winding down.

The Company recognizes it will need to raise additional capital in order to continue to execute its business plan in the future. There is no assurance that additional financing will be available when needed or that management will be able to obtain financing on terms acceptable to the Company or whether the Company will become profitable and generate positive operating cash flow. If the Company is unable to raise sufficient additional funds, it will have to scale back its operations.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND BASIS OF PRESENTATION

Basis of Presentation/Estimates

The accompanying unaudited interim condensed financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information, and in accordance with the rules and regulations of the Securities and Exchange Commission (“SEC”) with respect to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements and the accompanying unaudited condensed balance sheet as of July 31, 2019 has been derived from the Company’s October 31, 2018 audited financial statements. In the opinion of management, the unaudited interim condensed financial statements furnished include all adjustments (consisting of normal recurring accruals) necessary for a fair statement of the results for the interim periods presented.

Operating results for interim periods are not necessarily indicative of the results to be expected for the full year. The preparation of financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses, and the related disclosures at the date of the financial statements and during the reporting period. Significant estimates include the timelines associated with revenue recognition on upfront payments received, fair value and recoverability of the carrying value of property and equipment and intangible assets, fair value of warrant liability, grant date fair value of options, deferred tax assets and any related valuation allowance and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, based on historical experience and on various other assumptions that it believes to be reasonable under the circumstances. Actual results could materially differ from these estimates.

These unaudited interim condensed financial statements should be read in conjunction with the financial statements of the Company as of and for the year ended October 31, 2018 and notes thereto contained in the Company’s annual report on Form 10-K, as filed with the SEC on January 11, 2019.

Reclassification

Certain amounts in the prior period financial statements have been reclassified to conform to the presentation of the current period financial statements. These reclassifications had no effect on the previously reported net loss.

Concentration of Credit Risk

Financial instruments which potentially subject the Company to concentration of credit risk, consist principally of cash and cash equivalents. All of the Company’s cash and cash equivalents are deposited in accounts with financial institutions that management believes are of high credit quality and at times exceed the federally insured limits. The Company had not experienced losses in such accounts and believes it is not exposed to any significant credit risk.

Restricted Cash and Letters of Credit

During July 2017 and January 2018, the Company established two letters of credit with a financial institution as security for the purchase of custom equipment and as security for application fees associated with the Company’s Marketing Authorization Application (“MAA”) in Europe. The letters of credit were collateralized by cash which was unavailable for withdrawal or for usage for general obligations. During the nine months ended July 31, 2019, the two letters of credit were terminated and as of July 31, 2019 the Company has no restricted cash balance.

Net Income (Loss) per Share

Basic net income or loss per common share is computed by dividing net income or loss available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted earnings per share give effect to dilutive options, warrants, restricted stock units and other potential common stock outstanding during the period. In the case of a net loss, the impact of the potential common stock resulting from warrants, outstanding stock options and convertible debt are not included in the computation of diluted loss per share, as the effect would be anti-dilutive. In the case of net income, the impact of the potential common stock resulting from these instruments that have intrinsic value are included in the diluted earnings per share. The table sets forth the number of potential shares of common stock that have been excluded from diluted net loss per share (as of July 31, 2019, 13,079,000 pre-funded warrants are included in the basic earnings per share computation because the exercise price is nominal):

	As of July 31,	
	2019	2018
Warrants	18,301,804	206,160
Stock options	405,372	353,258
Restricted stock units	16,204	47,100
Total	18,723,380	606,518

Revenue Recognition

Effective November 1, 2018, the Company adopted ASC Topic 606, Revenue from Contracts with Customers (ASC 606), using the modified retrospective transition method. Under this method, results for reporting periods beginning on November 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported in accordance with ASC Topic 605, *Revenue Recognition* (ASC 605). The Company only applied the modified retrospective transition method to contracts that were not completed as of November 1, 2018, the effective date of adoption for ASC 606. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards. Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract, determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

The Company enters into licensing agreements that are within the scope of ASC 606, under which it may exclusively license rights to research, develop, manufacture and commercialize its product candidates to third parties. The terms of these arrangements typically include payment to the Company of one or more of the following: non-refundable, upfront license fees; reimbursement of certain costs; customer option exercise fees; development, regulatory and commercial milestone payments; and royalties on net sales of licensed products.

In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under its agreements, the Company performs the following steps: (i) identification of the promised goods or services in the contract; (ii) determination of whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measurement of the transaction price, including the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when (or as) the Company satisfies each performance obligation. As part of the accounting for these arrangements, the Company must use significant judgment to determine: (a) the number of performance obligations based on the determination under step (ii) above; (b) the transaction price under step (iii) above; and (c) the stand-alone selling price for each performance obligation identified in the contract for the allocation of transaction price in step (iv) above. The Company uses judgment to determine whether milestones or other variable consideration, except for royalties, should be included in the transaction price as described further below. The transaction price is allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied.

Amounts received prior to revenue recognition are recorded as deferred revenue. Amounts expected to be recognized as revenue within the 12 months following the balance sheet date are classified as current portion of deferred revenue in the accompanying balance sheets. Amounts not expected to be recognized as revenue within the 12 months following the balance sheet date are classified as deferred revenue, net of current portion.

Exclusive Licenses. If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from non-refundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. In assessing whether a performance obligation is distinct from the other performance obligations, the Company considers factors such as the research, development, manufacturing and commercialization capabilities of the collaboration partner and the availability of the associated expertise in the general marketplace. In addition, the Company considers whether the collaboration partner can benefit from a performance obligation for its intended purpose without the receipt of the remaining performance obligation, whether the value of the performance obligation is dependent on the unsatisfied performance obligation, whether there are other vendors that could provide the remaining performance obligation, and whether it is separately identifiable from the remaining performance obligation. For licenses that are combined with other performance obligation, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition. The measure of progress, and thereby periods over which revenue should be recognized, are subject to estimates by management and may change over the course of the research and development and licensing agreement. Such a change could have a material impact on the amount of revenue the Company records in future periods.

Research and Development Services. The performance obligations under the Company's collaboration agreements may include research and development services to be performed by the Company on behalf of the partner. Payments or reimbursements resulting from the Company's research and development efforts are recognized as the services are performed and presented on a gross basis because the Company is the principal for such efforts.

Milestone Payments. At the inception of each arrangement that includes research or development milestone payments, the Company evaluates whether the milestones are considered probable of being achieved and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. An output method is generally used to measure progress toward complete satisfaction of a milestone. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The Company evaluates factors such as the scientific, clinical, regulatory, commercial, and other risks that must be overcome to achieve the particular milestone in making this assessment. There is considerable judgment involved in determining whether it is probable that a significant revenue reversal would not occur. At the end of each subsequent reporting period, the Company reevaluates the probability of achievement of all milestones subject to constraint and, if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenue and earnings in the period of adjustment.

Royalties. For arrangements that include sales-based royalties, including milestone payments based on a level of sales, which are the result of a customer-vendor relationship and for which the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied or partially satisfied.

Collaborative Arrangements

The Company analyzes its collaboration arrangements to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities and therefore within the scope of ASC Topic 808, *Collaborative Arrangements* (ASC 808). This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, the Company first determines which elements of the collaboration are deemed to be within the scope of ASC 808 and which elements of the collaboration are more reflective of a vendor-customer relationship and therefore within the scope of ASC 606. For elements of collaboration arrangements that are accounted for pursuant to ASC 808, an appropriate recognition method is determined and applied consistently, generally by analogy to ASC 606. Amounts that are owed to collaboration partners are recognized as an offset to collaboration revenue as such amounts are incurred by the collaboration partner. For those elements of the arrangement that are accounted for pursuant to ASC 606, the Company applies the five-step model described above under ASC 606.

Recent Accounting Standards

In February 2016, the Financial Accounting Standards Board, ("FASB"), issued Accounting Standards Update, ("ASU"), No. 2016-02, Leases (Topic 842), which establishes a comprehensive new lease accounting model. The new standard: (a) clarifies the definition of a lease; (b) requires a dual approach to lease classification similar to current lease classifications; and (c) causes lessees to recognize leases on the balance sheet as a lease liability with a corresponding right-of-use asset for leases with a lease-term of more than 12 months. The new standard is effective for fiscal years and interim periods beginning after December 15, 2018, with early adoption permitted. A modified retrospective transition approach is required for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, including a number of optional practical expedients that entities may elect to apply. In July 2018, the FASB issued ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, an update which provides another transition method, in addition to the existing modified retrospective transition method, by allowing entities to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The Company is currently evaluating the impact of adopting ASU 2016-02 on the Company's financial statements.

Recently Adopted Accounting Standards

In May 2014, FASB issued ASU No. 2014-09, which amends the guidance for accounting for revenue from contracts with customers. ASU No. 2014-09 superseded the revenue recognition requirements in ASC 605 and created ASC 606 described above. In 2015 and 2016, the FASB issued additional ASUs related to ASC 606 that delayed the effective date of the guidance and clarified various aspects of the new revenue guidance, including principal versus agent considerations, identifying performance obligations, and licensing, and they include other improvements and practical expedients. Effective November 1, 2018, the Company adopted ASC 606 using the modified retrospective transition method.

As a result of adopting ASC 606, the Company made reclassifications to the balance sheet and income statement. Net income (loss) was not impacted by the adoption of ASC 606. A summary of the amount by which each financial statement line item was affected by the impact of the cumulative adjustment is set forth in the table below (in thousands):

(in thousands)	Impact of ASC 606 Adoption on Condensed Balance Sheet as of November 1, 2018		
	As reported under ASC 606	Adjustments	Balances without adoption of ASC 606
Accounts receivable	\$ 1,664	\$ 1,664	\$ -
Prepaid expenses and other current assets	\$ 1,611	\$ (1,664)	\$ 3,275

A summary of the amount by which each financial statement line item was affected in the current reporting period by ASC 606 as compared with the guidance that was in effect prior to the adoption of ASC 606 is set forth in the tables below.

(in thousands)	Impact of ASC 606 Adoption on Condensed Balance Sheet as of July 31, 2019		
	As reported under ASC 606	Adjustments	Balances without adoption of ASC 606
Accounts receivable	\$ -	\$ -	\$ -
Prepaid expenses and other current assets	\$ 1,571	\$ -	\$ 1,571

(in thousands)	Impact of ASC 606 Adoption on Condensed Statement of Operations for the Three Months Ended July 31, 2019		
	As reported under ASC 606	Adjustments	Balances without adoption of ASC 606
Revenue	\$ 6	\$ -	\$ 6
Research and Development Expenses	\$ 7,060	\$ -	\$ 7,060

(in thousands)	Impact of ASC 606 Adoption on Condensed Statement of Operations for the Nine Months Ended July 31, 2019		
	As reported under ASC 606	Adjustments	Balances without adoption of ASC 606
Revenue	\$ 20,883	\$ 1,960	\$ 18,923
Research and Development Expenses	\$ 19,735	\$ 1,960	\$ 17,775

(in thousands)	Impact of ASC 606 Adoption on Condensed Statement of Cash Flows for the Nine Months Ended July 31, 2019		
	As reported under ASC 606	Adjustments	Balances without adoption of ASC 606
Accounts receivable	\$ -	\$ -	\$ -
Prepaid expenses and other current assets	\$ 1,571	\$ -	\$ 1,571

The most significant change to the Company's accounting for revenue as a result of the adoption of ASC 606 relates to its treatment of clinical development payments it receives in its collaboration and licensing agreement with Amgen, Inc. ("Amgen"). Under ASC 605, the Company accounted for the clinical development payments as a reduction of research and development expenses in the statement of operations. Under ASC 606, the Company accounted for the reimbursements for research and development costs as revenue. For further discussion of the adoption of this standard, see Note 8.

In November 2018, the FASB issued ASU No. 2018-18, "Collaborative Arrangements (Topic 808)—Clarifying the Interaction between Topic 808 and Topic 606" ("ASU 2018-18"). The amendments in ASU 2018-18 make targeted improvements to generally accepted accounting principles (GAAP) for collaborative arrangements by clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606 when the collaborative arrangement participant is a customer in the context of a unit of account. In those situations, all the guidance in Topic 606 should be applied, including recognition, measurement, presentation, and disclosure requirements. In addition, unit-of-account guidance in Topic 808 was aligned with the guidance in Topic 606 (that is, a distinct good or service) when an entity is assessing whether the collaborative arrangement or a part of the arrangement is within the scope of Topic 606. ASU 2018-18 is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period. The amendments should be applied retrospectively to the date of initial application of Topic 606. The Company adopted this guidance effective November 1, 2018 using the modified retrospective approach. There was no impact on the Company's financial statements.

In June 2018, the FASB issued ASU No. 2018-07, “Compensation—Stock Compensation (Topic 718) —Improvements to Nonemployee Share-Based Payment Accounting” (“ASU 2018-07”). The amendments in ASU 2018-07 expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. An entity should apply the requirements of Topic 718 to nonemployee awards except for specific guidance on inputs to an option pricing model and the attribution of cost (that is, the period of time over which share-based payment awards vest and the pattern of cost recognition over that period). The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor’s own operations by issuing share-based payment awards. The amendments also clarify that Topic 718 does not apply to share-based payments used to effectively provide (1) financing to the issuer or (2) awards granted in conjunction with selling goods or services to customers as part of a contract accounted for under Topic 606, Revenue from Contracts with Customers. ASU 2018-07 is effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted, but no earlier than an entity’s adoption date of Topic 606. The Company adopted this guidance effective as of February 1, 2019. There was no impact on the Company’s financial statements.

In November 2016, the FASB issued ASU No. 2016-18, *Restricted Cash* (ASU No. 2016-18). The amendments in ASU No. 2016-18 require an entity to reconcile and explain the period-over-period change in total cash, cash equivalents and restricted cash within its statements of cash flows. ASU No. 2016-18 was effective for the Company on November 1, 2018. The Company adopted ASU No. 2016-18 effective November 1, 2018 using a full retrospective approach and it did not have a significant impact on its financial statements and related disclosures.

Management does not believe that any other recently issued, but not yet effective accounting pronouncements, if adopted, would have a material impact on the accompanying condensed financial statements.

3. PROPERTY AND EQUIPMENT

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

	<u>July 31, 2019</u>	<u>October 31, 2018</u>
Leasehold improvements	\$ 2,335	\$ 2,321
Laboratory equipment	5,030	5,510
Furniture and fixtures	746	746
Computer equipment	409	409
Construction in progress	17	17
Total property and equipment	<u>8,537</u>	<u>9,003</u>
Accumulated depreciation and amortization	<u>(2,945)</u>	<u>(2,319)</u>
Net property and equipment	<u>\$ 5,592</u>	<u>\$ 6,684</u>

Depreciation expense for each of the three months ended July 31, 2019 and 2018 was approximately \$0.3 million. Depreciation expense for each of the nine months ended July 31, 2019 and 2018 was approximately \$0.8 million.

4. INTANGIBLE ASSETS

Intangible assets, net consist of the following (in thousands):

	<u>July 31, 2019</u>	<u>October 31, 2018</u>
Patents	\$ 6,085	\$ 5,970
Licenses	777	777
Software	117	117
Total intangibles	<u>6,979</u>	<u>6,864</u>
Accumulated amortization	<u>(2,211)</u>	<u>(2,026)</u>
Intangible assets	<u>\$ 4,768</u>	<u>\$ 4,838</u>

The expirations of the existing patents range from 2019 to 2039 but the expirations can be extended based on market approval if granted and/or based on existing laws and regulations. Capitalized costs associated with patent applications that are abandoned without future value are charged to expense when the determination is made not to pursue the application. Patent applications having a net book value of approximately \$0.3 million and \$0.1 million were abandoned and were charged to research and development expenses in the statement of operations for the three months ended July 31, 2019 and 2018, respectively. Patent applications having a net book value of approximately \$0.6 million and \$0.4 million were abandoned and were charged to research and development expenses in the statement of operations for the nine months ended July 31, 2019 and 2018, respectively. Amortization expense for intangible assets that was charged to general and administrative expense in the statement of operations aggregated approximately \$0.1 million for each of the three months ended July 31, 2019 and 2018, respectively. Amortization expense for intangible assets that was charged to general and administrative expense in the statement of operations aggregated approximately \$0.3 million for each of the nine months ended July 31, 2019 and 2018, respectively.

Management has reviewed its long-lived assets for impairment whenever events and circumstances indicate that the carrying value of an asset might not be recoverable. Net assets are recorded on the balance sheet for patents and licenses related to axalimogene filolisbac (AXAL), ADXS-NEO, ADXS-HOT, ADXS-PSA and ADXS-HER2 and other products that are in development or out-licensed. However, if a competitor were to gain FDA approval for a treatment before us or if future clinical trials fail to meet the targeted endpoints, the Company would likely record an impairment related to these assets. In addition, if an application is rejected or fails to be issued, the Company would record an impairment of its estimated book value. Lastly, if the Company is unable to raise enough capital to continue funding our studies and developing our intellectual property, the Company would likely record an impairment to certain of these assets.

At July 31, 2019, the estimated amortization expense by fiscal year based on the current carrying value of intangible assets is as follows (in thousands):

	<u>Year ended October 31,</u>
2019 (Remaining)	\$ 96
2020	371
2021	352
2022	352
2023	352
Thereafter	3,245
Total	\$ 4,768

5. ACCRUED EXPENSES:

	<u>July 31, 2019</u>	<u>October 31, 2018</u>
Salaries and other compensation	\$ 812	\$ 2,035
Vendors	2,333	3,660
Professional fees	431	490
Total accrued expenses	\$ 3,576	\$ 6,185

6. COMMON STOCK PURCHASE WARRANTS AND WARRANT LIABILITY

As of July 31, 2019, there were outstanding warrants to purchase 31,380,804 shares of our common stock with exercise prices ranging from \$0.001 to \$281.25 per share. Information on the outstanding warrants is as follows:

Exercise Price	Number of Shares Underlying Warrants	Expiration Date	Summary of Warrants
\$ 2.80	18,229,500	April 2024	July 2019 Public Offering
\$ 0.001	13,079,000	April 2024	July 2019 Public Offering- Pre-Funded
\$ 281.25	25	N/A	Other Warrants
\$ 0.372	72,279	September 2024	September 2018 Public Offering
Grand Total	31,380,804		

As of October 31, 2018, there were outstanding warrants to purchase 944,635 shares of our common stock with exercise prices ranging from \$22.50 to \$281.25 per share. Information on the outstanding warrants is as follows:

Exercise Price	Number of Shares Underlying Warrants	Expiration Date	Summary of Warrants
\$ 281.25	25	N/A	Other Warrants
\$ 56.25	166	March 2019	March 2014 Public Offering- Placement Agent
\$ 22.50	944,444	September 2024	September 2018 Public Offering
Grand Total	944,635		

A summary of warrant activity was as follows (in thousands, except share and per share data):

	Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding and exercisable warrants at October 31, 2018	944,635	\$ 22.50	\$ -
Issued	31,885,500	1.60	
Exercised	(592,300)	0.12	
Exchanged	(856,865)	22.50	
Expired	(166)	56.25	
Outstanding and exercisable warrants at July 31, 2019	31,380,804	\$ 1.63	\$ 7,259

As of July 31, 2019, the Company had 31,308,525 of its total 31,380,804 outstanding warrants classified as equity (equity warrants). As of October 31, 2018, the Company had 191 of its total 944,635 outstanding warrants classified as equity (equity warrants). At issuance, equity warrants are recorded at their relative fair values, using the relative fair value method, in the stockholders' equity section of the balance sheet.

Shares Issued in Settlement of Warrants

On March 14, 2019, the Company entered into private exchange agreements with certain holders of warrants issued in connection with the Company's September 2018 public offering of common stock and warrants. The warrants being exchanged provided for the purchase of up to an aggregate of 856,865 shares of the Company's common stock at an exercise price of \$22.50, with an expiration date of September 11, 2024. Pursuant to such exchange agreements, the Company issued 856,865 shares of common stock to the investors in exchange for such warrants on a 1:1 basis. The exchange of warrants for common stock caused the down round provision to be triggered and the exercise price of the warrants that were not exchanged were reduced from \$22.50 to \$4.50. The warrants were valued at approximately \$3.9 million on the March 14, 2019 using the Monte Carlo simulation model. In determining the fair warrant of the warrants issued on March 14, 2019, the Company used the following inputs in its Monte Carlo simulation model exercise price \$22.50, stock price \$6.45, expected term 5.50 years, volatility 96.37% and risk free interest rate 2.44%. In connection with the exchange of warrants for common stock, the Company recorded a loss of approximately \$1.6 million as the fair value of the shares issued exceeded the fair value of warrants exchanged.

Warrant Liability

As of July 31, 2019, the Company had 72,279 of its total 31,380,804 outstanding warrants classified as liabilities (liability warrants). As of October 31, 2018, the Company had 944,444 of its total 944,635 outstanding warrants classified as liabilities (liability warrants). These warrants contain a down round feature, except for exempt issuances as defined in the warrant agreement, in which the exercise price would immediately be reduced to match a dilutive issuance of common stock, options, convertible securities and changes in option price or rate of conversion. In April 2019, the down round feature was triggered a second time due to the sale of 2,500,000 common shares (see Note 10) and the exercise price of the warrants were reduced from \$4.50 to \$3.72. In July 2019, the down round feature was triggered a third time due to the sale of 10,650,000 common shares and 13,656,000 pre-funded warrants (see Note 10) and the exercise price of the warrants were reduced from \$3.72 to \$0.372. The warrants require liability classification as the warrant agreement requires the Company to maintain an effective registration statement and does not specify any circumstances under which net cash settlement would be permitted or required. As a result, net cash settlement is assumed and liability classification is warranted. For these liability warrants, the Company utilized the Monte Carlo simulation model to calculate the fair value of these warrants at issuance and at each subsequent reporting date.

As of July 31, 2019 and October 31, 2018, the fair value of the warrant liability was approximately \$36,000 and \$6.5 million, respectively. For the three and nine months ended July 31, 2019, the Company income of approximately \$0.2 million and \$2.6 million, respectively. For each of the three and nine months ended July 31, 2018, the Company reported income of \$0.

In measuring the warrant liability at July 31, 2019 and October 31, 2018, the Company used the following inputs in its Monte Carlo simulation model:

	July 31, 2019	October 31, 2018
Exercise Price	\$ 0.372	\$ 22.50
Stock Price	\$ 0.56	\$ 8.40
Expected Term	5.12 years	5.87 years
Volatility %	97.73%	97.47%
Risk Free Rate	1.84%	3.03%

7. SHARE BASED COMPENSATION

The following table summarizes share-based compensation expense included in the Statement of Operations (in thousands):

	Three Months Ended July 31,		Nine Months Ended July 31,	
	2019	2018	2019	2018
Research and development	\$ 241	\$ 543	\$ 822	\$ 2,342
General and administrative	223	1,409	743	3,645
Total	<u>\$ 464</u>	<u>\$ 1,952</u>	<u>\$ 1,565</u>	<u>\$ 5,987</u>

Restricted Stock Units (RSUs)

A summary of the Company's RSU activity and related information for the nine months ended July 31, 2019 is as follows:

	Number of RSUs	Weighted-Average Grant Date Fair Value
Balance at October 31, 2018	32,614	\$ 70.41
Vested	(10,949)	71.84
Cancelled	(5,461)	110.24
Balance at July 31, 2019	<u>16,204</u>	\$ 56.02

As of July 31, 2019, there was approximately \$0.4 million of unrecognized compensation cost related to non-vested RSUs, which is expected to be recognized over a remaining weighted average vesting period of approximately 1.11 years.

As of July 31, 2019, the aggregate intrinsic value of non-vested RSU's was approximately \$9,000.

Employee Stock Awards

Common Stock issued to executives and employees related to vested incentive retention awards, employment inducements and management purchases totaled 408 shares and 14,351 shares (12,683 shares on a net basis after employee taxes) during the three months ended July 31, 2019 and 2018, respectively. Total stock compensation expense associated with employee awards for the three months ended July 31, 2019 and 2018 was approximately \$0.2 million and \$0.9 million, respectively.

Common Stock issued to executives and employees related to vested incentive retention awards, employment inducements and management purchases totaled 10,947 shares and 44,603 shares (41,579 shares on a net basis after employee taxes) during the nine months ended July 31, 2019 and 2018 respectively. Total stock compensation expense associated with employee awards for the nine months ended July 31, 2019 and 2018 was approximately \$0.7 million and \$2.9 million, respectively.

Included in compensation expense for the three and nine months ended July 31, 2018 is approximately \$110,000 and \$320,000, respectively, recognized as a result of the modification of certain RSU's associated with the resignation of the Company's Chief Financial Officer in April 2018 and Chief Operating Officer in June 2018. Pursuant to the separation agreements, the vesting was accelerated on all of the outstanding RSU's.

Director Stock Awards

Common stock issued to Directors for compensation related to board and committee membership totaled 0 shares and 3,000 shares for three months ended July 31, 2019 and 2018, respectively. During the three months ended July 31, 2019 and 2018, total stock compensation expense associated with Director awards was approximately \$0 and \$71,000 respectively.

Common stock issued to Directors for compensation related to board and committee membership totaled 0 shares and 5,000 shares for the nine months ended July 31, 2019 and 2018, respectively. During the nine months ended July 31, 2019 and 2018, total stock compensation expense associated with Director awards was \$0 and \$0.2 million, respectively.

Included in compensation expense for the nine months ended July 31, 2018 is approximately \$10,000 recognized as a result of the modification of certain RSU's associated with a Board member that decided not to run for re-election in March 2018. The vesting was accelerated on all the outstanding RSU's.

Stock Options

A summary of changes in the stock option plan for the nine months ended July 31, 2019 is as follows:

	Number of Options	Weighted-Average Exercise Price
Outstanding at October 31, 2018:	330,071	\$ 122.79
Granted	106,132	5.44
Cancelled or Expired	<u>(30,831)</u>	33.18
Outstanding at July 31, 2019	405,372	98.88
Vested and Exercisable at July 31, 2019	<u>239,276</u>	\$ 155.72

Total compensation cost related to the Company's outstanding stock options, recognized in the statement of operations for the three months ended July 31, 2019 and 2018 was approximately \$0.3 million and \$0.9 million, respectively. For the nine months ended July 31, 2019 and 2018, compensation cost related to the Company's outstanding stock options was approximately \$0.9 million and \$2.9 million, respectively. Included in compensation expense for the nine months ended July 31, 2018 is approximately \$77,000 recognized as a result of the modification of certain option agreements associated with two Board members that decided not to run for re-election in March 2018. For the modified options, the vesting was accelerated and the expiration dates were changed to the earlier of the original expiration date or March 21, 2023.

As of July 31, 2019, there was approximately \$1.6 million of unrecognized compensation cost related to non-vested stock option awards, which is expected to be recognized over a remaining weighted average vesting period of approximately 1.74 years.

As of July 31, 2019, the aggregate intrinsic value of vested and exercisable options was \$0.

In determining the fair value of the stock options granted during the nine months ended July 31, 2019 and 2018, the Company used the following inputs in its Black Scholes Merton model:

	Nine Months Ended July 31,	
	2019	2018
Expected Term	5.50-6.51 years	5.35 – 6.51 years
Expected Volatility	90.29%-104.99%	94.61%-100.34%
Expected Dividends	0%	0%
Risk Free Interest Rate	1.75%-3.15%	1.81 – 2.93%

Employee Stock Purchase Plan

During the nine months ended July 31, 2019, the Company issued 4,585 shares that were purchased under the 2018 Employee Stock Purchase Plan.

During the nine months ended July 31, 2018, the Company issued 10,681 shares that were purchased under the 2011 & 2018 Employee Stock Purchase Plans.

8. COLLABORATION AND LICENSING AGREEMENTS

Amgen

On August 1, 2016, the Company entered into a global agreement (the "Amgen Agreement") with Amgen for the development and commercialization of the Company's ADXS-NEO, a then- preclinical investigational immunotherapy, using the Company's proprietary Listeria monocytogenes attenuated bacterial vector which activates a patient's immune system to respond against unique mutations, or neoepitopes, contained in and identified from an individual patient's tumor. Under the terms of the Amgen Agreement, Amgen received an exclusive worldwide license to develop and commercialize ADXS-NEO. Amgen made an upfront payment to Advaxis of \$40 million and purchased directly from Advaxis 203,163 shares of the Company's common stock, at approximately \$123.00 per share (representing a purchase at market using a 20 day VWAP methodology) for a total of \$25 million. Amgen assisted in funding the clinical development and commercialization of ADXS-NEO and Advaxis retained manufacturing responsibilities. Advaxis and Amgen collaborated through a joint steering committee for the development and commercialization of ADXS-NEO. Advaxis received

reimbursements for research and development costs and Advaxis was eligible to receive future contingent payments based on development, regulatory and sales milestone payments of up to \$475 million and high single digit to double digit royalty payments based on worldwide sales by Amgen.

The Company assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, Amgen, is a customer. The Company identified the following material promises under the arrangement: (1) licenses, (2) research and development activities, (3) clinical supplies, (4) regulatory responsibilities and (5) participation on a Joint Steering Committee (JSC). The Company determined that the licenses and research and development activities were not distinct from another, as the licenses had limited value without the performance of the research and development activities. Participation on the JSC to oversee the research and development activities was determined to be quantitatively and qualitatively immaterial and therefore was excluded from performance obligations. The clinical supply and regulatory responsibilities did not represent separate performance obligations based on their dependence on the research and development efforts. Based on this assessment, the Company identified one performance obligation at the outset of the Amgen Agreement, which consists of: (1) licenses, (2) research and development activities, (3) clinical supplies and (4) regulatory responsibilities.

Under the Amgen Agreement, in order to evaluate the appropriate transaction price, the Company determined that the upfront amount of \$40 million constituted the entirety of the consideration to be included in the transaction price as of the outset of the arrangement, which is allocated to the single performance obligation. The Company concluded that a time-based method was most appropriate to measuring progress toward completion given that the research and development services are satisfied reasonably evenly over the agreement and the Company has a stand-ready obligation to perform over such time. Accordingly, progress toward completion and related revenue recognition is measured using the input method of time elapsed relative to the estimated timeline for Advaxis to submit the Phase 2 package to Amgen, or perform the contractual research and development services, which was the predominant promise in the Company's combined performance obligation to Amgen.

The reimbursement for the research and development costs was variable consideration that was included in the transaction price at the outset, subject to the constraint. The Company estimated the consideration from the reimbursement of the research and development costs using the most-likely amount. When the research and development costs are no longer constrained, they are added to the transaction price for the single, combined performance obligation and recognized over the same recognition period as the rest of the performance obligation's allocated revenue. The potential milestone and sales-based royalty payments that the Company was eligible to receive were excluded from the transaction price, as all milestone and sales royalty amounts were fully constrained based on the probability of achievement. The Company reevaluated the transaction price at the end of each reporting period and as uncertain events were resolved or other changes in circumstances occurred, and, as necessary, adjusted its estimate of the transaction price.

On December 10, 2018, the Company received a written notice of termination from Amgen with respect to the Amgen Agreement. The termination became effective as of February 8, 2019. The Company is currently enrolling patients in its ADXS-NEO program and evaluating its options for partnering the program. Pursuant to the terms of the Amgen Agreement, upon Amgen's termination, the license to Amgen terminated and the Company regained worldwide rights for the development and commercialization of its ADXS-NEO program.

The remaining deferred revenue of approximately \$18.2 million on December 10, 2018 related to the \$40 million non-refundable, up-front payment received from Amgen was accounted for as of the modification date. As of that notification date, the Company adjusted revenue on a cumulative catch-up basis considering the revised measure of progress for the combined performance obligation based on the modified service period up to and through the contract termination date of February 8, 2019. The Company recognized cumulative catch-up revenue of approximately \$15.6 million on December 10, 2018. The remaining \$2.6 million was recognized over the subsequent 60 days until the performance obligation was satisfied on February 8, 2019.

During the three months ended July 31, 2019 and 2018, the Company recognized revenue from the Amgen Agreement of approximately \$0 and \$1.1 million, respectively. During the nine months ended July 31, 2019 and 2018, the Company recognized revenue from the Amgen Agreement of approximately \$20.6 million and \$4.7 million, respectively. During the three and nine months ended July 31, 2018, Company recorded reductions in research and development expenses of approximately \$1.4 million and \$4.5 million, respectively, pertaining to the reimbursement of research and development costs. During the three and nine months ended July 31, 2019, the reimbursement of research and development costs of approximately \$0 million and \$2.0 million, respectively, was included in revenue.

Aratana Therapeutics

On March 19, 2014, the Company and Aratana entered into a definitive Exclusive License Agreement (the "Aratana Agreement"). Pursuant to the Agreement, Advaxis granted Aratana an exclusive, worldwide, royalty-bearing, license, with the right to sublicense, certain Advaxis 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. Under the terms of the Aratana Agreement, Aratana paid an upfront payment to the Company, of \$1 million. As this license has stand-alone value to Aratana (who has the ability to sublicense) and was delivered to Aratana, upon execution of the Aratana Agreement, the Company recorded the \$1 million payment as licensing revenue during the year ended October 31, 2014. Aratana will also pay the Company up to an additional \$36.5 million based on the achievement of certain milestones with respect to the advancement of products pursuant to the terms of the Aratana Agreement. In addition, Aratana may pay the Company an additional \$15 million in cumulative sales milestones pursuant to the terms of the Aratana Agreement.

During the year ended October 31, 2018, the USDA's Center for Veterinary Biologics granted Aratana conditional approval for its canine osteosarcoma vaccine using Advaxis' technology. During the three months ended July 31, 2019 and 2018, Advaxis recognized royalty revenue totaling approximately \$6,000 and \$2,000, respectively, from Aratana's sales of the canine osteosarcoma vaccine. During the nine months ended July 31, 2019 and 2018, Advaxis recognized royalty revenue totaling approximately \$8,000 and \$3,000, respectively, from Aratana's sales of the canine osteosarcoma vaccine. On July 16, 2019, Aratana announced their shareholders approved a merger agreement with Elanco Animal Health (Elanco) whereby Elanco will be the majority shareholder in Aratana. All of the terms of the Aratana Agreement remain in effect.

Global BioPharma Inc.

On December 9, 2013, the Company entered into an exclusive licensing agreement for the development and commercialization of axalimogene filolisbac with Global BioPharma, Inc. (GBP), a Taiwanese based biotech company funded by a group of investors led by Taiwan Biotech Co., Ltd (TBC).

GBP is planning to conduct a randomized Phase 2, open-label, controlled trial in HPV-associated NSCLC in patients following first-line induction chemotherapy. GBP has obtained Taiwanese regulatory approval for this trial and plans to initiate this trial in 2019. This trial will be fully funded exclusively by GBP and GBP will be responsible for all clinical development and commercialization costs in the GBP territory and GBP is committed to establishing manufacturing capabilities for its own. Under the terms of the agreement, the Company will exclusively license the rights of axalimogene filolisbac to GBP for the Asia, Africa, and former USSR territory, exclusive of India and certain other countries, for all HPV-associated indications. Advaxis will retain exclusive rights to axalimogene filolisbac for the rest of the world.

During each of the nine months ended July 31, 2019 and 2018, the Company recorded \$0.25 million in revenue for the annual license fee renewal. Since Advaxis has no significant obligation to perform after the license transfer and has provided GBP with the right to use its intellectual property, performance is satisfied when the license renews. In addition, GBP paid \$2.25 million to the contract research organization that manages the Company's AIM2CERV clinical trial. On June 27, 2019, Advaxis announced that it is closing the AIM2CERV Phase 3 clinical trial with AXAL in high-risk locally advanced cervical cancer.

9. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

Stendhal

On September 19, 2018, Stendhal filed a Demand for Arbitration before the International Centre for Dispute Resolution (Case No. 01-18-0003-5013) relating to the Co-development and Commercialization Agreement with Especificos Stendhal SA de CV (the "Stendhal Agreement"). In the demand, Stendhal alleged that (i) the Company breached the Stendhal Agreement when it made certain statements regarding its AIM2CERV program, (ii) that Stendhal was subsequently entitled to terminate the Agreement for cause, which it did so at the time and (iii) that the Company owes Stendhal damages pursuant to the terms of the Stendhal Agreement. Stendhal is seeking to recover \$3 million paid to the Company in 2017 as support payments for the AIM2CERV clinical trial along with approximately \$0.3 million in expenses incurred. Stendhal is also seeking fees associated with the arbitration and interest. The Company has answered Stendhal's Demand for Arbitration and denied that it breached the Stendhal Agreement. The Company also alleges that Stendhal breached its obligations to the Company by, among other things, failing to make support payments that became due in 2018 and that Stendhal therefore owes the Company \$3 million.

On April 2, 2019, the Arbitrator denied the Company's early application for summary disposition of Stendhal's claims. No reasoning was provided. On April 26, 2019, Stendhal served its Statement of Claim, and on May 23, 2019, the Company served its Statement of Defense and Counterclaim. A hearing for the arbitration is scheduled to begin on October 21, 2019. At this time, the Company is unable to predict the likelihood of an unfavorable outcome.

10. STOCKHOLDERS' EQUITY

A summary of the changes in stockholders' equity for the three and nine months ended July 31, 2019 and 2018 is presented below (in thousands, except share data):

	Preferred Stock		Common Stock		Additional	Accumulated	Total
	Shares	Amount	Shares	Amount	Paid-In Capital	Deficit	Shareholders' Equity
Balance at November 1, 2017	-	\$ -	2,744,196	\$ 3	\$ 355,400	\$ (301,142)	\$ 54,261
Stock based compensation			13,003	-	2,854	-	2,854
Tax withholdings paid related to net share settlement of equity awards			-	-	(7)	-	(7)
Tax withholdings paid on equity awards			-	-	(209)	-	(209)
Tax shares sold to pay for tax withholdings on equity awards			-	-	197	-	197
Issuance of shares to employees under ESPP Plan			-	-	-	-	-
Advaxis at-the-market sales			58,776	-	2,659	-	2,659
Net Loss			-	-	-	(20,492)	(20,492)
Balance at January 31, 2018	-	\$ -	2,815,975	\$ 3	\$ 360,894	\$ (321,634)	\$ 39,263
Stock based compensation			17,873	-	1,225	-	1,225
Tax withholdings paid related to net share settlement of equity awards			-	-	(33)	-	(33)
Tax withholdings paid on equity awards			-	-	(61)	-	(61)
Tax shares sold to pay for tax withholdings on equity awards			-	-	78	-	78
Issuance of shares to employees under ESPP Plan			712	-	9	-	9
Advaxis public offerings			666,667	1	18,382	-	18,383
Net Loss			-	-	-	(13,407)	(13,407)
Balance at April 30, 2018	-	\$ -	3,501,227	\$ 4	\$ 380,494	\$ (335,041)	\$ 45,457
Stock based compensation			15,683	-	1,953	-	1,953
Tax withholdings paid related to net share settlement of equity awards			-	-	(47)	-	(47)
Tax withholdings paid on equity awards			-	-	(188)	-	(188)
Tax shares sold to pay for tax withholdings on equity awards			-	-	163	-	163
Issuance of shares to employees under ESPP Plan			341	-	7	-	7
ESPP expense			-	-	4	-	4
Net loss			-	-	-	(14,017)	(14,017)
Balance at July 31, 2018	-	\$ -	3,517,251	\$ 4	\$ 382,386	\$ (349,058)	\$ 33,332

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Shareholders' Equity
	Shares	Amount	Shares	Amount			
Balance at November 1, 2018	-	\$ -	4,634,189	\$ 5	\$ 391,703	\$ (367,657)	\$ 24,051
Stock based compensation			9,811	-	622	-	622
Tax withholdings paid on equity awards			-	-	(11)	-	(11)
Tax shares sold to pay for tax withholdings on equity awards			-	-	11	-	11
Issuance of shares to employees under ESPP Plan			2,007	-	9	-	9
ESPP Expense			-	-	1	-	1
Net Income			-	-	-	12,817	12,817
Balance at January 31, 2019	-	\$ -	4,646,007	\$ 5	\$ 392,335	\$ (354,840)	\$ 37,500
Stock based compensation			693	-	479	-	479
Tax withholdings paid on equity awards			-	-	(3)	-	(3)
Tax shares sold to pay for tax withholdings on equity awards			-	-	3	-	3
Issuance of shares to employees under ESPP Plan			1,505	-	7	-	7
Warrant exercises			15,300	-	68	-	68
Warrant liability reclassified into equity			-	-	53	-	53
ESPP Expense			-	-	1	-	1
Shares issued in settlement of warrants			856,865	1	5,462	-	5,463
Advaxis public offerings			2,500,000	2	8,980	-	8,982
Net Loss			-	-	-	(9,383)	(9,383)
Balance at April 30, 2019	-	\$ -	8,020,370	\$ 8	\$ 407,385	\$ (364,223)	\$ 43,170
Stock based compensation			408	-	464	-	464
Tax withholdings paid on equity awards			-	-	(1)	-	(1)
Tax shares sold to pay for tax withholdings on equity awards			-	-	1	-	1
Issuance of shares to employees under ESPP Plan			1,073	-	3	-	3
Shares issued in settlement of warrants			577,000	1	-	-	1
Advaxis public offerings			10,650,000	11	15,478	-	15,489
Net Loss			-	-	-	(9,858)	(9,858)
Balance at July 31, 2019	-	\$ -	19,248,851	\$ 20	\$ 423,330	\$ (374,081)	\$ 49,269

During the nine months ended July 31, 2018, the Company sold 58,775 shares of its Common Stock at-the-market transactions resulting in net proceeds of approximately \$2.7 million.

During February 2018, the Company issued 666,667 shares of the Company's common stock in a public offering at \$30.00 per share, less underwriting discounts and commissions. The net proceeds to the Company from the transaction was approximately \$18.4 million.

On February 21, 2019, the Company's stockholders voted to approve an amendment to increase the number of authorized shares of common stock from 95,000,000 to 170,000,000 and also voted to approve an amendment to allow the Company to execute a reverse stock split of common stock at the discretion of the Board of Directors. The amendment to increase the number of authorized shares of common stock became effective upon filing of the amendment with the Secretary of State of the State of Delaware on February 28, 2019. Additionally, on March 29, 2019, the Company executed a 1 for 15 reverse stock split.

During April 2019, the Company issued 2,500,000 shares of the Company's common stock in a public offering at \$4.00 per share, less underwriting discounts and commissions. The net proceeds to the Company from the transaction was approximately \$9 million.

In July 2019, the Company closed on an underwritten public offering of 10,650,000 shares of its common stock, pre-funded warrants to purchase 13,656,000 shares of common stock and warrants to purchase up to 17,142,000 shares of common stock at a public offering price of \$1.20, for gross proceeds of \$17.0 million. Each share of common stock or pre-funded warrant was sold together in a fixed combination with a warrant to purchase 0.75 shares of common stock. The pre-funded warrants are exercisable immediately, do not expire and have an exercise price of \$0.001 per share. The warrants are exercisable immediately, expire five years from the date of issuance, have an exercise price of \$2.80 per share and are subject to anti-dilution and other adjustments for certain stock splits, stock dividends, or recapitalizations. The warrants also provide that if during the period of time between the date that is the earlier of (i) 30 days after issuance and (ii) if the common stock trades an aggregate of more than 35,000,000 shares after the pricing of the offering, and ending 15 months after issuance, the weighted-average price of common stock immediately prior to the exercise date is lower than the then-applicable exercise price per share, each Common Warrant may be exercised, at the option of the holder, on a cashless basis for one share of Common Stock. After deducting the underwriting discounts and commissions and other offering expenses, the net proceeds from the offering were approximately \$15.5 million.

11. FAIR VALUE

The authoritative guidance for fair value measurements defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or the most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Market participants are buyers and sellers in the principal market that are (i) independent, (ii) knowledgeable, (iii) able to transact, and (iv) willing to transact. The guidance describes a fair value hierarchy based on the levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2— Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or corroborated by observable market data or substantially the full term of the assets or liabilities.
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the value of the assets or liabilities.

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of July 31, 2019 and October 31, 2018 (in thousands):

July 31, 2019	Level 1	Level 2	Level 3	Total
Common stock warrant liability, warrants exercisable at \$0.372 through September 2024	-	-	\$ 36	\$ 36
October 31, 2018	Level 1	Level 2	Level 3	Total
Common stock warrant liability, warrants exercisable at \$22.50 through September 2024	-	-	\$ 6,517	\$ 6,517

The following table sets forth a summary of the changes in the fair value of the Company's warrant liabilities (in thousands):

	July 31, 2019
Beginning balance	\$ 6,517
Shares issued in settlement of warrants	(3,856)
Warrant exercises	(53)
Change in fair value	(2,572)
Ending Balance	\$ 36

12. SUBSEQUENT EVENTS

On September 3, 2019, the Company received a written notice from Nasdaq indicating that the Company is not in compliance with the minimum bid price requirement for continued listing on the Nasdaq Global Select Market. The Company has until March 2, 2020 to regain compliance. The Company can regain compliance if at any time prior to March 2, 2020 the bid price of its common stock closes at or above \$1.00 per share for a minimum of ten consecutive business days. If the Company fails to regain compliance with the minimum bid price requirement by March 2, 2020, the Company may apply to transfer to The Nasdaq Global Select Market where the Company should be afforded an additional 180-day period to regain compliance provided that (i) the Company meets the applicable market value of publicly held shares requirement for continued listing and all other applicable requirements for initial listing on the Nasdaq Global Select Market (except for the bid price requirement) based on the Company's most recent public filings and market information and (ii)

the Company notifies Nasdaq of its intent to cure the bid price requirement deficiency prior to the completion of the second 180-day compliance period by effecting a reverse stock split, if necessary.

Subsequent to the balance sheet date, the Company received proceeds of \$5,030 from the exercise of pre-funded warrants for a total of 5,030,000 shares of common stock.

Subsequent to the balance sheet date, warrants were cashlessly exercised for 430,162 shares of common stock.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis contains forward-looking statements about our plans and expectations of what may happen in the future. Forward-looking statements are based on a number of assumptions and estimates that are inherently subject to significant risks and uncertainties, and our results could differ materially from the results anticipated by our forward-looking statements as a result of many known or unknown factors, including, but not limited to, those factors discussed in “Risk Factors” and incorporated by reference herein. See also the “Special Cautionary Notice Regarding Forward-Looking Statements” set forth at the beginning of this report.

You should read the following discussion and analysis in conjunction with the unaudited financial statements, and the related footnotes thereto, appearing elsewhere in this report, and in conjunction with management’s discussion and analysis and the audited financial statements included in our annual report on Form 10-K for the year ended October 31, 2018. In addition, we intend to use our media and investor relations website (<http://ir.advaxis.com>), SEC filings, press releases, public conference calls and webcasts as well as social media to communicate with our subscribers and the public about Advaxis, its services and other issues. It is possible that the information we post on social media could be deemed to be material information. Therefore, in light of the SEC’s guidance, we encourage investors, the media, and others interested in Advaxis to review the information we post on the U.S. social media channels listed on our website.

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™. 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 prostate cancer, non-small cell lung cancer and other solid tumor types. 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)				

Advaxis Funded

Investigator Funded

★ = Planned

Personalized Neoantigen-Directed Therapies (ADXS-NEO)

ADXS-NEO is a personalized *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 FDA allowed the 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 have presented early immune response and clinical data from the first subjects enrolled into this study, including data which showed that two microsatellite stable (MSS) colorectal cancer patients dosed with ADXS-NEO at 1x10⁸ 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 the preliminary results from both suggested a successful transition from “cold” tumors into “hot” tumors with ADXS-NEO therapy. An estimated 80-85% of colorectal cancer patients are MSS. At the time of this preliminary data review, dosing of ADXS-NEO at 1x10⁸ cfu was well-tolerated in two patients. Additionally, we determined from these early data that ADXS-NEO dosed at 1x10⁹ 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).

We plan to continue to provide further clinical updates on this trial as data becomes available.

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 U.S. Food and Drug Administration (FDA) allowed our IND application for our ADXS-HOT drug candidate for non-small cell lung cancer (NSCLC). In September 2019, we announced that we completed enrollment in Part A, our monotherapy arm of the study. We anticipate beginning dosing patients in Part B, in combination with a checkpoint inhibitor, during the latter part of 2019. Additionally, we plan to report a preliminary readout of safety, tolerability and immune correlative data near the end of 2019.

Prostate Cancer Therapy (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.

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.

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® (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%.

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® (“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® 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 1×10^9 colony forming units (cfu) (n=7) and successfully escalated to higher dose levels of 5×10^9 cfu (n=3) and 1×10^{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 (1×10^9 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 1×10^9 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 of 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%). As of the February 2019 data cutoff, 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. We are continuing to follow patients and anticipate updating mOS during the latter part of 2019.

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 Therapy (axalimogene filolisbac)

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 in 2019. Axalimogene filolisbac has received FDA orphan drug designation for HPV-associated head and neck cancer.

Other Lm Technology Products

Therapy for 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.

Human Osteosarcoma

ADXS-HER2 has received FDA and EMA orphan drug designation for human 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. On July 16, 2019, Aratana announced their shareholders approved a merger agreement with Elanco Animal Health (Elanco) whereby Elanco will be the majority shareholder in Aratana. All the terms of the Aratana Agreement remain in effect.

Results of Operations for the Three Months Ended July 31, 2019 and 2018

Revenue

Revenue decreased approximately \$1.1 million to \$6,000 for the three months ended July 31, 2019 compared to \$1.1 million for the three months ended July 31, 2018. The decrease was due to the termination of the collaboration agreement with Amgen effective February 8, 2019.

Research and Development Expenses

We invest in research and development to advance our *Lm* technology through our pre-clinical and clinical development programs. Research and development expenses for the three months ended July 31, 2019 and July 31, 2018 were categorized as follows (in thousands):

	Three Months Ended July 31,		Increase (Decrease)	
	2019	2018	\$	%
HPV-associated cancers	\$ 2,836	\$ 4,287	\$ (1,451)	(34)%
Personalized neoantigen-directed therapies	912	611	301	49
Hotspot/Off-the-Shelf therapies	569	26	543	2,008
Prostate cancer therapy	330	210	120	57
Other expenses	2,413	6,847	(4,434)	(65)
Partner reimbursements	-	(1,421)	1,421	(100)
Total research & development expense	\$ 7,060	\$ 10,560	\$ (3,500)	(33)%
Stock-based compensation expense included in research and development expense	\$ 241	\$ 543	\$ (302)	(56)%

HPV-Associated Cancers (*axalimogene filolislac*)

The majority of the HPV-associated research and development costs include clinical trial and other related costs associated with our axalimogene filolislac (AXAL) programs in cervical and head and neck cancers. HPV-associated costs for the three months ended July 31, 2019 decreased approximately \$1.5 million, or 34%, compared to the same period in 2018. The decrease resulted from the partial clinical hold by the FDA during the current period, as there was a decrease in investigator payments and the closing of several sites that did not have any patients enrolled. In May 2019, we received notification from the FDA that the partial clinical hold was lifted and in June 2019 we announced the closing of our Phase 3 AIM2CERV study in high-risk locally advanced cervical cancer. We anticipate that we will continue to incur costs associated with the wind down of the study until early 2020. Also adding to the reduction in costs during fiscal year 2019 there was a winding down of several studies including our Fawcett study in anal cancer and our MEDI4736 study in combination with MedImmune’s investigational anti-PD-L1 immune checkpoint inhibitor, durvalumab.

Personalized Neoantigen-Directed Therapies (ADXS-NEO)

Research and development costs associated with personalized neoantigen-directed therapies for the three months ended July 31, 2019 increased approximately \$0.3 million, or 49%, compared to the same period in 2018. The increase is attributable to the opening of new clinical sites, the enrollment of patients and manufacturing costs for the clinical supply. 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. During 2019, we presented early immune response and clinical data from this study, which demonstrated strong T cell activation in and around the tumor microenvironment at 1x10⁸ cfu.

Hotspot/Off-the-Shelf Therapies (ADXS-HOT)

Research and development costs associated with our hotspot mutation-based therapies for the three months ended July 31, 2019 increased approximately \$0.5 million to \$0.6 million compared to the same period in 2018. The increase is attributable to the startup costs associated with the initiation of our Phase 1/2 clinical trial. This is the first study initiated using our ADXS-HOT construct which we believe is applicable across several tumor types. In September 2019, we announced that we completed enrollment in Part A of this study and we anticipate having safety and immune response on the first cohort of our first clinical trial using ADXS-HOT later this year. In addition, we anticipate moving into Part B, in combination with a checkpoint inhibitor, by the end of 2019.

Prostate Cancer Therapy (ADXS-PSA)

Research and development costs associated with our prostate cancer therapy for the three months ended July 31, 2019 decreased approximately \$0.1 million, or 57%, compared to the same period in 2018. The decrease is attributable to the enrollment in the study ending in 2017, which resulted in a decrease of the monthly operational costs in the study. The Phase 2 study of our ADXS-PSA compound is in combination with KEYTRUDA® (pembrolizumab), Merck's humanized monoclonal antibody against PD-1. During 2019, we presented updated data from this study which demonstrated an increase in the median overall survival (mOS) for patients in the combination arm of this study. We anticipate providing a further update on mOS by the end of 2019.

Other Expenses

Other expenses include salary and benefit costs, stock-based compensation expense, professional fees, laboratory costs and other internal and external costs associated with our research & development activities. Other expenses for the three months ended July 31, 2019 decreased approximately \$4.4 million, or 65%, compared to the same period in 2018. The decrease was primarily attributable to a decrease in salary related expenses, including stock compensation, and travel expenses resulting from a reduction in headcount. In addition, laboratory and professional fee costs decreased substantially due to the Company's shift in focus from research to clinical activities.

Partner Reimbursements

Partner reimbursements for the three months ended July 31, 2019 decreased approximately \$1.4 million, or 100%, compared to the same period in 2018. The decrease was due to the termination of the collaboration agreement with Amgen effective February 8, 2019.

General and Administrative Expenses

General and administrative expenses primarily include salary and benefit costs and stock-based compensation expense for employees included in our finance, legal and administrative organizations, outside legal and professional services, and facilities costs. General and administrative expenses for the three months ended July 31, 2019 and 2018 were as follows (in thousands):

	Three Months Ended July 31,		Increase (Decrease)	
	2019	2018	\$	%
General and administrative expense	\$ 3,076	\$ 4,735	\$ (1,659)	(35)%
Stock-based compensation expense included in general and administrative expense	\$ 223	\$ 1,409	\$ (1,186)	(84)%

General and administrative expenses for the three months ended July 31, 2019 decreased approximately \$1.7 million, or 35%, compared to the same period in 2018. In June 2018, we began instituting measures to control costs for non-essential items in areas don't support the strategic direction of the company, as a result, we reduced costs within general and administrative. The decrease in expenses in these areas is a direct result of these cost control measures.

Changes in Fair Values

For the three months ended July 31, 2019, we recorded non-cash income from changes in the fair value of the warrant liability of approximately \$0.2 million. The decrease in the fair value of liability warrants resulted from a decrease in our share price from April 30, 2019 to July 31, 2019.

Results of Operations for the Nine Months Ended July 31, 2019 and 2018

Revenue

Revenue increased approximately \$16.0 million to \$20.9 million for the nine months ended July 31, 2019 compared to \$4.9 million for the nine months ended July 31, 2018. The increase was due to a change in the estimated performance period associated with upfront fees received from Amgen in connection with the collaboration agreement signed in August 2016. On December 10, 2018, we received a written notice of termination from Amgen with respect to the Amgen Agreement, effective as of February 8, 2019. As of the notification date, our adjusted revenue on a cumulative catch-up basis considering the revised measure of progress for the combined performance obligation based on the modified service period up to and through the contract termination date resulting in additional revenue of \$15.6 million. In addition, during the nine months ended July 31, 2019, the reimbursement of research and development costs of approximately \$2.0 million was included in revenue as a result of adoption of ASC 606, whereas during the nine months ended July 31, 2018, we recorded reductions in research and development expenses of approximately \$4.5 million pertaining to the reimbursement of research and development costs.

Research and Development Expenses

We invest in research and development to advance our technology through our pre-clinical and clinical development programs. Research and development expenses for the nine months ended July 31, 2019 and 2018 were categorized as follows (in thousands):

	Nine months ended July 31,		Increase (Decrease)	
	2019	2018	\$	%
HPV-associated cancers	\$ 5,997	\$ 14,224	\$ (8,277)	(58)%
Personalized neoantigen-directed therapies	2,221	1,513	708	47
Hotspot/Off-the-Shelf therapies	2,246	240	2,006	836
Prostate cancer therapy	694	1,593	(899)	(56)
Other expenses	8,577	24,624	(16,047)	(65)
Partner reimbursements	-	(4,515)	4,515	(100)
Total research & development expense	\$ 19,735	\$ 37,679	\$ (17,944)	(48)%
Stock-based compensation expense included in research and development expense	\$ 822	\$ 2,342	\$ (1,520)	(65)%

HPV-Associated Cancers (*axalimogene filolisbac*)

The majority of the HPV-associated research and development costs include clinical trial and other related costs associated with our axalimogene filolisbac (AXAL) programs in cervical and head and neck cancers. HPV-associated costs for the nine months ended July 31, 2019 decreased approximately \$8.3 million, or 58%, compared to the same period in 2018. The decrease resulted from the partial clinical hold by the FDA during the first several months of 2019, as a result there was a decrease in investigator payments and the closing of several sites that did not have patients. In May 2019, we received notification from the FDA that the partial clinical was lifted and in June 2019 we announced the closing of our Phase 3 AIM2CERV study in high-risk locally advanced cervical cancer. We anticipate that we will continue to incur costs associated with the wind down of the study until early 2020. Also adding to the reduction in costs during fiscal year 2019 there was a winding down of several studies including our Fawcett study in anal cancer and our MEDI4736 study in combination with MedImmune's investigational anti-PD-L1 immune checkpoint inhibitor, durvalumab.

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

Research and development costs associated with personalized neoantigen-directed therapies for the nine months ended July 31, 2019 increased approximately \$0.7 million, or 47%, compared to the same period in 2018. The increase is attributable to the opening of new clinical sites, the enrollment of patients and manufacturing costs for the clinical supply. 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. During 2019, we presented early immune response and clinical data from this study, which demonstrated strong T cell activation in and around the tumor microenvironment at 1x10⁸ cfu.

Hotspot/Off-the-Shelf Therapies (ADXS-HOT)

Research and development costs associated with our hotspot mutation-based therapies for the nine months ended July 31, 2019 increased approximately \$2.0 million to \$2.2 million compared to the same period in 2018. The increase is attributable to the startup costs associated with the initiation of the Phase 1/2 clinical trial. This is the first study initiated using our ADXS-HOT construct which we believe is applicable across several tumor types. In September 2019, we announced that we completed enrollment in Part A of this study and we anticipate having safety and immune response on the first cohort of our first clinical trial using ADXS-HOT during 2019.

Prostate Cancer Therapy (ADXS-PSA)

Research and development costs associated with our prostate cancer therapy for the nine months ended July 31, 2019 decreased approximately \$0.9 million, or 56%, compared to the same period in 2018. The decrease is attributable to the enrollment in the study ending in 2017, which resulted in a decrease of the monthly operational costs in the study. The Phase 2 study of our ADXS-PSA compound is in combination with KEYTRUDA® (pembrolizumab), Merck's humanized monoclonal antibody against PD-1. During 2019, we presented updated data from this study which demonstrated an increase in the median overall survival (mOS) for patients in the combination arm of this study. We anticipate providing a further update on mOS by the end of 2019.

Other Expenses

Other expenses include salary and benefit costs, stock-based compensation expense, professional fees, laboratory costs and other internal and external costs associated with our research & development activities. Other expenses for the nine months ended July 31, 2019 decreased approximately \$16.0 million, or 65%, compared to the same period in 2018. The decrease was primarily attributable to a decrease in salary related expenses, including stock compensation, and travel expenses resulting from cost control measure put in place beginning in June 2018. In addition, there was a decrease in laboratory costs, drug manufacturing process validation and drug stability studies due to the work performed supporting our Marketing Authorization Application ("MAA") in Europe in fiscal year 2018 in support of the filing, which occurred in February 2018 and no similar filing in fiscal year 2019.

Partner Reimbursements

Partner reimbursements for the nine months ended July 31, 2019 decreased approximately \$4.5 million, or 100%, compared to the same period in 2018. During the nine months ended July 31, 2019, the reimbursement of research and development costs of approximately \$2.0 million was included in revenue as a result of adoption of ASC 606, while during the nine months ended July 31, 2018, we recorded reductions in research and development expenses of approximately \$4.5 million pertaining to the reimbursement of research and development costs.

General and Administrative Expenses

General and administrative expenses primarily include salary and benefit costs and stock-based compensation expense for employees included in our finance, legal and administrative organizations, outside legal and professional services, and facilities costs. General and administrative expenses for the nine months ended July 31, 2019 and July 31, 2018 were as follows (in thousands):

	Nine months ended July 31,		Increase (Decrease)	
	2019	2018	\$	%
General and administrative expense	\$ 8,834	\$ 15,519	\$ (6,685)	(43)%
Stock-based compensation expense included in general and administrative expense	\$ 743	\$ 3,645	\$ (2,902)	(80)%

General and administrative expenses for the nine months ended July 31, 2019 decreased approximately \$6.7 million, or 43%, compared to the same period in 2018. In June 2018, we began instituting measures to control costs for non-essential items in areas don't support the strategic direction of the company, as a result, we reduced costs within general and administrative. The decrease in expenses in these areas is a direct result of these cost control measures. In addition, there was a decrease in consulting and professional fees during the nine months ended July 31, 2019 compared to the prior year due to external strategy and program assessment worked performed during fiscal year 2018 and not recurring in fiscal year 2019.

Changes in Fair Values

For the nine months ended July 31, 2019, we recorded non-cash income from changes in the fair value of the warrant liability of approximately \$2.6 million. The decrease in the fair value of liability warrants resulted from a decrease in our share price from October 31, 2018 to July 31, 2019.

Loss on shares issued in settlement of warrants

On March 14, 2019, we entered into private exchange agreements with certain holders of warrants issued in connection with our September 2018 public offering of common stock and warrants. Pursuant to the exchange agreements, we issued 856,865 shares of common stock to the investors in exchange for warrants on a 1:1 basis. In connection with the warrant exchange, we recorded a loss of approximately \$1.6 million for the nine months ended July 31, 2019.

Going Concern and Managements Plans

Similar to other development stage biotechnology companies, our products that are being developed have not generated significant revenue. As a result, we have suffered recurring losses and we require significant cash resources to execute our business plans. These losses are expected to continue for an extended period of time. The aforementioned factors raise substantial doubt about our ability to continue as a going concern. The accompanying condensed financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. The condensed financial statements do not include any adjustments relating to the recoverability and classification of asset amounts or the classification of liabilities that might be necessary should we be unable to continue as a going concern within one year after the date the financial statements are issued.

Historically, our major sources of cash have comprised proceeds from various public and private offerings of our common stock, debt financings, clinical collaborations, option and warrant exercises, NOL tax sales, income earned on investments and grants, and interest income. From October 2013 through July 2019, we raised approximately \$292.2 million in gross proceeds (\$27.0 million in fiscal year 2019) from various public and private offerings of our common stock. We have sustained losses from operations in each fiscal year since our inception, and we expect losses to continue for the indefinite future. As of July 31, 2019 and October 31, 2018, we had an accumulated deficit of approximately \$374.1 million and \$367.7 million, respectively, and stockholders' equity of approximately \$49.3 million and \$24.1 million, respectively.

As of July 31, 2019, we had approximately \$41.8 million in cash and cash equivalents. Management's plans to mitigate an expected shortfall of capital and to support future operations include obtaining additional funds through partnerships or strategic or financing investors. It is our belief that we expect to have sufficient capital to fund our obligations, as they become due, in the ordinary course of business until at least September 2020. The actual amount of cash that we will need to operate is subject to many factors. We have based this estimate on assumptions that may prove to be wrong, and we could use available capital resources sooner than currently expected. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amount of increased capital outlays and operating expenses associated with completing the development of our current product candidates. The Company has reduced its operating expenses to \$28.6 million for the nine months ended July 31, 2019 as compared to \$53.2 million during the comparable prior period. Furthermore, the Company expects operating expenses to be between \$33 million and \$37 million for fiscal 2020, which includes approximately \$6 million in non-recurring costs related to programs that are winding down.

We recognize that we will need to raise additional capital in order to continue to execute our business plan in the future. There is no assurance that additional financing will be available when needed or that we will be able to obtain financing on terms acceptable to us or whether we will become profitable and generate positive operating cash flow. If we are unable to raise sufficient additional funds, we will have to scale back our operations.

Cash Flows

Operating Activities

Net cash used in operating activities was approximately \$27.0 million for the nine months ended July 31, 2019 compared to \$48.9 million for the nine months ended July 31, 2018. Net cash used in operating activities includes spending associated with our clinical trial programs and general and administrative activities.

Investing Activities

Net cash used in investing activities was approximately \$0.9 million for the nine months ended July 31, 2019 compared to net cash provided by investing activities of \$43.9 million for the nine months ended July 31, 2018. During fiscal year 2018, many of our remaining short-term investment securities matured and a portion of the proceeds were used to fund operating activities. In addition, there was a reduction in property and equipment purchases during the nine months ended July 31, 2019 of approximately \$1.3 million as compared to the prior year.

Financing Activities

Net cash provided by financing activities was approximately \$24.6 million for the nine months ended July 31, 2019 as compared to \$21.0 million for the nine months ended July 31, 2018. In fiscal year 2019, we received net proceeds of approximately \$24.5 million from the sales of 13,150,000 shares of our common stock and 13,656,000 pre-funded warrants in public offerings while in fiscal year 2018, we received net proceeds of approximately \$18.4 million from the sales of 666,667 shares of our common stock in a public offering and approximately \$2.7 million from the sale of 58,775 shares of our common stock in at-the-market transactions.

Off-Balance Sheet Arrangements

As of July 31, 2019, our total future minimum lease payments under noncancelable operating leases was approximately \$8.6 million.

Critical Accounting Estimates

The preparation of financial statements in accordance with GAAP accepted in the U.S. requires management to make estimates and assumptions that affect the reported amounts and related disclosures in the financial statements. Management considers an accounting estimate to be critical if:

- it requires assumptions to be made that were uncertain at the time the estimate was made, and
- changes in the estimate of difference estimates that could have been selected could have material impact in our results of operations or financial condition.

While we base our estimates and judgments on our experience and on various other factors that we believe to be reasonable under the circumstances, actual results could differ from those estimates and the differences could be material. The most significant estimates impact the following transactions or account balances: stock compensation, warrant liability valuation and impairment of intangibles.

See Note 2 to our condensed financial statements that discusses significant accounting policies.

New Accounting Standards

See Note 2 to our condensed financial statements that discusses any applicable new accounting pronouncements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

At July 31, 2019, we had approximately \$41.8 million in cash and cash equivalents, which consisted primarily of bank deposits and money market funds. Our investment policy and strategy are focused on preservation of capital and supporting our liquidity requirements. We use a combination of internal and external management to execute its investment strategy and achieve its investment objectives. We typically invest in highly-rated securities, and its investment policy generally limits the amount of credit exposure to any one issuer. The policy requires investments generally to be investment grade, with the primary objective of minimizing the potential risk of principal loss. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations of interest income have not been significant.

We have not been exposed nor do we anticipate being exposed to material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, we conducted an evaluation, under the supervision and with the participation of our chief executive officer and principal financial officer of our disclosure controls and procedures (as defined in Rule 13a-15(e) and 15d-15(e) of the Exchange Act). Based upon this evaluation, our chief executive officer and principal financial officer concluded that our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is: (1) accumulated and communicated to our management, including our chief executive officer, as appropriate to allow timely decisions regarding required disclosure; and (2) recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms.

Changes in Internal Control over Financial Reporting

During the quarter ended July 31, 2019, there were no changes in our internal control over financial reporting that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

Limitations on Effectiveness of Controls

Our management, including our Principal Executive, Financial and Accounting Officer, does not expect that our disclosure controls and procedures or our internal controls over financial reporting will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

We are from time to time involved in legal proceedings in the ordinary course of our business. Except as disclosed in Note 10 to our condensed financial statements, we do not believe that any of these claims or proceedings against us is likely to have, individually or in the aggregate, a material adverse effect on the financial condition or results of operations. Refer to Note 10 to our condensed financial statements for more information on legal proceedings.

Item 1A. Risk Factors

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed in Part I, “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the year ended October 31, 2018, Except as provided for below, there has been no material change in this information. The risks described below, in the annual report on Form 10-K, and the information in the section of this document entitled “Cautionary Note Regarding Forward Looking Statements” are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations. If any of the risks described below or in the annual report on Form 10-K actually occur, our business, financial condition or results of operations could be materially adversely affected, the value of our Common Stock could decline, and you may lose all or part of your investment.

Risks Related to Our Common Stock

We are not currently in compliance with the continued listing requirements for Nasdaq. If the price of our common stock continues to trade below \$1.00 per share for a sustained period or we do not meet other continued listing requirements, our common stock may be delisted from the Nasdaq Global Select Market, which could affect the market price and liquidity for our common stock and reduce our ability to raise additional capital.

Our common stock is listed on the Nasdaq Global Select Market. In order to maintain that listing, we must satisfy minimum financial and other requirements including, without limitation, a requirement that our closing bid price be at least \$1.00 per share. On September 3, 2019, we received a written notice from Nasdaq indicating that we are not in compliance with the minimum bid price requirement for continued listing on the Nasdaq Global Select Market. We have until March 2, 2020 to regain compliance. We can regain compliance if at any time prior to March 2, 2020 the bid price of our common stock closes at or above \$1.00 per share for a minimum of ten consecutive business days.

If we fail to regain compliance with the minimum bid price requirement by March 2, 2020, we may apply to transfer to The Nasdaq Global Select Market where we should be afforded an additional 180-day period to regain compliance provided that (i) we meet the applicable market value of publicly held shares requirement for continued listing and all other applicable requirements for initial listing on the Nasdaq Global Select Market (except for the bid price requirement) based on our most recent public filings and market information and (ii) we notify Nasdaq of our intent to cure the bid price requirement deficiency prior to the completion of the second 180-day compliance period by effecting a reverse stock split, if necessary. We intend to monitor the closing bid price of our common stock and consider our available options to resolve our noncompliance with the minimum bid price requirement. There can be no assurance that we will be able to regain compliance with the minimum bid price requirement or we will otherwise be in compliance with other Nasdaq listing criteria. If we fail to regain compliance with the minimum bid requirement or to meet the other applicable continued listing requirements for the Nasdaq Global Select Market in the future and Nasdaq determines to delist our common stock, the delisting could adversely affect the market price and liquidity of our common stock and reduce our ability to raise additional capital.

Unless our common stock continues to be listed on a national securities exchange it will become subject to the so-called “penny stock” rules that impose restrictive sales practice requirements.

If we are unable to maintain the listing of our common stock on The Nasdaq Global Select Market or another national securities exchange, our common stock could become subject to the so-called “penny stock” rules if the shares have a market value of less than \$5.00 per share. The SEC has adopted regulations that define a penny stock to include any stock that has a market price of less than \$5.00 per share, subject to certain exceptions, including an exception for stock traded on a national securities exchange. The SEC regulations impose restrictive sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors. An accredited investor generally is a person whose individual annual income exceeded \$200,000, or whose joint annual income with a spouse exceeded \$300,000 during the past two years and who expects their annual income to exceed the applicable level during the current year, or a person with net worth in excess of \$1.0 million, not including the value of the investor’s principal residence and excluding mortgage debt secured by the investor’s principal residence up to the estimated fair market value of the home, except that any mortgage debt incurred by the investor within 60 days prior to the date of the transaction shall not be excluded from the determination of the investor’s net worth unless the mortgage debt was incurred to acquire the residence. For transactions covered by this rule, the broker-dealer must make a special suitability determination for the purchaser and must have received the purchaser’s written consent to the transaction prior to sale. This means that if we are unable to maintain the listing of our common stock on a national securities exchange, the ability of stockholders to sell their common stock in the secondary market could be adversely affected.

If a transaction involving a penny stock is not exempt from the SEC’s rule, a broker-dealer must deliver a disclosure schedule relating to the penny stock market to each investor prior to a transaction. The broker-dealer also must disclose the commissions payable to both the broker-dealer and its registered representative, current quotations for the penny stock, and, if the broker-dealer is the sole market-maker, the broker-dealer must disclose this fact and the broker-dealer’s presumed control over the market. Finally, monthly statements must be sent disclosing recent price information for the penny stock held in the customer’s account and information on the limited market in penny stocks.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Recent Sales of Unregistered Securities

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

- 3.1 [Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Advaxis, Inc., filed as Exhibit 3.1 with the Registrant’s Current Form on Form 8-K filed on March 1, 2019, and incorporated herein by reference.](#)
- 3.2 [Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Advaxis, Inc., filed as Exhibit 3.1 with the Registrant’s Current Form on Form 8-K filed on March 29, 2019, and incorporated herein by reference.](#)
- 10.1 [Form of Exchange Agreement dated March 14, 2019.](#)
- 31.1* [Certification of Principal Executive Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002](#)
- 31.2* [Certification of Principal Executive Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002](#)
- 32.1* [Certification of Principal Executive Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002](#)
- 32.2* [Certification of Principal Executive Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002](#)
- 101.INS XBRL INSTANCE DOCUMENT
- 101.SCH XBRL TAXONOMY EXTENSION SCHEMA DOCUMENT
- 101.CAL XBRL TAXONOMY EXTENSION CALCULATION LINKBASE DOCUMENT
- 101.DEF XBRL TAXONOMY EXTENSION DEFINITION LINKBASE DOCUMENT
- 101.LAB XBRL TAXONOMY EXTENSION LABEL LINKBASE DOCUMENT
- 101.PRE XBRL TAXONOMY EXTENSION PRESENTATION LINKBASE DOCUMENT

* Filed herewith.

SIGNATURES

In accordance with the requirements of the Securities Exchange Act of 1934, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ADVAXIS, INC.
Registrant

Date: September 9, 2019

By: /s/ Kenneth A. Berlin
Kenneth A. Berlin
President and Chief Executive Officer

By: /s/ Molly Henderson
Molly Henderson
Executive Vice President, Chief Financial Officer

**Form of
AGREEMENT TO EXCHANGE WARRANTS**

Advaxis, Inc.
305 College Road East
Princeton, NJ 08540

Ladies and Gentlemen:

This is to record the agreement between Advaxis, Inc. (the “Company”) and [] (the “Warrantholder”) regarding the terms on which the Company will issue shares of Common Stock (“Common Stock”), par value \$.001 per share, to the Warrantholder in exchange for Warrants (“Warrants”) originally issued under a Warrant Agency Agreement made as of September 11, 2018 between the Company and Continental Stock Transfer and Trust Company entitling the holders to purchase Common Stock, which Agreement is as follows:

1. The Company hereby agrees to issue [X] shares (the “Exchange Shares”) of Common Stock to the Warrantholder in exchange for [X] Warrants.
 2. In order to carry out the exchange of the Exchange Shares for the Warrants described in Section 1, at or prior to 11:00 a.m., Eastern time on March 15, 2019 (the “Exchange Date”) (a) the number of Warrants stated in Section 1 shall be automatically deemed cancelled upon receipt of the Exchange Shares, and (b) the Company will cause Continental Stock Transfer and Trust Company, as transfer agent for the Company, to issue via the Deposit / Withdrawal at Custodian system into an account with The Depository Trust Company (“DTC”) specified by the Warrantholder, the number of shares of Common Stock stated in Section 1. The Exchange Shares shall not bear any restrictive legends. No later than five (5) Nasdaq Global Market trading days following the date hereof, the Warrantholder shall deliver the original certificate representing the Warrants stated in Section 1 above to the Company for cancellation. However, failure to deliver the original certificate will not affect the automatic cancellation of the Warrants desired in clause (a).
 3. During the period of 30 Nasdaq Global Market trading days beginning on the Exchange Date, the Warrantholder will not on any day sell a number of shares of Common Stock (including shares issuable by exercise of Common Stock Derivatives) that exceeds 5% of the total volume of trading in the Common Stock reported on the Nasdaq Global Market on that day. During the period of 45 Nasdaq Global Market trading days beginning on the 31st Nasdaq trading day after the Exchange Date, Warrantholder will not on any day sell a number of shares of Common Stock (including shares that are the subject of Common Stock Derivatives) that exceeds 10% of the total volume of trading in the Common Stock reported on the Nasdaq Global Market on that day. The Company will be entitled to injunctive relief to prevent violation or threatened violation of this Section 3.
 4. The Warrantholder represents and warrants to the Company that:
 - a. The Warrantholder owns all the Warrants described in Section 1 and has all power and authority that is necessary to enable the Warrantholder to exchange them for Common Stock as contemplated by this Agreement, without requiring consent of any other person or any governmental authority.
 - b. After the Warrants described in Section 1 are automatically cancelled as described in Section 2, neither the Warrantholder nor any other person will have any rights under or with regard to the Warrants.
 - c. The Warrantholder is aware that:
 - i. On February 21, 2019, the stockholders of the Company authorized its Board of Directors to cause there to be a reverse split of the Common Stock of between 1 share for each 10 shares and 1 share for each 25 shares. The Board has not yet approved a reverse split, but may do so at any time. If there is a reverse split, the number of shares that can be purchased by exercising a Warrant will be reduced proportionately, and the exercise price per full share of Common Stock will be increased proportionately.
 - ii. The last sale price of the Common Stock reported on the Nasdaq Global Market on March [], 2019 was \$[] per share. The Company is not aware of any trading in the Warrants.
 - iii. The issuance of Common Stock in exchange for Warrants that is the subject of this Agreement (and of other similar agreements) will result in a reduction of the exercise price of the Warrants that continue to be outstanding.
 - iv. The Company expects to file with the Securities and Exchange Commission in the near future a registration statement under the Securities Act of 1933, as amended, relating to an underwritten public offering of its Common Stock. If there were a public offering and the sale price in the public offering were less than the exercise price of the Warrants, the exercise price would be reduced to the sale price. *This Agreement does not constitute an offer of the securities that may be the subject of the underwritten public offering for sale.*
 - v. The Company files annual, quarterly and current reports and other information with the SEC. The materials the Company files with the SEC are available on the SEC’s website, www.sec.gov. They also are available on the Company’s website, www.advaxis.com
 5. The Company represents and warrants to the Warrantholder as follows:
 - a. The Company has all power and authority, and has obtained all approvals, that are necessary to enable it to issue Common Stock in exchange for Warrants as contemplated by this Agreement.
 - b. When the Company issues the Exchange Shares, those shares (i) will be issued in reliance on an exemption from the registration requirements of the Securities Act contained in Section 3(a)(9) of the Securities Act of 1933, as amended (the “Securities Act, and (ii) will be duly authorized and issued, fully paid and non-assessable and will be eligible for trading on the Nasdaq Global Market. For purposes of SEC Rule 144, the holding period of the Exchange Shares will include the holding period of the Warrants, which is more than six months.
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6. The Warrantholder is aware that the issuance of Exchange Shares in exchange for Warrants as described in this Agreement has not been registered under the Securities Act and that those shares are being issued in reliance on an exemption from the registration requirements of the Securities Act contained in Section 3(a)(9) of the Securities Act.
7. The Company agrees from and after the date hereof that if any of the terms offered to any other holder of Warrants in connection with any exchange of Warrants for any assets or other securities (each an "Exchange Document"), is or will be more favorable to such other Person (as defined in the Warrants) than those of the Warrantholder under this Agreement (other than with respect to the reimbursement of legal fees). If, and whenever on or after the date hereof, the Company enters into an Exchange Document which contains any terms that are more favorable to another holder of Warrants than this Agreement, then (i) the Company shall provide notice thereof to the Holder promptly following the occurrence thereof and (ii) the terms and conditions of this Agreement shall be, without any further action by the Holder or the Company, automatically amended and modified in an economically and legally equivalent manner such that the Warrantholder shall receive the benefit of the more favorable terms and/or conditions (as the case may be) set forth in such Exchange Document, provided that upon written notice to the Company at any time the Holder may elect not to accept the benefit of any such amended or modified term or condition, in which event the term or condition contained in this Agreement shall apply to the Warrantholder as it was in effect immediately prior to such amendment or modification as if such amendment or modification never occurred with respect to the Warrantholder. Without limiting what is said above in this Section 7, if the Exchange Document with a Person calls for issuance of more shares of Common Stock per Warrant exchanged than this Agreement, within five Nasdaq Global Market trading days after the issuance of the shares to the other person, the Company will issue to the Warrantholder the number of additional shares of Common Stock such that the Warrantholder will have received the same number of shares of Common Stock per exchanged Warrant as the other Person. The provisions of this paragraph shall apply similarly and equally to each Exchange Document.
8. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile or .pdf transmission, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or .pdf signature page were an original thereof. If any provision of this Agreement is held to be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Agreement shall not in any way be affected or impaired thereby and the parties will attempt to agree upon a valid and enforceable provision that is a reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Agreement. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be determined pursuant to the internal law of the State of New York.

(Signatures on following page)

Please sign a copy of this Agreement which, when it is signed by the Company, will constitute a legally binding agreement between the Warrantholder and the Company.

Very truly yours,

[]

Dated: March [], 2019

By _____
Name:
Title:

AGREED TO:

ADVAXIS, INC.

By: _____
Name:
Title

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO
SECTION 302 OF THE SARBANES OXLEY ACT OF 2002**

I, Kenneth A. Berlin, certify that:

1. I have reviewed this report on Form 10-Q for the quarter ended July 31, 2019 of Advaxis, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

September 9, 2019

By: /s/ Kenneth A. Berlin

Name: Kenneth A. Berlin

Title: President and Chief Executive Officer

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO
SECTION 302 OF THE SARBANES OXLEY ACT OF 2002**

I, Molly Henderson, certify that:

1. I have reviewed this report on Form 10-Q for the quarter ended July 31, 2019 of Advaxis, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

September 9, 2019

By: /s/ Molly Henderson

Name: Molly Henderson

Title: Executive Vice President, Chief Financial Officer

CERTIFICATION-PURSUANT TO SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

The undersigned as Chief Executive Officer of Advaxis, Inc. (the "Company"), does hereby certify that the foregoing Quarterly Report on Form 10-Q of the Company for the quarter ended July 31, 2019:

- (1) Fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) Fairly presents, in all material respects, the financial condition and result of operations of the Company.

September 9, 2019

/s/ Kenneth A. Berlin

Kenneth A. Berlin
President and Chief Executive Officer

CERTIFICATION-PURSUANT TO SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

The undersigned as Chief Financial Officer of Advaxis, Inc. (the "Company"), does hereby certify that the foregoing Quarterly Report on Form 10-Q of the Company for the quarter ended July 31, 2019:

- (1) Fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) Fairly presents, in all material respects, the financial condition and result of operations of the Company.

September 9, 2019

/s/ Molly Henderson

Molly Henderson
Executive Vice President, Chief Financial Officer
