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

FORM 10-Q

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

For the quarterly period ended June 30, 2018

OR

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

For the transition period from _____ to _____

Commission file number 001-36646

Asterias Biotherapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**46-1047971**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

6300 Dumbarton Circle
Fremont, California 94555
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code
(510) 456-3800

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). ☒ Yes ☐ No

Indicate by check mark 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. (Check one):

Large accelerated filer	☐		Accelerated filer	☒
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	Smaller reporting company	☐
Emerging growth company	☒			

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided 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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: 55,509,397 shares of Series A Common Stock, $0.0001 par value, as of August 2, 2018.

PART I–FINANCIAL INFORMATION

Statements made in this Report that are not historical facts may constitute forward-looking statements that are subject to risks and uncertainties that could cause actual results to differ materially from those discussed. Such risks and uncertainties include but are not limited to those discussed in this Report under Item 1 of the Notes to Financial Statements, and under Risk Factors in this Report. Words such as "expects," "may," "will," "anticipates," "intends," "plans," "believes," "seeks," "estimates," and similar expressions identify forward-looking statements.

References to "Asterias," "our" or "we" means Asterias Biotherapeutics, Inc.

The description or discussion, in this Form 10-Q, of any contract or agreement is a summary only and is qualified in all respects by reference to the full text of the applicable contract or agreement.

Item 1. Financial Statements

ASTERIAS BIOTHERAPEUTICS, INC.
CONDENSED BALANCE SHEETS
(IN THOUSANDS EXCEPT PAR VALUE AMOUNTS)

	June 30, 2018 (unaudited)	December 31, 2017 (Note 1)
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 9,217	$ 13,166
Marketable equity securities	5,588	8,329
Prepaid expenses and other current assets	1,083	1,221
Total current assets	15,888	22,716
NONCURRENT ASSETS		
Intangible assets, net	14,101	15,444
Property, plant and equipment, net	4,030	4,543
Other assets	324	389
TOTAL ASSETS	$ 34,343	$ 43,092
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 1,827	$ 2,958
Capital lease liability, current	7	7
Lease liability, current	597	556
Total current liabilities	2,431	3,521
NONCURRENT LIABILITIES		
Warrant liability	872	2,757
Capital lease liability, noncurrent	11	14
Deferred rent	325	316
Lease liability, noncurrent	2,632	2,941
TOTAL LIABILITIES	6,271	9,549
Commitments and contingencies (see Note 8)		
STOCKHOLDERS' EQUITY		
Preferred Stock, $0.0001 par value, authorized 5,000 shares; none issued and outstanding	-	-
Common Stock, $0.0001 par value, authorized 75,000 shares of Series A Common Stock and 75,000 shares of Series B Common Stock; 55,509 and 54,051 shares of Series A Common Stock issued and outstanding at June 30, 2018 and December 31, 2017, respectively; no Series B Common Stock issued and outstanding at June 30, 2018 and December 31, 2017	6	5
Additional paid-in capital	155,873	152,136
Accumulated other comprehensive loss	-	(6,498)
Accumulated deficit	(127,807)	(112,100)
Total stockholders' equity	28,072	33,543
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 34,343	$ 43,092

The accompanying notes are an integral part of these unaudited condensed financial statements.

ASTERIAS BIOTHERAPEUTICS, INC.
CONDENSED STATEMENTS OF OPERATIONS
(IN THOUSANDS, EXCEPT PER SHARE DATA)
(UNAUDITED)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	**2017**	**2018**	**2017**
REVENUE				
Grant income	$ -	$ 291	$ -	$ 2,185
License revenue	-	-	366	-
Royalties from product sales	109	25	221	141
Total revenue	109	316	587	2,326
Cost of sales	(57)	(18)	(120)	(70)
Gross profit	52	298	467	2,256
EXPENSES				
Research and development	3,617	6,984	7,243	13,582
General and administrative	1,987	1,847	3,899	6,314
Total operating expenses	5,604	8,831	11,142	19,896
Loss from operations	(5,552)	(8,533)	(10,675)	(17,640)
OTHER INCOME/(EXPENSE)				
Gain/(loss) from change in fair value on warrant liability	366	(56)	1,885	2,898
Loss from change in fair value of marketable equity securities	(1,695)	-	(260)	-
Interest expense, net	(95)	(114)	(201)	(239)
Other expense, net	(6)	(25)	(43)	(34)
Total other income/(expense), net	(1,430)	(195)	1,381	2,625
NET LOSS	$ (6,982)	$ (8,728)	$ (9,294)	$ (15,015)
BASIC AND DILUTED NET LOSS PER SHARE	$ (0.13)	$ (0.18)	$ (0.17)	$ (0.31)
WEIGHTED AVERAGE SHARES OUTSTANDING: BASIC AND DILUTED	55,138	48,511	54,664	48,129

The accompanying notes are an integral part of these unaudited condensed financial statements.

ASTERIAS BIOTHERAPEUTICS, INC.
CONDENSED STATEMENTS OF COMPREHENSIVE LOSS
(IN THOUSANDS)
(UNAUDITED)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	**2017**	**2018**	**2017**
NET LOSS	$ (6,982)	$ (8,728)	$ (9,294)	$ (15,015)
Other comprehensive loss:				
Unrealized loss on marketable equity securities, net of taxes	-	(1,300)	-	(2,128)
Total other comprehensive loss	-	(1,300)	-	(2,128)
COMPREHENSIVE LOSS	$ (6,982)	$ (10,028)	$ (9,294)	$ (17,143)

The accompanying notes are an integral part of these unaudited condensed financial statements.

ASTERIAS BIOTHERAPEUTICS, INC.
CONDENSED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)
(UNAUDITED)

	Six Months Ended June 30,	
	2018	**2017**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (9,294)	$ (15,015)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	513	555
Stock-based compensation	1,341	1,988
Amortization of intangible assets	1,343	1,343
Common stock issued for services in lieu of cash	476	562
Gain from change in fair value of warrant liability	(1,885)	(2,898)
Expense related to distribution warrant extension	-	2,042
Loss from change in fair value of marketable equity securities	260	-
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	440	647
Other assets	(69)	5
Accounts payable, accrued expenses and other current liabilities	(263)	(1,201)
Deferred rent	9	29
Deferred grant income	-	(2,185)
Net cash used in operating activities	(7,129)	(14,128)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of property, plant and equipment	-	(79)
Proceeds from the sale of marketable equity securities	2,481	-
Net cash provided by (used in) investing activities	2,481	(79)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from sale of common stock under at-the-market transactions	1,167	6,696
Financing costs for at-the-market sales	(36)	(198)
Proceeds from exercise of stock options	-	20
Repayment of lease liability and capital lease obligation	(272)	(236)
Shares retired to pay for employees' taxes	(160)	-
Net cash provided by financing activities	699	6,282
NET DECREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(3,949)	(7,925)
CASH, CASH EQUIVALENTS AND RESTRICTED CASH:		
At beginning of period	13,266	19,800
At end of period	$ 9,317	$ 11,875
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Interest paid during the period	$ 239	$ 274
Fully vested common stock and restricted stock units issued in payment for accrued employee bonuses	$ 951	$ 720

The accompanying notes are an integral part of these unaudited condensed financial statements.

ASTERIAS BIOTHERAPEUTICS, INC.
NOTES TO CONDENSED FINANCIAL STATEMENTS
(UNAUDITED)

1. Organization, Basis of Presentation and Liquidity

Asterias Biotherapeutics, Inc. ("Asterias" or "the Company") is a clinical-stage biotechnology company dedicated to developing pluripotent stem cell-derived therapies to treat neurological conditions associated with demyelination and cellular immunotherapies to treat cancer. We have industry-leading technology in two cell types, each with broad potential applicability: (1) oligodendrocyte progenitor cells, which become oligodendrocytes that have the potential to remyelinate axons within the central nervous system and perform other restorative functions, and (2) antigen-presenting dendritic cells, which train T-cells in the immune system to attack and destroy solid or liquid tumor cells across multiple types of cancer. Asterias currently has three clinical-stage therapeutic programs:

- Spinal Cord Injury. AST-OPC1 is an oligodendrocyte progenitor cell population derived from pluripotent stem cells that is currently in a Phase 1/2a clinical trial for spinal cord injuries ("SCI") that has been partially funded by the California Institute for Regenerative Medicine ("CIRM").

- Non-Small Cell Lung Cancer. AST-VAC2 is a non-patient-specific ("off-the-shelf") cancer immunotherapy derived from pluripotent stem cells that is currently in a Phase 1 clinical trial in non-small cell lung cancer ("NSCLC"). The trial is being funded and sponsored by Cancer Research UK ("CRUK"), the world's largest independent cancer research charity.

- Acute Myeloid Leukemia. AST-VAC1 is a patient-specific cancer immunotherapy which has generated positive Phase 2 data in the treatment of acute myeloid leukemia ("AML"). Because AST-VAC1 and AST-VAC2 are both dendritic cells presenting the telomerase antigen, an antigen presented by 90% of all cancers, we believe that AST-VAC1 provides supportive evidence for the use of AST-VAC2 in the treatment of AML.

The accompanying unaudited condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities Exchange Commission. In accordance with those rules and regulations certain information and footnote disclosures normally included in comprehensive financial statements have been condensed or omitted pursuant to such rules and regulations. The balance sheet as of December 31, 2017 was derived from the audited financial statements at that date, but does not include all the information and footnotes required by GAAP. These financial statements should be read in conjunction with the audited financial statements and notes thereto included in Asterias' Annual Report on Form 10-K for the year ended December 31, 2017.

The accompanying interim condensed financial statements, in the opinion of management, include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of Asterias' financial condition and results of operations. The condensed results of operations are not necessarily indicative of the results to be expected for any future interim period or for the entire year.

Liquidity – Since inception, Asterias has incurred operating losses and has funded its operations primarily through the issuance of shares of Asterias common stock, sales of marketable equity securities that we hold, warrant exercise proceeds, payments from research grants, and royalties from product sales. At June 30, 2018, Asterias had an accumulated deficit of $127.8 million, working capital of $13.5 million and stockholders' equity of $28.1 million. Asterias has evaluated its projected cash flows and believes that its cash, cash equivalents, and restricted cash of $9.3 million and marketable equity securities of $5.6 million as of June 30, 2018, will be sufficient to fund Asterias' operations through at least twelve months from the issuance date of these financial statements. If the value of Asterias' marketable equity securities decreases or it is unable to obtain adequate future financing, it may be required to reduce or curtail its operations. Future financings may not be available to Asterias at acceptable terms, or at all. Sales of additional issued equity securities would result in the dilution of interests of current shareholders.

2. Summary of Significant Accounting Policies

Revenue Recognition

Beginning January 1, 2018, the Company follows the provisions of ASC Topic 606, *Revenue from Contracts with Customers*. The guidance provides a unified model to determine how revenue is recognized.

In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under the Company's agreements, the Company performs the following steps: (i) identifies the promised goods or services in the contract; (ii) determines whether the promised goods or services are performance obligations including whether they are distinct in the context of the contract; (iii) measures the transaction price, including the constraint on variable consideration; (iv) allocates the transaction price to the performance obligations based on estimated selling prices; and (v) recognizes revenue when (or as) the Company satisfies each performance obligation.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in ASC Topic 606. The Company's performance obligations generally included in customer contracts are research and development services for clinical studies or licenses to use intellectual property. Customer contracts for research and development services require significant management judgment to determine the level of effort required under an arrangement and the period over which the Company expects to complete its performance obligation. If the Company cannot reasonably estimate when its performance obligations either are completed or become inconsequential, then revenue recognition is deferred until the Company can reasonably make such estimates. Revenue is then recognized over the remaining estimated period of performance using the cumulative catch-up method. The Company considers licenses for the use of intellectual property "right of use" licenses. The Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer, and the customer can use and benefit from the license. At June 30, 2018, all the performance obligations under the Company's license agreements have been satisfied as control transferred at contract inception when the customer could benefit from the right of use license. Currently, since none of the Company's contracts contain more than one performance obligation, no allocation of the transaction price is necessary. However, if the Company enters into an arrangement containing more than one performance obligation the total transaction price will be allocated to each performance obligation based on the estimated relative standalone selling prices of the promised goods or service.

Grant income: The Company generates grant income from award contracts to support the clinical development of AST-OPC1. These contracts provide for the reimbursement of qualified expenses for research and development activities. Revenue under these arrangements is recognized when the related qualified research expenses are incurred.

Milestone payments: At the inception of each arrangement that includes 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 value of the associated milestone (such as completion of a therapeutic administration of a licensed product to a certain number of patients by the Company) is included in the transaction price. Milestone payments that are not within the control of the Company are not considered probable of being achieved until the contingent event has occurred.

License and Royalties: The Company considers licenses for the use of intellectual property "right of use" licenses. The Company recognizes revenues from non-refundable, up-front fees allocated to the license when the license is transferred to the customer, and the customer can use and benefit from the license. For arrangements that include sales-based royalties and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (a) when the related sales occur, or (b) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). The Company's arrangement that contain royalty minimums also contain termination clauses, therefore these royalties are considered variable consideration and included in the transaction price when the notice period has lapsed.

Comprehensive loss – ASC 220, *Comprehensive Income*, requires that an entity's change in equity or net assets during a period from transactions and other events from non-owner sources be reported. Total comprehensive loss has been disclosed in the Condensed Statements of Comprehensive Loss.

Investments in Equity Securities – Beginning January 1, 2018, the Company adopted the provisions of ASU Topic 2016-01, *Financial Instruments–Overall: Recognition and Measurement of Financial Assets and Financial Liabilities*. The guidance eliminated the available-for-sale classification for equity securities and requires unrealized holding gains/losses to be reported through earnings. Prior to the adoption of the new guidance, unrealized gains and losses, net of tax from the Company's financial instruments categorized as available-for-sale securities were reported in other comprehensive income/(loss) until realized. Realized gains and losses and declines in value judged to be other-than-temporary related to equity securities, were included in other income/(expense), net.

Asterias accounts for its equity investment securities in BioTime and OncoCyte at fair value in accordance with ASC 321-10 *Investments-Equity Securities*, as the shares have a readily determinable fair value as specified by ASC 820-10 *Fair Value Measurement.* The securities are quoted on the NYSE American and are held principally for future working capital purposes, as necessary. These securities are measured at fair value and reported as current assets on the balance sheet based on the closing trading price of the security as of the date being presented (see Note 4).

Basic and diluted net loss per share – The computations of basic and diluted net loss per share are as follows (in thousands, except per share data) (unaudited):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Net loss	$ (6,982)	$ (8,728)	$ (9,294)	$ (15,015)
Weighted average common shares outstanding – basic and diluted	55,138	48,511	54,664	48,129
Net loss per share – basic and diluted	$ (0.13)	$ (0.18)	$ (0.17)	$ (0.31)

The following common stock equivalents were excluded from the computation of diluted net loss per share of common stock for the periods presented as they are anti-dilutive (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Stock options and restricted stock units	7,202	7,459	7,202	7,459
Warrants	2,813	6,551	2,813	6,551

Recently Adopted Accounting Pronouncements – The following Accounting Standards became effective during 2018:

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, to provide guidance on revenue recognition. During 2015 and 2016, the FASB issued additional amendments to the revenue guidance in Topic 606 relating to reporting revenue on a gross versus net basis, identifying performance obligations, licensing arrangements, collectability, noncash consideration, presentation of sales tax, transition, and clarifying examples. ASU No. 2014-09 replaces all current GAAP guidance on this topic and eliminates all industry-specific guidance. The new revenue recognition guidance provides a unified model to determine how revenue is recognized. The core principal of the guidance is that an entity should recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In doing so, companies will need to use more judgment and make more estimates than under today's guidance. These may include identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. Topic 606, as amended, is effective for interim and annual reporting periods beginning after December 15, 2017, with early adoption permitted one year earlier.

The Company adopted the new standard effective January 1, 2018 under the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018, are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with the Company's historical accounting under Topic 605. Upon adoption there was an immaterial cumulative effect to the opening accumulated deficit balance based on the Company's analysis of the contracts in scope at the transition date.

On January 5, 2016, the FASB issued Accounting Standards Update 2016-01, *Financial Instruments–Overall: Recognition and Measurement of Financial Assets and Financial Liabilities* (ASU No. 2016-01). Changes to the current GAAP model primarily affect the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. In addition, ASU No. 2016-01 clarified guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. The accounting for other financial instruments, such as loans, investments in debt securities, and financial liabilities is largely unchanged. The more significant amendments are to equity investments in unconsolidated entities.

In accordance with ASU No. 2016-01, all equity investments in unconsolidated entities (other than those accounted for using the equity method of accounting) will generally be measured at fair value through earnings. There will no longer be an available-for-sale classification (with changes in fair value reported in other comprehensive loss) for marketable equity securities with readily determinable fair values. The classification and measurement guidance is effective for public business entities in fiscal years beginning after December 15, 2017, including interim periods within those fiscal years.

The Company adopted ASU No. 2016-01 effective January 1, 2018 and has recorded a cumulative-effect adjustment under the modified retrospective transition method of $6.5 million between accumulated other comprehensive loss and the accumulated deficit in the balance sheet. The adjustment represents the cumulative unrealized holding loss from the date that the securities were acquired through the date of adoption. Refer to Note 4 for discussion regarding Asterias' marketable equity securities.

In November 2016, the FASB issued Accounting Standards Update ASU 2016-18, *Statement of Cash Flows (Topic 230); Restricted Cash* (ASU 2016-18), which defines new requirements for the presentation of restricted cash and restricted cash equivalents in the statement of cash flows. The amendments in this ASU require retrospective application to each period presented. The Company adopted this guidance effective January 1, 2018 retrospectively. This ASU requires the entities to present statement of cash flows in a manner such that it reconciles beginning and ending totals of cash, cash equivalents, restricted cash or restricted cash equivalents. Also, when cash, cash equivalents, restricted cash or restricted cash equivalents are presented in more than one line item within the statement of financial position, an entity should, for each period that a statement of financial position is presented, present on the face of the statement of cash flows or disclose in the notes to the financial statements, the line items and amounts of cash, cash equivalents, and restricted cash or restricted cash equivalents reported within the statement of financial position. The amounts, disaggregated by the line item in which they appear within the statement of financial position, shall sum to the total amount of cash, cash equivalents, and restricted cash or restricted cash equivalents at the end of the corresponding period shown in the statement of cash flows.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation – Stock Compensation: Scope of Modification Accounting* to clarify the scope of modification accounting for share-based compensation. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The new guidance will reduce diversity in practice and result in fewer changes to the terms of an award being accounted for as modifications. The Company adopted ASU No. 2017-01 effective January 1, 2018. Upon adoption of the new standard there is no change to the Company's historical financial statements as the new guidance will be applied prospectively to awards modified on or after the adoption date.

Recently Issued Accounting Pronouncements Not Yet Adopted – The following accounting standards, which are not yet effective, are presently being evaluated by Asterias to determine the impact that they might have on its financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842),* which requires lessees to recognize assets and liabilities for leases with lease terms greater than twelve months in the statement of financial position. Leases will be classified as either financing or operating, with classification affecting the pattern of expense recognition in the statements of operations. ASU 2016-02 also requires improved disclosures to help users of financial statements better understand the amount, timing and uncertainty of cash flows arising from leases. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018, including interim reporting periods within that reporting period. Early adoption is permitted. Although Asterias has not completed its evaluation of the impact of the adoption of ASU 2016-02, Asterias currently holds a significant portion of its operating leases, related to tenant improvements on Asterias' balance sheet (see Note 8). As a result, the adoption of ASU 2016-02 could have a material impact to Asterias' financial statements.

3. Balance Sheet Components

Property, plant and equipment, net

As of June 30, 2018 and December 31, 2017, property, plant and equipment consisted of the following (in thousands):

	June 30, 2018 (Unaudited)	December 31, 2017
Furniture, fixtures and leasehold improvements	$ 5,274	$ 5,275
Computers, machinery and equipment	2,106	2,112
	7,380	7,387
Less - accumulated depreciation and amortization	(3,350)	(2,844)
Property, plant and equipment, net	$ 4,030	$ 4,543

Depreciation expense for the three and six months ended June 30, 2018 was $252,000 and $513,000, respectively. Depreciation expense for the three and six months ended June 30, 2017 was $278,000 and $555,000, respectively.

Prepaid and other current assets

Restricted cash in the amount of $100,000 is included in prepaid and other current assets on the balance sheet as of June 30, 2018 and December 31, 2017. This certificate of deposit is held as customary collateral for the Company's credit card program.

4. Investments in BioTime and OncoCyte

Investment in BioTime

The BioTime common shares held by the Company are included in marketable equity securities at fair value in current assets on the balance sheets because the shares are traded on NYSE American under the (symbol "BTX") and are available for working capital purposes. During the three and six month months ended June 30, 2018, Asterias sold 325,533 and 859,274 of its BioTime common shares at a weighted-average price of $2.34 and $2.59, respectively. As of June 30, 2018 and December 31, 2017, Asterias held 2,621,811 and 3,481,085 BioTime shares, respectively. As of June 30, 2018 and December 31, 2017, the BioTime common shares were valued at $5.4 million and $7.5 million, respectively, based on the closing price on those dates.

Investment in OncoCyte

The OncoCyte common shares are included in marketable equity securities at fair value in current assets on the balance sheets because the shares are traded on NYSE American (symbol "OCX") and are available for working capital purposes. During the three and six months ended June 30, 2018, Asterias sold 94,794 and 108,580 of its OncoCyte common shares at a weighted-average price of $2.72 and $2.82, respectively. As of June 30, 2018 and December 31, 2017, Asterias held 73,176 and 181,756 shares of OncoCyte, respectively. As of June 30, 2018 and December 31, 2017, the OncoCyte common shares were valued at $0.2 million and $0.8 million, respectively, based on the closing price on those dates.

Adoption of ASU No. 2016-01, Financial Instruments–Overall: Recognition and Measurement of Financial Assets and Financial Liabilities

On January 1, 2018, the Company adopted ASC Topic 321 using the modified retrospective method. Results for reporting periods beginning after January 1, 2018, are presented under ASC Topic 321, while prior period amounts are not adjusted and continue to be reported in accordance with the Company's historical accounting under ASC Topic 320 (see Note 2).

The adoption of the new guidance resulted in a cumulative effect adjustment to the accumulated deficit and accumulated other comprehensive loss of $6.5 million as of January 1, 2018.

The unrealized gains for the three and six months ended June 30, 2018 related to marketable equity securities held is calculated as follows (unaudited):

	Three Months Ended June 30, 2018	Six Months Ended June 30, 2018
Net losses recognized on marketable equity securities	$ (1,695)	$ (260)
Less: Net gains/(losses) recognized on marketable equity securities sold	(78)	200
Unrealized losses recognized on marketable equity securities held at June 30, 2018	$ (1,617)	$ (460)

5. **Intangible Assets**

Intangible assets net of accumulated amortization at June 30, 2018 and December 31, 2017 are shown in the following table (in thousands):

	June 30, 2018 (Unaudited)	December 31, 2017
Intangible assets	$ 26,860	$ 26,860
Less- accumulated amortization	(12,759)	(11,416)
Intangible assets, net	$ 14,101	$ 15,444

Asterias recognized $0.6 million and $1.3 million in amortization expense of intangible assets during the three and six months ended June 30, 2018 and 2017, respectively.

6. **Common Stock and Warrants**

As of June 30, 2018 and December 31, 2017, Asterias had outstanding 55,509,397 and 54,051,142 shares of Series A common stock and no shares of Series B common stock, respectively.

Common Stock Issuance

On March 28, 2017, Asterias entered into an amendment to its at-the-market (ATM) Sales Agreement, dated April 10, 2015, with MLV & Co. ("MLV"). The amendment to the Sales Agreement was entered into by Asterias, MLV and FBR Capital Markets & Co. ("FBR" and together with MLV, the "Agents"), which acquired MLV. In June 2017, FBR was acquired by B. Riley, and together operates as B. Riley FBR, Inc. Under the Sales Agreement, as amended, Asterias may issue and sell shares of its Series A common stock having an aggregate offering price of up to $25 million from time to time on or after March 28, 2017, through the Agents, subject to certain limitations, including the number of shares registered and available under the Company's previously filed and currently effective shelf registration statement on Form S-3 (File No. 333-215154) (the "Registration Statement"). For the six months ended June 30, 2018, Asterias sold 713,430 shares of Series A common stock for gross proceeds of approximately $1.2 million under this ATM agreement with approximately $21.5 million of Asterias common stock available for issuance and sale pursuant to the terms of the ATM Sales Agreement. For the six months ended June 30, 2017, Asterias sold 1.6 million shares of Series A common stock for gross proceeds of approximately $6.7 million.

For the six months ended June 30, 2018 and 2017, pursuant to a services agreement with Cell Therapy Catapult Services Limited, Asterias issued 255,440 and 134,766 shares of Asterias Series A common stock with a fair value of $476,000 and $562,000 respectively (see Note 11).

For the six months ended June 30, 2018, Asterias issued 487,529 shares of Series A common stock with a fair value of $951,000 in payment of accrued employee bonuses. For the six months ended June 30, 2017, Asterias issued 201,112 shares of Series A common stock with a fair value of $720,000 in payment of accrued employee bonuses.

Warrants classified as a liability

On May 13, 2016, as part of the Asterias Series A Common Stock Offering, Asterias issued 2,959,559 warrants (the "Asterias Offering Warrants"). The Asterias Offering Warrants have an exercise price of $4.37 per share and expire in five years of the issuance date, or May 13, 2021. The Asterias Offering Warrants also contain certain provisions in the event of a Fundamental Transaction, as defined in the warrant agreement governing the Asterias Offering Warrants ("Warrant Agreement"), that Asterias or any successor entity will be required to purchase, at a holder's option, exercisable at any time concurrently with or within thirty days after the consummation of the fundamental transaction, the Asterias Offering Warrants for cash. This cash settlement will be in an amount equal to the value of the unexercised portion of such holder's warrants, determined in accordance with the Black-Scholes option pricing model as specified in the Warrant Agreement.

In accordance with ASC 815-40, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock*, contracts that require or may require the issuer to settle the contract for cash are liabilities recorded at fair value, irrespective of the likelihood of the transaction occurring that triggers the net cash settlement feature. Changes to the fair value of those liabilities are recorded in the Condensed Statements of Operations. Accordingly, since Asterias may be required to net cash settle the Asterias Offering Warrants in the event of a Fundamental Transaction; the Asterias Offering Warrants are classified as noncurrent liabilities at fair value, with changes in fair value recorded in other income or expense, net, in the Condensed Statements of Operations.

The fair value of the Asterias Offering Warrants at the time of issuance was determined by using a combination of the Binomial Lattice and Black-Scholes option pricing models under various probability-weighted outcomes which take into consideration the probability of the fundamental transaction and net cash settlement occurring, using the contractual term of the warrants. In applying these models, the fair value is determined by applying Level 3 inputs, as defined by ASC 820; these inputs have included assumptions related to the estimated future stock price of Asterias common stock, volatility and the timing of, and varying probabilities that certain events will occur. The Asterias Offering Warrants are revalued each reporting period using the same methodology described above. Changes in any of the key assumptions used to value the Asterias Offering Warrants could materially impact the fair value of the warrants and Asterias' financial statements.

At June 30, 2018, based on a valuation performed on the Asterias Offering Warrants using the methodology described above, the fair value of the Asterias Offering Warrants liability was $0.9 million, resulting in Asterias recording an unrealized gain of $1.9 million for the six months ended June 30, 2018, included in other income and expenses, net, in the Condensed Statements of Operations.

Warrants classified as equity

On March 30, 2016, Asterias' board of directors declared a distribution of Asterias common stock purchase warrants to all Asterias shareholders other than BioTime, in the ratio of one warrant for every five shares of Asterias common stock owned of record as of the close of business on April 11, 2016. On April 25, 2016, Asterias distributed 3,331,229 warrants (the "Distribution Warrants"). The distribution of the Distribution Warrants was treated as a disproportionate distribution since no warrants were distributed to BioTime. The Distribution Warrants were classified as equity, have an exercise price of $5.00 per share, and were set to expire on September 30, 2016. Asterias recorded the Distribution Warrants at a fair value of $3.1 million with a non-cash charge to shareholder expense included in general and administrative expenses and a corresponding increase to equity as of March 30, 2016 as the Distribution Warrants were deemed to be issued for accounting purposes on that date.

On September 19, 2016, Asterias extended the expiration date of the Distribution Warrants to February 15, 2017, no other terms were changed. As a result of the extension of the expiration date of these warrants, Asterias recorded a $2.0 million non-cash charge to shareholder expense included in general and administrative expenses and a corresponding increase to equity for the year ended December 31, 2016. On February 3, 2017, Asterias extended the expiration date of the Distribution Warrants to September 29, 2017. As a result of this extension, Asterias recorded a $1.7 million non-cash charge to shareholder expense included in general and administrative expenses and a corresponding increase to equity for the quarter ended March 31, 2017. These warrants expired unexercised on September 29, 2017.

In connection with the warrant distribution to shareholders discussed above, 350,000 warrants with an exercise price of $5.00 per share held by Romulus Films, Ltd. were adjusted to become exercisable into 409,152 shares at an exercise price of $4.28 per share (the "Romulus Warrants"). These warrants had an original expiration date of September 30, 2016. On September 19, 2016, Asterias extended the expiration date of the Romulus Warrants to February 15, 2017, no other terms were changed. As a result of the extension of the expiration date of these warrants, Asterias recorded a $0.2 million non-cash charge to shareholder expense included in general and administrative expenses and a corresponding increase to equity for the year ended December 31, 2016. On February 3, 2017, Asterias extended the expiration date of the Romulus Warrants to September 29, 2017. As a result of this extension of the expiration date of these warrants, Asterias recorded a $0.3 million non-cash charge to shareholder expense included in general and administrative expenses and a corresponding increase to equity for the quarter ended March 31, 2017. These warrants expired on September 29, 2017.

7. Stock-Based Compensation

The following table shows the stock-based compensation expenses included in the operating expenses for the three and six months ended June 30, 2018 and 2017 (in thousands) (unaudited):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Research and development	$ 384	$ 502	$ 1,258	$ 1,080
General and administrative	367	489	1,034	908
Total stock-based compensation expense	$ 751	$ 991	$ 2,292	$ 1,988

The fair value of each option award is estimated on the date of grant using a Black-Scholes option pricing model applying the weighted-average assumptions in the following table (unaudited):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Expected life (in years)	5.45	6.06	5.96	5.74
Risk-free interest rates	2.75%	1.85%	2.68%	1.88%
Volatility	70.78%	74.13%	71.23%	74.80%
Dividend yield	0	0	0	0

The risk-free interest rate is based on the interest rates in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to each grant's expected term. A dividend yield of zero is applied since Asterias has not historically paid dividends and does not expect to pay dividends in the foreseeable future. The expected volatility is based upon the volatility of Asterias' own trading stock and a group of publicly traded industry peer companies. The expected term of options granted is derived from using the simplified method under SEC *Staff Accounting Bulletin* Topic 14.

The determination of stock-based compensation is inherently uncertain and subjective and involves the application of valuation models and assumptions requiring the use of judgment. If Asterias had made different assumptions, its stock-based compensation expense and net loss for the three and six months ended June 30, 2018 and 2017 may have been significantly different.

8. **Commitments and Contingencies**

Development and Manufacturing Services Agreement

On August 3, 2016, Asterias entered into a Development and Manufacturing Services Agreement (the "Services Agreement") with Cognate BioServices, Inc. ("Cognate"), a fully-integrated contract bioservices organization providing development and current Good Manufacturing Practice ("cGMP") manufacturing services to companies and institutions engaged in the development of cell-based products.

Under the Services Agreement, Cognate is performing under an Initial Statement of Work process development studies in support of Asterias' clinical and commercial development activities of AST-VAC1 and production and manufacturing services of AST-VAC1 under cGMP under the Second Statement of Work. In consideration for the process development services set forth in the Initial Statement of Work, Asterias agreed to make aggregate payments of up to approximately $1.7 million in fees over the term of the Initial Statement of Work and pay for additional pass through costs for materials and equipment estimated by management to be approximately $0.5 million. In consideration of the production and manufacturing services set forth in the Second Statement of Work, once the services under the Initial Statement of Work are completed and if Asterias receives FDA concurrence on the clinical protocol for an AST-VAC1 trial, then Asterias will make an initial start-up payment, a monthly payment for dedicated manufacturing capacity, and certain other manufacturing fees.

On August 16, 2017, the Company amended SOW 1 ("Amended SOW 1") and entered into a Statement of Work 1.5 ("SOW 1.5") with Cognate to modify the timing of certain process development studies being performed by Cognate under the Services Agreement. Under Amended SOW 1 and SOW 1.5, Cognate will perform certain process development studies initially contemplated by SOW 1 under SOW 1.5 after Cognate has completed the activities under Amended SOW 1 and the Company provides written notice to commence the activities under SOW 1.5.

The Services Agreement will expire on the later of (a) August 3, 2019; or (b) the completion of all services contracted for by the parties in the Statements of Work under the Services Agreement prior to August 3, 2019. The term of the Services Agreement and any then pending Statements of Work thereunder may be extended by Asterias continuously for additional two-year periods upon written notice to Cognate with at least thirty days prior to the expiration of the then-current term.

The Services Agreement provides certain termination rights to each party and customary provisions relating to indemnity, confidentiality and other matters. Asterias incurred $17,000 and $424,000 of expense to Cognate pursuant to the Services Agreement for the six months ended June 30, 2018 and 2017, respectively. As of January 31, 2018, Cognate has completed the activities under SOW 1 but the Company has not provided notice to commence activities under SOW 1.5.

Fremont Lease

On December 30, 2013, Asterias entered into a lease for an office and research facility located in Fremont, California, consisting of an existing building with approximately 44,000 square feet of space. The building is being used by Asterias as a combined office, laboratory and production facility that can be used to manufacture its product using current good manufacturing practices. Asterias completed the tenant improvements in November 2015, which cost approximately $4.9 million, of which the maximum of $4.4 million was paid to Asterias by the landlord. Asterias placed the asset into service in November 2015 and is amortizing the leasehold improvements and the landlord liability over the remaining lease term through September 30, 2022.

As of June 30, 2018 and December 31, 2017, the landlord lease liability was $3.2 million and $3.5 million and the deferred rent liability was $325,000 and $316,000, respectively.

Litigation – General

Asterias is subject to various claims and contingencies in the ordinary course of its business, including those related to litigation, business transactions, employee-related matters, and others. When Asterias is aware of a claim or potential claim, it assesses the likelihood of any loss or exposure. If it is probable that a loss will result and the amount of the loss can be reasonably estimated, Asterias will record a liability for the loss. If the loss is not probable or the amount of the loss cannot be reasonably estimated, Asterias discloses the claim if the likelihood of a potential loss is reasonably possible and the amount involved could be material. Asterias is not aware of any claims likely to have a material adverse effect on its financial condition or results of operations.

Employment Contracts

Asterias has entered into employment contracts with certain executive officers. Under the provisions of the contracts, Asterias may be required to incur severance obligations for matters relating to changes in control, as defined and involuntary terminations.

Indemnification

In the normal course of business, Asterias may provide indemnifications of varying scope under Asterias' agreements with other companies or consultants, typically Asterias' clinical research organizations, investigators, clinical sites, suppliers and others. Pursuant to these agreements, Asterias will generally agree to indemnify, hold harmless, and reimburse the indemnified parties for losses and expenses suffered or incurred by the indemnified parties arising from claims of third parties in connection with the use or testing of Asterias' products and services. Indemnification provisions could also cover third party infringement claims with respect to patent rights, copyrights, or other intellectual property pertaining to Asterias products and services. The term of these indemnification agreements will generally continue in effect after the termination or expiration of the particular research, development, services, or license agreement to which they relate. The potential future payments Asterias could be required to make under these indemnification agreements will generally not be subject to any specified maximum amount. Historically, Asterias has not been subject to any claims or demands for indemnification. Asterias also maintains various liability insurance policies that limit Asterias' exposure. As a result, Asterias believes the fair value of these indemnification agreements is minimal. Accordingly, Asterias has not recorded any liabilities for these agreements as of June 30, 2018 and December 31, 2017.

9. Shared Facilities and Services Agreement

On April 1, 2013, Asterias and BioTime executed a Shared Facilities and Services Agreement ("Shared Services Agreement"). Under the terms of the Shared Services Agreement, Asterias has the right to use BioTime's premises and equipment located at Alameda, California, for the sole purpose of conducting Asterias' business. BioTime charges Asterias a fee for the services and usage of facilities, equipment, and supplies provided under the shared services agreement. For each billing period, BioTime equitably prorates and allocates its employee costs, equipment costs, insurance costs, lease costs, professional costs, software costs, supply costs, and utilities costs, if any, between BioTime and Asterias based upon actual documented use and cost by or for Asterias or upon proportionate usage by BioTime and Asterias, as reasonably estimated by BioTime. Asterias pays 105% of the allocated costs (the "Use Fee"). The allocated cost of BioTime employees and contractors who provide services is based upon records maintained of the number of hours of such personnel devoted to the performance of services.

The Use Fee is determined and invoiced to Asterias on a quarterly basis for each calendar quarter of each calendar year. If the Shared Services Agreement terminates prior to the last day of a billing period, the Use Fee will be determined for the number of days in the billing period elapsed prior to the termination of the Shared Services Agreement. Each invoice is payable in full by Asterias within 30 days after receipt. Any invoice or portion thereof not paid in full when due will bear interest at the rate of 15% per annum until paid, unless the failure to make a payment is due to any inaction or delay in making a payment by BioTime employees from Asterias funds available for such purpose, rather than from the unavailability of sufficient funds legally available for payment or from an act, omission, or delay by any employee or agent of Asterias.

Asterias in turn may charge BioTime or any Other Subsidiary for similar services provided by Asterias at the same rate and terms as aforementioned. "Other Subsidiary" means a subsidiary of BioTime other than a subsidiary of Asterias.

The Shared Services Agreement was renewed through December 31, 2018. The term of the Shared Services Agreement will automatically be renewed and the termination date will be extended for an additional year each year, unless either party gives the other party written notice stating that the Shared Services Agreement will terminate on December 31 of that year.

BioTime allocated $10,000 and $74,000 of general overhead expenses to Asterias during the six months ended June 30, 2018, and 2017, respectively. At June 30, 2018, Asterias had no net payable to BioTime under the Shared Services Agreement.

10. Income Taxes

The provision for income taxes is determined using an estimated annual effective tax rate. The effective tax rate may be subject to fluctuations during the year as new information is obtained, which may affect the assumptions used to estimate the annual effective tax rate, including factors such as valuation allowances against deferred tax assets, the recognition or de-recognition of tax benefits related to uncertain tax positions, if any, and changes in or the interpretation of tax laws in jurisdictions where Asterias conducts business.

Management believes that the Asterias net operating losses generated during the six months ended June 30, 2018 will result in no income tax benefit or provision in the current year due to the full valuation allowance on its net deferred tax assets for the year ended December 31, 2017 and a full valuation allowance expected on its net deferred tax assets for the year ending December 31, 2018.

For state income tax purposes, Asterias has a full valuation allowance on its state deferred tax assets as of June 30, 2018 and December 31, 2017. Accordingly, no state tax provision or benefit was recorded for any period presented.

On December 22, 2017 the Tax Cuts and Jobs Act (the "Act") was signed into law. Among other provisions, the Act reduces the federal statutory corporate income tax rate to 21%. This rate reduction has a significant impact on Asterias' net deferred tax assets as of December 31, 2017, resulting in a one-time revaluation of its deferred tax assets and liabilities to reflect the new lower rate. However, because Asterias maintains a full valuation allowance against its deferred taxes, the impact of the change is fully offset by the valuation allowance.

11. License and Royalty Obligations

Services Agreement with Cell Therapy Catapult Services Limited

In October 2015, Asterias entered into a Services Agreement (the "Services Agreement") with Cell Therapy Catapult Services Limited ("Catapult"), a research organization specializing in the development of technologies which speed the growth of the cell and gene therapy industry. Under the Services Agreement, Catapult will license to Asterias, certain background intellectual property and will develop a scalable manufacturing and differentiation process for Asterias' human embryonic stem cell derived dendritic cell cancer vaccine development program. In consideration for the license and Catapult's performance of services, at the time of the Services Agreement Asterias agreed to make aggregate payments of up to GBP £4,350,000 over the period from October 2015 through January 2020 (approximately $5.7 million based on the foreign currency exchange rate on June 30, 2018). At the option of Asterias, up to GBP £3,600,000 (approximately $4.7 million based on the foreign currency exchange rate on June 30, 2018) of such payments historically may have been settled in shares of Asterias Series A common stock instead of cash. Commencing January 1, 2018, all payments due will be made in shares of Asterias Series A common stock. If Catapult is unable to sell the stock in the market within 60 days of issuance, after reasonable and diligent efforts through its broker, Catapult may request that the unsold portion of the stock payment, if any, be paid by Asterias in cash at a value equal to approximately 91% of the total amount that was issued in stock. This right by Catapult to have unsold shares redeemed by to Asterias for cash expires upon the earlier to occur of the sale of the stock in the market or after 60 days of issuance.

Advance payments for research and development services to be performed by Catapult are deferred and recognized as research and development expense ratably as the services are performed. Advance payments related to licenses are expensed when paid due to the experimental nature of the project. Pursuant to the Services Agreement, if there are any issued, but unsold Asterias stock, to Catapult for payment of services and the 60-day put right has not expired as of the period end being reported on, Asterias will present that amount as "temporary" equity in accordance with ASC 480-10-S99. Once the put right expires or the shares are sold by Catapult, the temporary equity amount will be reclassified by Asterias to permanent equity without adjustment to the carrying value of the stock.

During the six months ended June 30, 2018 and 2017 Asterias paid $476,000 and $739,000, respectively, for services pursuant to the Services Agreement. Asterias paid $193,000 in cash for these services for the six months ended June 30, 2017 and the remainder was paid with Asterias Series A common stock. Asterias issued Series A common stock to pay for services for the six months ended June 30, 2018. For the six months ended June 30, 2018 and 2017 Asterias issued 255,440 and 134,766 shares of Asterias Series A common stock, respectively, with fair values of $476,000 and $562,000, respectively, at the time of issuance which Asterias subsequently reclassified into permanent equity.

12. Clinical Trial and Option Agreement with CRUK and CIRM Grant Award

During September 2014, Asterias entered into a Clinical Trial and Option Agreement (the "CRUK Agreement") with Cancer Research UK ("CRUK") and Cancer Research Technology Limited, a wholly-owned subsidiary of CRUK, pursuant to which CRUK has agreed to fund Phase 1 clinical development of Asterias' human embryonic stem cell derived AST-VAC2 allogeneic (non-patient specific) dendritic cancer vaccine product candidate. Asterias, at its own cost, completed process development and manufacturing scale-up of the AST-VAC2 manufacturing process and transferred the resulting cGMP-compatible process to CRUK. CRUK will, at its own cost, manufacture clinical grade AST-VAC2 and will carry out the Phase 1 clinical trial of AST-VAC2 in cancer patients both resected early-stage and advanced forms of lung cancer. Asterias will have an exclusive first option to obtain a license to use the data from the clinical trial. If Asterias exercises that option, then Asterias will be obligated to make payments upon the execution of the License Agreement, upon the achievement of various milestones, and royalties on sales of products. In connection with the CRUK Agreement, Asterias sublicensed to CRUK for use in the clinical trials and product manufacturing process certain patents that have been licensed or sublicensed to it by third parties. Asterias would also be obligated to make payments to those licensors and sublicensors upon the achievement of various milestones, and then royalties on sales of products if AST-VAC2 is successfully developed and commercialized.

On October 16, 2014 Asterias signed a Notice of Grant Award ("NGA") with CIRM, effective October 1, 2014, with respect to a $14.3 million grant award for clinical development of Asterias' product, AST-OPC1. The NGA was subsequently amended effective November 26, 2014 and March 2, 2016. The NGA includes the terms under which CIRM will release grant funds to Asterias. Under the NGA as amended on March 2, 2016, CIRM disbursed the grant funds to Asterias based on Asterias' attainment of certain progress milestones.

Asterias received an initial payment from CIRM in the amount of $917,000 during October 2014 and had received $12.8 million through December 31, 2016. In September 2017, Asterias received the final $1.5 million payment under the CIRM grant which was due upon achievement of certain progress milestones. Asterias had no deferred grant income relating to the CIRM grant as of June 30, 2018 and December 31, 2017. Asterias recognized no grant income for the three and six months ended June 30, 2018 and $0.3 million and $2.2 million in grant income for the three and six months ended June 30, 2017, respectively.

13. **Subsequent Events**

Pursuant to the approval of the Company's shareholders at the 2018 Annual Meeting of Shareholders, on July 16, 2018, the Company filed an Amendment to its Certificate of Incorporation to increase the number of shares of authorized Series A Common Stock, $0.0001 par value per share from 75,000,000 shares to 125,000,000 shares.

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

The matters addressed in this Item 2 that are not historical information constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, including statements about any of the following: any projections of earnings, revenue, gross profit, cash, effective tax rate, use of net operating losses, or any other financial items; the plans, strategies and objectives of management for future operations or prospects for achieving such plans, and any statements of assumptions underlying any of the foregoing. Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects," "seeks," "estimates," and similar expressions are intended to identify forward-looking statements. While Asterias may elect to update forward-looking statements in the future, it specifically disclaims any obligation to do so, even if the Asterias' estimates change and readers should not rely on those forward-looking statements as representing Asterias' views as of any date subsequent to the date of the filing of this Quarterly Report. Although we believe that the expectations reflected in these forward-looking statements are reasonable, such statements are inherently subject to risks and Asterias can give no assurances that its expectations will prove to be correct. Actual results could differ materially from those described in this report because of numerous factors, many of which are beyond the control of Asterias. A number of important factors could cause the results of the company to differ materially from those indicated by such forward-looking statements, including those detailed under the heading "Risk Factors" in Part I, Item 1A of Asterias' Form 10-K for the year ended December 31, 2017.

The following discussion should be read in conjunction with Asterias' interim condensed financial statements and the related notes provided under "Item 1- Financial Statements" above.

Company Overview

Asterias Biotherapeutics, Inc. ("Asterias") is a clinical-stage biotechnology company dedicated to developing pluripotent stem cell-derived therapies to treat neurological conditions associated with demyelination and cellular immunotherapies to treat cancer. We have industry-leading technology in two cell types, each with broad potential applicability: (1) oligodendrocyte progenitor cells, which become oligodendrocytes that have the potential to remyelinate axons within the central nervous system and perform other restorative functions, and (2) antigen-presenting dendritic cells, which train T-cells in the immune system to attack and destroy solid or liquid tumor cells across multiple types of cancer. Asterias currently has three clinical-stage therapeutic programs:

- Spinal Cord Injury. AST-OPC1 is an oligodendrocyte progenitor cell population derived from pluripotent stem cells that is currently in a Phase 1/2a clinical trial for spinal cord injuries ("SCI") that has been partially funded by the California Institute for Regenerative Medicine ("CIRM").

- Non-Small Cell Lung Cancer. AST-VAC2 is a non-patient-specific ("off-the-shelf") cancer immunotherapy derived from pluripotent stem cells that is currently in a Phase 1 clinical trial in non-small cell lung cancer. The trial is being funded and sponsored by Cancer Research UK ("CRUK"), the world's largest independent cancer research charity.

- Acute Myeloid Leukemia. AST-VAC1 is a patient-specific cancer immunotherapy which has generated positive Phase 2 data in the treatment of acute myeloid leukemia ("AML"). Because AST-VAC1 and AST-VAC2 are both dendritic cells presenting the telomerase antigen, an antigen presented by 90% of all cancers, we believe that AST-VAC1 provides supportive evidence for the use of AST-VAC2 in the treatment of AML.

Like chimeric antigen receptor, or CAR-T, therapies, AST-VAC1 is an "autologous" therapy meaning that it is sourced from a patient's own cells through a standard process known as leukapheresis. For AST-OPC1 and AST-VAC2, we use human embryonic stem ("hES") cell lines, which were originally isolated in the 1990s and which have almost unlimited capacity to expand and differentiate into the various cell types of the body. For AST-OPC1, hES cells are induced to become an oligodendrocyte progenitor cell population that supplements the body's natural axon remyelination function, which can be damaged or otherwise insufficient as a result of certain neurological events or conditions including spinal cord injury. For AST-VAC2, the hES cells are differentiated to mature dendritic cells that educate the immune system to target telomerase, a protein produced by most tumor cells.

Asterias believes that its experience, expertise, and intellectual property surrounding oligodendrocyte progenitor cells and dendritic cells provide the Company with two distinct technology platforms in neurology and cancer immunotherapy. The Company's neurology platform has the potential for application in additional indications, such as advanced multiple sclerosis and white matter stroke, and its immunotherapy platform potentially could be employed in any immunogenic cancer and could be designed to target antigens other than or in addition to telomerase.

Recent Developments

In June 2018, we announced enrollment and dosing of the first patient in the Phase 1 clinical trial of AST-VAC2 in NSCLC. This initial clinical trial will examine the safety and tolerability of AST-VAC2 in NSCLC as the study's primary endpoints. Secondary and tertiary endpoints of the study include evaluations of the immunogenicity of AST-VAC2 in NSCLC. In July 2018, we announced that the Safety Review Committee for the trial held a scheduled meeting to review the safety and tolerability data generated in the first patient enrolled in the study and recommended continuation of the study and moving to parallel enrollment of the second and third patients in the advanced cancer cohort, as planned per the study's protocol.

In late July 2018, we provided a clinical trial update on the AST-OPC1 SCiStar study that highlighted, among other things, the following:

Positive Safety Profile - We have dosed 25 subjects with AST-OPC1 in the SCiStar study and a total of 30 subjects including the five subjects from a previous Phase 1 safety trial in thoracic spinal cord injury who have been followed for as long as seven years. The results-to-date continue to support the safety of AST-OPC1.

Cell Engraftment - 92% (11/12) of Cohort 3 and 4 subjects have magnetic resonance imaging (MRI) scans at twelve months consistent with the formation of a tissue matrix at the injury site, which is encouraging evidence that AST-OPC1 cells have engrafted at the injury site and helped to prevent cavitation. The 12-month MRI results-to-date for 94% (17/18) of the Cohort 2-4 subjects provide supportive evidence that AST-OPC1 cells have durably engrafted at the injury site and helped to prevent cavitation. In addition, 100% (4/4) of Cohort 5 subjects had MRI scans at six months consistent with the formation of a tissue matrix at the injury site. Cavitation is a destructive process that occurs within the spinal cord following spinal cord injuries, and typically results in permanent loss of motor and sensory function. Additionally, a patient with cavitation can develop a condition known as syringomyelia, which results in additional neurological and functional damage to the patient and can result in chronic pain.

Improved Motor Function - At twelve months, 94% (17/18) of Cohort 2-4 subjects recovered at least one motor level on at least one side and 33% (6/18) of these subjects recovered two or more motor levels on at least one side. The Company expects to report the 12-month top-line readout for the entire study early in the first quarter of 2019.

Critical Accounting Policies

This Management's Discussion and Analysis of Financial Condition and Results of Operations discusses and analyzes data in our unaudited Condensed Financial Statements, which we have prepared in accordance with U.S. generally accepted accounting principles. Preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. Management bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Senior management has discussed the development, selection and disclosure of these estimates with the Audit Committee of our Board of Directors. Actual conditions may differ from our assumptions and actual results may differ from our estimates.

An accounting policy is deemed critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, if different estimates reasonably could have been used, or if changes in the estimate that are reasonably likely to occur could materially impact the financial statements. Please see Note 2 of Part I, Item 1 of this Quarterly Report on Form 10-Q for a summary of changes in significant accounting policies. In addition, our critical accounting policies and estimates are disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017. During the three and six months ended June 30, 2018, there have been no other significant changes in our critical accounting policies and estimates.

Results of Operations

Comparison of three and six months ended June 30, 2018 and 2017.

For the three months ended June 30, 2018 and 2017, we recorded net losses of $7.0 million and $8.7 million, respectively. For the six months ended June 30, 2018 and 2017, we recorded net losses of $9.3 million and $15.0 million, respectively.

Revenues

The following table shows certain information about our revenues for the three and six months ended June 30, 2018 and 2017 (in thousands, except for percentages):

	Three Months Ended June 30,		$ Increase/ Decrease	% Increase/ Decrease
	2018	2017		
Grant income	$ -	$ 291	$ -291	-100%
License revenue	-	-	-	-%
Royalties from product sales	109	25	+84	+336%
Total revenues	109	316	-207	-66%
Cost of sales	(57)	(18)	+39	+217%
Gross profit	$ 52	$ 298	$ -246	-83%

	Six Months Ended June 30,		$ Increase/ Decrease	% Increase/ Decrease
	2018	2017		
Grant income	$ -	$ 2,185	$ -2,185	-100%
License revenue	366	-	+366	+100%
Royalties from product sales	221	141	+80	+57%
Total revenues	587	2,326	-1,739	-75%
Cost of sales	(120)	(70)	+50	+71%
Gross profit	$ 467	$ 2,256	$ -1,789	-79%

Grant income in 2017 was entirely from CIRM, which awarded us a $14.3 million grant for clinical development of AST-OPC1. For the three and six months ended June 30, 2018 we had no similar grant or grant income. For the three and six months ended June 30, 2017, we recognized $291,000 and $2.2 million of this grant income, respectively. Since the clinical trial for AST-VAC2 is being paid for and carried out by CRUK, we do not recognize grant income related to this trial.

License revenue for the six months ended June 30, 2018 results from licensing of certain intellectual property and a material transfer agreement for certain hESC-derived differentiated cells that are unrelated to our core programs.

Royalty revenues from product sales are substantially from non-exclusive license agreements with StemCell Technologies, Inc., Corning Life Sciences, Life Technologies, GE Healthcare and EMD Millipore, each of which we assumed as part of the consideration received from Geron under the 2013 Asset Contribution Agreement. Additional royalty revenues come from a non-exclusive license agreement with Ajinomoto, Inc.

Operating Expenses

The following table shows our operating expenses for the three and six months ended June 30, 2018 and 2017 (in thousands, except for percentages):

	Three Months Ended June 30,		$ Increase/ Decrease	% Increase/ Decrease
	2018	2017		
Research and development expenses	$ 3,617	$ 6,984	$ -3,367	-48%
General and administrative expenses	1,987	1,847	+140	+8%

	Six Months Ended June 30,		$ Increase/ Decrease	% Increase/ Decrease
	2018	2017		
Research and development expenses	$ 7,243	$ 13,582	$ -6,339	-47%
General and administrative expenses	3,899	6,314	-2,415	-38%

Research and development expenses – Research and development expenses decreased $3.4 million to $3.6 million for the three months ended June 30, 2018 compared to $7.0 million for the three months ending June 30, 2017. This decrease was largely associated with a reduction in staffing and related costs of $1.7 million, clinical trial expenses of $0.6 million, outside research and quality control testing of $0.8 million and contract manufacturing and process development costs of $0.3 million. In December 2017, Asterias completed a significant reduction in staffing and curtailed certain operations, which resulted in a reduction of the Company's operating expenses and cash utilization.

Research and development expenses decreased $6.3 million to $7.2 million for the six months ended June 30, 2018 compared to $13.6 million for the six months ending June 30, 2017. This decrease was largely associated with a reduction in staffing and related costs of $3.2 million, clinical trial expenses of $1.1 million, outside research and quality control testing of $1.3 million and contract manufacturing and process development costs of $0.7 million. In December 2017, Asterias completed a significant reduction in staffing and curtailed certain operations, which resulted in a reduction of the Company's operating expenses and cash utilization.

General and administrative expenses – General and administrative expenses remained relatively flat for the three months ended June 30, 2018 compared to the same period in 2017.

General and administrative expenses decreased by approximately $2.4 million to $3.9 million for the six months ended June 30, 2018 compared to $6.3 million for the same period in 2017. The decrease in general and administrative expense is primarily attributable to a decrease of $2.0 million in shareholder warrant distribution expense related to revaluing warrants outstanding and $0.3 million in reduced staffing related expenses resulting from the December 2017 reduction in staffing.

Other income/(expense), net

Other income/(expense), net – Other expense, net, in 2018 and 2017 consists primarily of the change in fair value of the warrants classified as liabilities and the changes in fair value of our investments in marketable equity securities.

Income Taxes

Management believes that our net operating losses incurred during the three and six months ended June 30, 2018 will result in no income tax benefits in the current year due to the full valuation allowance as of December 31, 2017 and a full valuation allowance expected on our net deferred tax assets for the year ending December 31, 2018.

Liquidity and Capital Resources

At June 30, 2018, we had $9.3 million of cash, cash equivalents and restricted cash and held 2,621,811 shares of BioTime common stock and 73,176 shares of OncoCyte common stock, with a market value of $5.4 million and $0.2 million, respectively. We may raise capital from time to time through the sale of shares of our Series A common stock or other derivatives, and our BioTime or OncoCyte common shares. We may sell shares of our Series A common stock or other securities in public offerings registered under the Securities Act of 1933, as amended (the "Securities Act"), including in at-the-market transactions, or in private placements to select investors. We may sell our BioTime common shares, from time to time, by any method that is deemed to be an "at-the-market" equity offering as defined in Rule 415 promulgated under the Securities Act, including sales made directly on or through the NYSE American or any other existing trading market for the common shares in the U.S. or to or through a market maker, at prices related to the prevailing market price, or through block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction, or through one more of the foregoing transactions. We may also sell some or all of our BioTime common shares and OncoCyte common shares by any other method permitted by law, including in privately negotiated transactions. We will bear all broker-dealer commissions payable in connection with the sale of shares of our Series A common stock, our BioTime common shares, OncoCyte common shares or other securities. Broker-dealers may receive commissions or discounts from us (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The prices at which we may issue and sell shares of our Series A common stock, our BioTime common shares, our OncoCyte common shares or other securities in the future are not presently determinable and will depend upon many factors, including prevailing prices for those securities in the public market.

On March 28, 2017, we entered into an amendment to our at-the-market (ATM) Sales Agreement, dated April 10, 2015, with MLV. The amendment to the Sales Agreement was entered into by us, MLV and FBR Capital Markets & Co. ("FBR" and together with MLV, the "Agents"), which acquired MLV. Under the Sales Agreement, as amended, we may issue and sell shares of its Series A common stock having an aggregate offering price of up to $25 million from time to time on or after March 28, 2017, through the Agents, subject to certain limitations, including the number of shares registered and available under our previously filed and currently effective shelf registration statement on Form S-3 (File No. 333-215154) (the "Registration Statement"). For the six months ended June 30, 2018, we sold 713,430 shares of Series A common stock for gross proceeds of approximately $1.2 million under this ATM agreement with approximately $21.5 million of Asterias common stock available for issuance and sale pursuant to the terms of the ATM Sales Agreement. For the six months ended June 30, 2017, we sold 1.6 million shares of Series A common stock for gross proceeds of approximately $6.7 million.

We plan to use the proceeds and other cash we have available for general corporate purposes, including to fund our ongoing clinical programs, to develop certain of our product candidates and technology, to acquire new stem cell products and technology through licenses or similar agreements from other companies, and to defray overhead expenses and to pay general and administrative expenses.

Since inception, we have incurred net losses and have funded our operations primarily through the sales of our marketable equity securities, issuance of common stock, warrants, license fees, payments from research grants, and royalties from product sales. At June 30, 2018 we had an accumulated deficit of $127.8 million, working capital of $13.5 million and stockholders' equity of $28.1 million. We have evaluated our projected cash flows and believe that our cash, cash equivalents, and restricted cash of $9.3 million as of June 30, 2018 and our marketable equity securities of $5.6 million as of June 30, 2018, will be sufficient to fund our operations through at least the next twelve months from the issuance date of these financial statements. Additionally, in December 2017 we expanded our operating expense reduction efforts in order to further reduce our cash usage. If the value of our marketable equity securities decreases or we are unable to obtain future adequate financing for our clinical trials, we may be required to delay, postpone, or cancel our clinical trials or limit the number of clinical trial sites, or otherwise reduce or curtail our operations. Future financings may not be available to us at acceptable terms, or at all. Sales of additional issued equity securities would result in the dilution of interests of current shareholders.

During the six months ended June 30, 2018, our total research and development expenditures were $7.2 million and our general and administrative expenses were $3.9 million. Our sources of cash during the six months ended June 30, 2018 primarily consisted of $2.5 million from sales of our marketable equity securities and $1.1 million in from sales of Asterias equity securities. As of June 30, 2018 and December 2017, we had a working capital surplus of $13.5 million and $19.2 million, respectively.

Cash used in operations

Net cash used in operating activities during the six months ended June 30, 2018 amounted to $7.1 million. The difference between the net loss and net cash used in operating activities during the period was primarily attributable to the following non-cash items: $1.3 million of stock-based compensation , $1.3 million in amortization of intangible assets, $476,000 of stock issued in lieu of cash to a contract vendor, $513,000 in depreciation and amortization expense, and a $260,000 loss on the change in fair value of equity investment securities offset by $1.9 million in non-cash decrease on the Asterias Offering Warrants classified as a liability. The remaining $115,000 is associated with changes in our operating assets and liabilities, primarily related to decreases in accounts payable and other accrued liabilities.

Net cash used in operating activities during the six months ended June 30, 2017 amounted to $14.1 million. The difference between the net loss and net cash used in operating activities during the period was primarily attributable to the following noncash items: Asterias Warrants classified as equity noncash expense in the amount of $2.0 million related to the modification of expiration date, stock-based compensation of $2.7 million, $1.3 million in amortization of intangible assets, $562,000 of stock issued in lieu of cash to a contract vendor and $555,000 in depreciation and amortization expense offset by $2.9 million in noncash decrease on the Asterias Offering Warrants classified as a liability. The remaining $3.4 million is associated with changes in our operating assets and liabilities, of which $2.2 million is associated with decreases in our deferred grant income and $1.8 million is associated with decreases in accounts payable and other accrued liabilities.

Investing and financing activities

During the six months ended June 30, 2018, we had $2.5 million for cash provided by investing activities, which was related to the sales of our marketable equity securities.

During the six months ended June 30, 2018, Asterias raised $1.2 million in proceeds under its ATM from the sale of 713,430 shares of its common stock at a weighted average price of $1.64 per share, offset by $272,000 related to the payment of capital lease liabilities and lease liabilities $161,000 related to payments of taxes for vesting of employees restricted stock units.

During the six months ended June 30, 2017, we used $79,000 to purchase equipment.

During the six months ended June 30, 2017, Asterias raised approximately $6.7 million in gross proceeds under its ATM from the sale of 1,645,549 shares of its common stock at a weighted average price of $4.07 per share.

Contractual Obligations

As of June 30, 2018, there were no material changes to the contractual obligations information in Item 7 in our Annual Report on Form 10-K filed with the SEC on March 15, 2018.

Off-Balance Sheet Arrangements

As of June 30, 2018 and December 31, 2017, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There have been no material changes in Asterias' qualitative and quantitative market risk since the disclosure in Asterias' Annual Report on Form 10-K for the year ended December 31, 2017, except as follows.

Marketable equity securities at fair value

As of June 30, 2018, we held 2,621,811 shares of BioTime common stock and 72,975 shares of OncoCyte common stock at fair value. Our marketable equity securities' values are subject to changes in the stock price of BioTime and OncoCyte. BioTime common stock trades on the NYSE American under the ticker "BTX" and OncoCyte common stock trades on the NYSE American under the ticker "OCX". As of June 30, 2018, the 52-week high/low stock price per share range for BioTime and OncoCyte shares were $2.00 - $3.19 and $1.10 - $7.64, respectively.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, including our principal executive officer and principal financial officer, have reviewed and evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Following this review and evaluation, the principal executive officer and principal financial officer determined that our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act (i) is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and (ii) is accumulated and communicated to management, including our principal executive officer, and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Controls

There were no changes in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may be involved in routine litigation incidental to the conduct of our business. We are not presently involved in any other material litigation or proceedings, and to our knowledge no such litigation or proceedings are contemplated.

Item 1A. Risk Factors

Our operations and financial results are subject to various risks and uncertainties, including those described in Part I, Item 1A, "Risk Factors" in our Form 10-K for the year ended December 31, 2017 which could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our securities. There have been no material changes to our risk factors since our Annual Report on Form 10-K for the year ended December 31, 2017.

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

None.

Item 3. Default Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

Pursuant to the approval of the the Company's shareholders at the 2018 Annual Meeting of Shareholders, on July 16, 2018, the Company filed an Amendment to its Certificate of Incorporation to increase the number of shares of authorized Series A Common Stock, $0.0001 par value per share from 75,000,000 shares to 125,000,000 shares.

Item 6. Exhibits

Exhibit Number		Description
3.1	*	Certificate of Amendment to the Company's Certificate of Incorporation
31.1	*	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	*	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	**	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	*	XBRL Instance Document
101.INS	*	XBRL Taxonomy Extension Schema
101.CAL	*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	*	XBRL Taxonomy Extension Definition Linkbase
101.LAB	*	XBRL Taxonomy Extension Label Linkbase
101.PRE	*	XBRL Taxonomy Extension Presentation Linkbase

* Filed herewith.

** Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ASTERIAS BIOTHERAPEUTICS, INC.

Date: August 9, 2018

/s/ Michael H. Mulroy
Michael H. Mulroy
President and Chief Executive Officer

Date: August 9, 2018

/s/ Ryan Chavez
Ryan Chavez
Chief Financial Officer

Exhibit 3.1

CERTIFICATE OF AMENDMENT
TO THE
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
ASTERIAS BIOTHERAPEUTICS, INC.

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

The undersigned, Ryan D. Chavez, Chief Financial Officer and General Counsel of Asterias Biotherapeutics, Inc., a corporation organized and existing under the laws of the State of Delaware, on behalf of said corporation, hereby certifies as follows:

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

SECOND: Pursuant to an affirmative vote of the Corporation's stockholders on June 20, 2018, the Corporation wishes to amend its Certificate of Incorporation so as to increase the number of authorized shares of its capital stock.

THIRD: To accomplish the amendment referred to in Paragraph SECOND above, the opening recital of Article 4 and Article 4.1 of the Corporation's Amended and Restated Certificate of Incorporation is hereby amended and restated as follows:

Article 4
CAPITAL STOCK

The corporation is authorized to issue two classes of stock, which shall be designated "Common Stock" and "Preferred Stock." The number of shares of Common Stock which the corporation is authorized to issue is Two Hundred Million (200,000,000). The Common Stock shall be divided into series as provided in Section 4.1. The number of shares of Preferred Stock which the corporation is authorized to issue is Five Million (5,000,000), with a par value of $0.0001 per share. The Preferred Stock shall be issuable in series as provided in Section 4.2.

4.1 Common Stock

4.1.1 Shares and Series. One Hundred Twenty-Five Million (125,000,000) shares of Common Stock with a par value of $0.0001 per share will be of a series designated Series A Common Stock, and Seventy Five Million (75,000,000) shares of Common Stock with a par value of $0.0001 per share will be of a series designated Series B Common Stock.

Each share of Series A Common Stock will be identical in all respects and will have equal rights, powers and privileges. All shares of Series A Common Stock acquired by the corporation, whether upon purchase, exchange, or otherwise, will be authorized but unissued shares of Series A Common Stock and may be reissued by resolution of the board of directors of the corporation.

Each share of Series B Common Stock will be identical in all respects and will have equal rights, powers and privileges. All shares of Series B Common Stock acquired by the corporation, whether upon purchase, exchange, or otherwise, will be authorized but unissued shares of Series B Common Stock and may be reissued by resolution of the board of directors of the corporation.

FOURTH: This Certificate of Amendment and the foregoing amendment to the Certificate of Incorporation of the Corporation were duly authorized in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Amendment this 13th day of July 2018 and hereby affirms under penalties of perjury that the statements contained herein are true.

ASTERIAS BIOTHERAPEUTICS, INC.

By: /s/ Ryan D. Chavez
Ryan D. Chavez,
Chief Financial Officer and General Counsel

Exhibit 31.1

CERTIFICATIONS

I, Michael H. Mulroy, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Asterias Biotherapeutics, 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 Rule 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 periodic 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 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 registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: August 9, 2018

/s/ Michael H. Mulroy
Michael H. Mulroy
President and Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATIONS

I, Ryan Chavez, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Asterias Biotherapeutics, 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 Rule 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 periodic 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 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 registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: August 9, 2018

/s/ Ryan Chavez
Ryan Chavez
Chief Financial Officer
(principal financial officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Asterias Biotherapeutics, Inc. (the "Company") for the quarter ended June 30, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, Michael H. Mulroy and Ryan Chavez, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 9, 2018

/s/ Michael H. Mulroy
Michael H. Mulroy
President and Chief Executive Officer

/s/ Ryan Chavez
Ryan Chavez
Chief Financial Officer

The Foregoing certification is being furnished pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section. This certification will not be deemed incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.