
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (date of earliest event reported): **November 7, 2018**

Asterias Biotherapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware

001-36646

46-1047971

(State or other jurisdiction of incorporation)

(Commission File Number)

(IRS Employer Identification No.)

**6300 Dumbarton Circle
Fremont, CA 94555**

(Address of principal executive offices)

(510) 456-3800

(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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.

Item 1.01 Entry into Material Definitive Agreement.

On November 7, 2018, Asterias Biotherapeutics, Inc. (“Asterias”), BioTime, Inc. (“BioTime”), and Patrick Merger Sub, Inc., a newly formed wholly owned subsidiary of BioTime (“Merger Sub”) entered into an Agreement and Plan of Merger (the “Merger Agreement”), pursuant to which Merger Sub will merge with and into Asterias (the “Merger”) with Asterias as the surviving entity.

Merger Agreement

Pursuant to the terms of the Merger Agreement, at the effective time of the Merger (the “Effective Time”), by virtue of the Merger and without any action on the part of any Asterias stockholder, each share of common stock of Asterias, par value \$0.0001 per share (“Asterias Common Stock”), will be converted into the right to receive 0.71 voting common shares of BioTime (the “Exchange Ratio”), no par value per share (“BioTime Common Shares”). Outstanding options to purchase shares of Asterias Common Stock pursuant to Asterias’ Amended and Restated 2013 Equity Incentive Plan will be cancelled and extinguished for no consideration and shall cease to exist after the Effective Time. Outstanding shares of Asterias Common Stock underlying Asterias restricted stock units pursuant to Asterias’ Amended and Restated 2013 Equity Incentive Plan shall vest in full immediately prior to the Effective Time and will be cancelled and converted into the right to receive the Exchange Ratio in respect of each share of Asterias Common Stock underlying each Asterias restricted stock unit.

As of November 7, 2018, BioTime owned approximately 40% of outstanding Asterias Common Stock. Previously, Asterias was a majority-owned consolidated subsidiary of BioTime until May 2016 when BioTime deconsolidated Asterias financial statements and results of operations from those of BioTime under applicable generally accepted accounting principles due to the decrease in BioTime’s percentage ownership in Asterias from 57.1% to 48.7% following a sale of common stock by Asterias in a public offering.

The Exchange Ratio was determined as a result of negotiations between a special committee of independent directors of the board of directors of Asterias and a special committee of independent directors of the board of directors of BioTime, with the assistance of separate financial and legal advisors to each special committee. The Merger Agreement, the Merger and the other transactions contemplated in the Merger Agreement have been recommended by the Asterias special committee and the BioTime special committee and unanimously approved by the respective disinterested members of the board of directors of Asterias and BioTime.

Pursuant to the terms of a “go-shop” provision in the Merger Agreement, between the date of the Merger Agreement and December 3, 2018 (the “Go-Shop Period”), Asterias and its representatives may solicit, discuss and negotiate alternative proposals from third parties for the acquisition of Asterias.

Following the expiration of the Go-Shop Period, Asterias will become subject to customary “no shop” restrictions on its and its representatives’ ability to solicit, discuss and negotiate alternative acquisition proposals from third parties (other than certain third parties that submit qualifying proposals during the Go-Shop Period for a limited time period), subject to exceptions for acquisition proposals that the Asterias board of directors and the Asterias special committee have determined constitutes or is reasonably expected to constitute a Superior Proposal (as defined in the Merger Agreement).

Each of Asterias and BioTime has made certain covenants in the Merger Agreement, including, among others: (a) to conduct their respective businesses in the ordinary course consistent with past practice during the interim period between the execution of the Merger Agreement and the consummation of the Merger; (b) not to engage in certain kinds of transactions during such period; (c) to convene and hold meetings of the stockholders and shareholders, respectively, of each of Asterias and BioTime to approve the transaction; and (d) that, subject to certain exceptions, the Boards of Directors of Asterias and BioTime will each recommend that their respective stockholders and shareholders approve the transaction. Pursuant to the Merger Agreement, Don M. Bailey, the Chairman of the Board of Asterias, will join the BioTime Board of Directors and Michael H. Mulroy, the President and Chief Executive Officer of Asterias, will remain on the Board of Directors of BioTime.

Consummation of the Merger is subject to certain conditions, including (a) the adoption of the Merger Agreement by the stockholders of Asterias and the approval by the shareholders of BioTime of the issuance of BioTime Common Shares; (b) absence of any applicable restraining order or injunction prohibiting the Merger; (c) the effectiveness of a registration statement on Form S-4; (d) the absence of material adverse effect with respect to each of Asterias and BioTime; (e) the accuracy of the representations and warranties of each party, subject to specified materiality thresholds; and (f) performance in all material respects by each party of its obligations under the Merger Agreement. The Merger Agreement also contains customary termination provisions and provides that, upon termination of the Merger Agreement, under specified circumstances, including termination by Asterias to enter into a Superior Proposal, Asterias or BioTime, as applicable, would be required to pay the other party a termination fee of \$2,000,000 or, under specified circumstances, reimbursable expenses in an amount not to exceed \$1,500,000.

The foregoing description of the Merger Agreement is only a summary, does not purport to be complete and is qualified in its entirety by reference to the Merger Agreement, a copy of which is filed as Exhibit 2.1 to this Current Report on Form 8-K (this "Current Report") and incorporated herein by reference. The representations, warranties and covenants contained in the Merger Agreement were made only for purposes of the Merger Agreement and as of specified dates, were solely for the benefit of the parties to the Merger Agreement, and may be subject to limitations agreed upon by the contracting parties, including being qualified by confidential disclosures exchanged between the parties in connection with the execution of the Merger Agreement. The representations and warranties have been made for the purpose of allocating contractual risk between the parties to the Merger Agreement instead of establishing these matters as facts, and may be subject to standards of materiality applicable to the contracting parties which are different from "materiality" as defined under applicable securities laws. Investors should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of BioTime, Asterias or Merger Sub. Moreover, information concerning the subject matter of the representations, warranties and covenants may change after the Effective Time, which subsequent information may or may not be fully reflected in public disclosures.

Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers

In connection with the Merger, Asterias entered into an Amended and Restated Employment Agreement (each, an "Employment Agreement") on November 7, 2018, with each of (i) Craig Halberstadt, Senior Vice President, Research & Product Development of Asterias, (ii) Edward Wirth, III, Chief Medical Officer of Asterias, and (iii) Ryan Chavez, Chief Financial Officer and General Counsel of Asterias (each, an "Executive"). Each Executive's Employment Agreement contains provisions entitling him to severance benefits under certain circumstances.

Each Employment Agreement provides that the Executive is entitled to specified severance compensation, bonus and other payments in the event Asterias or its successor in interest terminates the Executive's employment without Cause (as defined in the Employment Agreement) within twelve months following a Change in Control (summarized below), or if the Executive resigns for Good Reason (summarized below) within twelve months following a Change in Control.

Under each Employment Agreement, Good Reason means, subject to specified notice periods, cure opportunities and other procedural requirements specified in the Employment Agreement: (A) a diminution in the Executive's base salary; (B) a material change in geographic location at which the Executive must perform services (subject to specified exclusions for a change in Asterias' office location); (C) any material failure of the successors to Asterias after a Change of Control to perform, or causing Asterias not to perform, Asterias' obligations under the Employment Agreement; (D) any action or inaction of Asterias that constitutes a material breach of the terms of the Employment Agreement; or (E) any other material adverse change in the Executive's duties, authorities, responsibilities, or reporting structure.

Under each Employment Agreement, Change of Control means: (A) subject to exclusions specified in the Employment Agreement, the acquisition of voting securities of Asterias by a person or group entitling the holder thereof to elect a majority of the directors of Asterias; (B) the sale of all or substantially all of the assets of Asterias; (C) a merger or consolidation of Asterias with or into another corporation or entity (irrespective of whether Asterias is the surviving corporation in such merger or consolidation) in which the stockholders of Asterias immediately before such merger or consolidation do not own, in substantially the same percentages, voting securities of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity) entitling them, in the aggregate, to elect a majority of the directors or persons holding similar powers; or (D) a change in the composition of the board occurring within a twelve month period, as a result of which the incumbent directors cease to constitute at least a majority of the board.

Under each Employment Agreement, Cause means: (A) the repeated failure to properly perform the Executive's job responsibilities after written receipt being notified of such failure to perform, as determined reasonably and in good faith by the board; (B) commission of any act of fraud, gross misconduct or dishonesty with respect to Asterias or any related company; (C) conviction of, or plea of guilty or "no contest" to, any felony, or a crime involving moral turpitude; (D) breach of any provision of the Employment Agreement or any provision of any proprietary information and inventions agreement with Asterias or any related company; (E) failure to follow the lawful directions of the board of directors of Asterias or any related company; (F) chronic alcohol or drug abuse; (G) obtaining, in connection with any transaction in which Asterias, any related company, or any of Asterias' affiliates is a party, a material undisclosed financial benefit for the Executive or for any member of the Executive's immediate family or for any corporation, partnership, limited liability company, or trust in which the Executive or any member of the Executive's immediate family owns a material financial interest; or (H) harassing or discriminating against, or participating or assisting in the harassment of or discrimination against, any employee of Asterias (or a related company or an affiliate of Asterias) based upon gender, race, religion, ethnicity, or nationality.

Each Employment Agreement contains an agreement by Executive to keep confidential certain Confidential Information (as defined in the Employment Agreement) both during and after Executive's employment and provides that the employment relationship of the Executive with Asterias is at will and may be terminated by the Executive or by Asterias with or without cause at any time by notice given in writing.

The foregoing summary is qualified in its entirety by the full text of the Employment Agreements, which are filed as Exhibit 10.1, Exhibit 10.2, and Exhibit 10.3 to this Current Report, and are incorporated herein by reference.

Item 8.01 Other Events

On November 8, 2018, BioTime and Asterias issued a press release announcing the entry into the Merger Agreement. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated by reference herein.

Forward-Looking Statements

Certain statements in this communication, including statements relating to the Merger Agreement, the Merger and the other transactions contemplated by the Merger Agreement and the combined company's future financial condition performance and operating results, strategy and plans are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 giving BioTime's and Asterias' expectations or predictions of future financial or business performance or conditions. These forward-looking statements are subject to numerous assumptions, risks and uncertainties which change over time. Forward-looking statements speak only as of the date they are made and we assume no duty to update forward-looking statements.

In addition to factors previously disclosed in BioTime's and Asterias' reports filed with the U.S. Securities and Exchange Commission (the "SEC") and those identified elsewhere in this communication, the following factors, among others, could cause actual results to differ materially from forward-looking statements and historical performance: the ability to obtain regulatory approvals and meet other closing conditions to the Merger, including requisite approval by BioTime's and Asterias' shareholders and stockholders, respectively, on a timely basis or at all; delay in closing the Merger; the ultimate outcome and results of integrating the operations of BioTime and Asterias and the ultimate ability to realize synergies and other benefits; business disruption following the Merger; the availability and access, in general, of funds to fund operations and necessary capital expenditures. More information on potential factors that could affect our results is included from time to time in the SEC filings and reports of BioTime and Asterias, including the risks identified under the sections captioned "Risk Factors" in BioTime's quarterly report on Form 10-Q filed with the SEC on November 8, 2018, Asterias' annual report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 15, 2018 and Asterias' quarterly report on Form 10-Q for the quarter ended September 30, 2018, which Asterias expects to file on November 9, 2018.

No Offer or Solicitation

This document does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Additional Information and Where to Find It

This communication is being made in respect of the proposed business combination involving Asterias and BioTime. In connection with the proposed transaction, Asterias and BioTime plan to file documents with the SEC, including the filing by BioTime of a Registration Statement on Form S-4 containing a Joint Proxy Statement/Prospectus and each of BioTime and Asterias plan to file with the SEC other documents regarding the proposed transaction. INVESTORS AND SECURITY HOLDERS OF BIOTIME AND ASTERIAS ARE URGED TO CAREFULLY READ THE JOINT PROXY STATEMENT/PROSPECTUS (WHEN AVAILABLE) AND OTHER DOCUMENTS FILED WITH THE SEC BY BIOTIME AND ASTERIAS BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION. Investors and security holders may obtain free copies of these documents (when they are available) and other documents filed with the SEC at the SEC's web site at www.sec.gov and by contacting Asterias Investor Relations at (510) 456-3892 or BioTime Investor Relations at (510) 871-4188. Investors and security holders may obtain free copies of the documents filed with the SEC on Asterias' website at www.asteriasbiotherapeutics.com or BioTime's website at www.biotimeinc.com or the SEC's website at www.sec.gov.

Asterias, BioTime and their respective directors and executive officers may be deemed participants in the solicitation of proxies with respect to the proposed transaction. Information regarding the interests of these directors and executive officers in the proposed transaction will be included in the Joint Proxy Statement/Prospectus described above. Additional information regarding the directors and executive officers of Asterias is also included in Asterias' proxy statement for its 2018 Annual Meeting of Stockholders, which was filed with the SEC on April 30, 2018 and additional information regarding the directors and executive officers of BioTime is also included in BioTime's proxy statement for its 2018 Annual Meeting of Shareholders, which was filed with the SEC on March 29, 2018, respectively.

Item 9.01 Financial Statements and Exhibits.

(d) *Exhibits.*

Exhibit

Number Title

[2.1](#)* Agreement and Plan of Merger dated November 7, 2018, among BioTime, Inc., Patrick Merger Sub, Inc. and Asterias Biotherapeutics, Inc.
[10.1](#) Amended and Restated Employment Agreement, dated as of November 7, 2018, by and between Asterias Biotherapeutics, Inc. and Craig Halberstadt
[10.2](#) Amended and Restated Employment Agreement, dated as of November 7, 2018, by and between Asterias Biotherapeutics, Inc. and Edward Wirth, III
[10.3](#) Amended and Restated Employment Agreement, dated as of November 7, 2018, by and between Asterias Biotherapeutics, Inc. and Ryan Chavez
[99.1](#) Joint Press Release, dated November 8, 2018, issued by BioTime, Inc. and Asterias Biotherapeutics, Inc.

* *The schedules and exhibits to the merger agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the Securities and Exchange Commission upon request.*

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 hereunto duly authorized.

ASTERIAS BIOTHERAPEUTICS, INC.

Date: November 8, 2018

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

AGREEMENT AND PLAN OF MERGER

by and among

BIOTIME, INC.,

PATRICK MERGER SUB, INC.

and

ASTERIAS BIOTHERAPEUTICS, INC.

dated as of November 7, 2018

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AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER, dated November 7, 2018 (this "Agreement"), is made by and among BioTime, Inc., a California corporation ("BioTime"), Patrick Merger Sub, Inc., a Delaware corporation and a direct wholly owned subsidiary of BioTime ("Merger Sub"), and Asterias Biotherapeutics, Inc., a Delaware corporation ("Asterias"). BioTime, Merger Sub and Asterias each are sometimes referred to herein as a "Party" and collectively as the "Parties." Capitalized terms used in this Agreement but not otherwise defined shall be given the meanings ascribed to them in Section 9.5 of this Agreement.

Recitals

A. The Parties wish to effect a business combination through the merger of Merger Sub with and into Asterias, with Asterias being the surviving entity (the "Merger");

B. In connection with the Merger, each outstanding share of Asterias Common Stock issued and outstanding immediately prior to the Effective Time will be automatically converted into the right to receive 0.71 (the "Exchange Ratio") voting common shares, no par value, of BioTime ("BioTime Common Shares"), upon the terms and conditions set forth in this Agreement and in accordance with the General Corporation Law of the State of Delaware (the "DGCL");

C. The board of directors of Asterias (the "Asterias Board of Directors") (by unanimous vote of the disinterested members of the Asterias Board of Directors), acting upon the unanimous recommendation of a committee of the Asterias Board of Directors consisting only of independent and disinterested directors of Asterias (the "Asterias Special Committee"), has approved the Merger and the other transactions contemplated by this Agreement (the "Transactions"), approved this Agreement and declared its advisability, and resolved to recommend that Asterias' stockholders adopt this Agreement pursuant to Section 251 of the DGCL;

D. The board of directors of BioTime (the "BioTime Board of Directors"), acting upon the unanimous recommendation of a committee of the BioTime Board of Directors consisting only of independent and disinterested directors of BioTime (the "BioTime Special Committee"), has approved the Merger and the other Transactions and this Agreement and resolved to recommend that BioTime's shareholders approve the issuance of BioTime Common Shares contemplated by this Agreement (by unanimous vote of the disinterested members of the BioTime Board of Directors);

E. The board of directors of Merger Sub has approved this Agreement and declared its advisability, and BioTime, as the sole stockholder of Merger Sub, has adopted this Agreement;

F. The Parties intend that (i) the Merger will be treated for United States federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code and (ii) each of BioTime, Merger Sub and Asterias will be a party to that reorganization within the meaning of Section 368(b) of the Code; and

G. The Parties desire to make certain representations, warranties, covenants and agreements in connection with the Merger and prescribe certain conditions to the Merger.

In consideration of the mutual covenants and agreements contained in this Agreement and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I THE MERGER

Section 1.1 The Merger. Upon the terms and subject to the satisfaction or waiver of the conditions set forth in this Agreement and in accordance with the DGCL, Merger Sub will be merged with and into Asterias, whereupon the separate existence of Merger Sub will cease and Asterias will continue as the surviving entity in the Merger (the "Surviving Corporation"), such that following the Merger, the Surviving Corporation will be a subsidiary of BioTime. The Merger will have the effects provided in this Agreement and as specified in the DGCL.

Section 1.2 Closing. The closing of the Merger (the "Closing") will take place at 7:00 a.m., Pacific Time, at the offices of Cooley LLP, 3175 Hanover Street, Palo Alto, California, on the second business day after the satisfaction or waiver of the last of the conditions set forth in Article VII to be satisfied or waived (other than any such conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of such conditions at the Closing), unless another date or place is agreed to in writing by Asterias and BioTime. The date on which the Closing actually takes place is referred to as the "Closing Date".

Section 1.3 Effective Time. On the Closing Date, the Parties will cause a certificate of merger with respect to the Merger (the "Certificate of Merger") to be duly executed and filed with the DSOS as provided under the DGCL and make any other filings, recordings or publications required to be made by Asterias or Merger Sub under the DGCL in connection with the Merger. The Merger will become effective at such time as the Certificate of Merger is duly filed with the DSOS or on such other date and time as will be agreed to by Asterias and BioTime and specified in the Certificate of Merger (such date and time being hereinafter referred to as the "Effective Time").

Section 1.4 Certificate of Incorporation; Bylaws. At the Effective Time and subject to Section 6.4 the certificate of incorporation of Merger Sub, as in effect immediately prior to the Effective Time, will be the certificate of incorporation of the Surviving Corporation until thereafter amended as provided by the DGCL and such certificate of incorporation, except that Article I of the certificate of incorporation of the Surviving Corporation will be amended as of the Effective Time to read: "The name of the corporation is Asterias Biotherapeutics, Inc." At the Effective Time and subject to Section 6.4, the bylaws of Merger Sub, as in effect immediately prior to the Effective Time, will be the bylaws of the Surviving Corporation until thereafter amended as provided by such bylaws, the certificate of incorporation of the Surviving Corporation or the DGCL.

Section 1.5 Directors and Officers of the Surviving Corporation. The directors of Merger Sub immediately prior to the Effective Time shall be the directors of the Surviving Corporation, serving until the earlier of their resignation or removal or until their respective successors are duly elected and qualified, as the case may be. The officers of Merger Sub immediately prior to the Effective Time shall be the officers of the Surviving Corporation, serving until the earlier of their resignation or removal or until their respective successors are duly elected and qualified, as the case may be.

Section 1.6 Post-Merger Operations. The Parties shall use commercially reasonable efforts to ensure that effective immediately following the Effective Time, the BioTime Board of Directors shall consist of the members listed on Schedule 1.6 (unless otherwise agreed between the parties in writing prior to the Effective Time), each hold office from and after the Effective Time until the earliest of appointment of his or her respective successor, resignation or proper removal.

ARTICLE II EFFECTS ON CAPITAL STOCK; EXCHANGE OF SECURITIES

Section 2.1 Effects on Capital Stock.

(a) Conversion of Asterias Common Stock. At the Effective Time, by virtue of the Merger and without any action on the part of the Parties or holders of any securities of Asterias or of Merger Sub, subject to Section 2.1(c), Section 2.5 and Section 2.6, each share of Asterias Common Stock that is issued and outstanding immediately prior to the Effective Time (other than shares of Asterias Common Stock to be cancelled in accordance with Section 2.1(b)) will be automatically converted into the right to receive that number of fully paid and nonassessable BioTime Common Shares equal to the Exchange Ratio (the "Per Share Merger Consideration"). From and after the Effective Time, all such shares of Asterias Common Stock will no longer be outstanding and will automatically be cancelled and will cease to exist, and each applicable holder of such shares of Asterias Common Stock will cease to have any rights with respect thereto, except the right to receive, upon the surrender of such shares of Asterias Common Stock in accordance with Section 2.2, the Per Share Merger Consideration and cash in lieu of any fractional BioTime Common Shares pursuant to Section 2.6 (the "Fractional Share Consideration") into which such shares of Asterias Common Stock have been converted pursuant to this Section 2.1(a), together with the amounts, if any, payable pursuant to Section 2.2(g).

(b) Cancellation of Asterias Common Stock. At the Effective Time, all shares of Asterias Common Stock owned by BioTime, Asterias or any of their respective wholly owned Subsidiaries will be cancelled and will cease to exist, and no consideration will be delivered in exchange therefor.

(c) Adjustment. The Exchange Ratio and the Fractional Share Consideration and any other similarly dependent items, as the case may be, will be adjusted appropriately to reflect the effect of any stock split, reverse stock split, stock dividend (including any dividend or distribution of securities convertible into shares of Asterias Common Stock or BioTime Common Shares, as applicable), reorganization, recapitalization, reclassification, combination, exchange of shares or other like change with respect to the number of shares of Asterias Common Stock or BioTime Common Shares outstanding after the date hereof and prior to the Effective Time in order to provide the holders of Asterias Common Stock the same economic effect as contemplated by this Agreement prior to such event.

Section 2.2 Payment for Securities; Surrender of Certificates.

(a) Exchange Fund. Prior to the Effective Time, BioTime will designate American Stock Transfer & Trust Company, LLC to act as the exchange agent in connection with the Merger (the "Exchange Agent"). The Exchange Agent will also act as the agent for Asterias' stockholders for the purpose of receiving and holding their Certificates and Book-Entry Shares and will obtain no rights or interests in the shares represented thereby. At or promptly after the Effective Time, BioTime will deposit, or cause to be deposited, with the Exchange Agent (i) a sufficient number of BioTime Common Shares (whether represented in certificated or non-certificated direct registration form) to issue the aggregate Per Share Merger Consideration and (ii) cash sufficient to make payments of Fractional Share Consideration and any dividends under Section 2.2(g) to be paid in the Merger. All such cash and BioTime Common Shares that are deposited with the Exchange Agent are referred to as the "Exchange Fund." The Exchange Fund will be for the sole benefit of the holders of shares of Asterias Common Stock. BioTime will cause the Exchange Agent to make, and the Exchange Agent will make, delivery of the Merger Consideration out of the Exchange Fund in accordance with this Agreement. The Exchange Fund will not be used for any purpose that is not expressly provided for in this Agreement.

(b) Procedures for Surrender of Book Entry Shares. At the Effective Time and without any action on the part of any holder, all non-certificated shares of Asterias Common Stock represented by book-entry ("Book-Entry Shares") shall be deemed surrendered to the Exchange Agent, and BioTime shall cause the Exchange Agent to (i) deliver to each holder of Book-Entry Shares that number of uncertificated whole BioTime Common Shares that the holder is entitled to receive pursuant to Section 2.1 and cancel such Book-Entry Shares and (ii) mail to each holder of Book-Entry Shares a check in the amount of any Fractional Share Consideration, and any dividends or other distributions on BioTime Common Shares in accordance with Section 2.2(g), in each case payable in respect of such holder Book-Entry Shares pursuant to Section 2.1.

(c) Procedures for Surrender of Certificates. Promptly after the Effective Time, BioTime will, and will cause the Surviving Corporation to, cause the Exchange Agent to mail to each holder of record of a certificate or certificates that immediately prior to the Effective Time represented outstanding shares of Asterias Common Stock (the "Certificates") and whose shares of Asterias Common Stock were converted pursuant to Section 2.1 into the right to receive the Per Share Merger Consideration (1) a letter of transmittal, which will specify that delivery will be effected, and risk of loss and title to the Certificates will pass, only upon delivery of the Certificates (or affidavits of loss in lieu thereof) to the Exchange Agent and will be in such form and have such other provisions as BioTime may reasonably specify and (2) instructions for effecting the surrender of the Certificates (or affidavits of loss in lieu thereof) in exchange for payment of the Per Share Merger Consideration into which such shares of Asterias Common Stock have been converted pursuant to Section 2.1, including any Fractional Share Consideration payable in accordance with Section 2.6, and any dividends or other distributions on BioTime Common Shares in accordance with Section 2.2(g). Upon surrender of a Certificate (or an affidavit of loss in lieu thereof) for cancellation to the Exchange Agent or to such other agent or agents as may be appointed by BioTime or the Surviving Corporation, together with such letter of transmittal duly completed and validly executed in accordance with the instructions thereto, and such other documents as may be reasonably required pursuant to such instructions, the holder of such Certificate will be entitled to receive in exchange therefor the applicable Merger Consideration pursuant to the provisions of this Article II for each share of Asterias Common Stock formerly represented by such Certificate, to be mailed within ten (10) business days following the later to occur of (x) the Effective Time or (y) the Exchange Agent's receipt of such Certificate (or affidavit of loss in lieu thereof), and the Certificate (or affidavit of loss in lieu thereof) so surrendered will be forthwith cancelled. The Exchange Agent will accept such Certificates (or affidavits of loss in lieu thereof) upon compliance with such reasonable terms and conditions as the Exchange Agent may impose to effect an orderly exchange thereof in accordance with normal exchange practices. If payment of the Merger Consideration is to be made to a Person other than the Person in whose name the surrendered Certificate is registered, it will be a condition precedent of payment that (A) the Certificate so surrendered will be properly endorsed or will be otherwise in proper form for transfer and (B) the Person requesting such payment has paid any transfer and other similar Taxes required by reason of the payment of the Merger Consideration to a Person other than the registered holder of the Certificate surrendered or has established to the satisfaction of the Surviving Corporation that such Tax either has been paid or is not required to be paid. Until surrendered as contemplated by this Section 2.2, each Certificate will be deemed at any time after the Effective Time to represent only the right to receive the applicable Merger Consideration as contemplated by this Article II, without interest thereon.

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(d) Transfer Books; No Further Ownership Rights in Shares of Asterias Common Stock. At the Effective Time, the stock transfer books of Asterias will be closed and thereafter there will be no further registration of transfers of shares of Asterias Common Stock on the records of Asterias. From and after the Effective Time, the holders of Certificates and Book-Entry Shares outstanding immediately prior to the Effective Time will cease to have any rights with respect to such shares of Asterias Common Stock except as otherwise provided for herein or by applicable Law. If, after the Effective Time, Certificates or Book-Entry Shares are presented to the Surviving Corporation for any reason, they will be cancelled and exchanged as provided in this Agreement.

(e) Termination of Exchange Fund; No Liability. At any time following the first anniversary of the Effective Time, BioTime will be entitled to require the Exchange Agent to deliver to it any funds (including any interest received with respect thereto) remaining in the Exchange Fund that have not been disbursed, or for which disbursement is pending subject only to the Exchange Agent's routine administrative procedures, to holders of Certificates, and thereafter such holders (as well as any holders of Book-Entry Shares who have not theretofore cashed any check payable to them in accordance with Section 2.2(b)) will be entitled to look only to the Surviving Corporation and BioTime (subject to abandoned property, escheat or other similar Laws) as general creditors thereof with respect to the applicable Merger Consideration, payable upon due surrender of their Certificates and compliance with the procedures in Section 2.2(b) and Section 2.2(c), without any interest thereon. Notwithstanding the foregoing, none of the Surviving Corporation, BioTime, Merger Sub or the Exchange Agent will be liable to any holder of a Certificate for any Merger Consideration, dividends, or other amounts delivered to a public official pursuant to any applicable abandoned property, escheat or similar Law.

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(f) Lost, Stolen or Destroyed Certificates. In the event that any Certificates have been lost, stolen or destroyed, the Exchange Agent will issue in exchange for such lost, stolen or destroyed Certificates, upon the making of an affidavit of that fact by the holder thereof (such affidavit to be in a form reasonably satisfactory to BioTime and the Exchange Agent), the Merger Consideration payable in respect thereof and any dividends or other distributions on BioTime Common Shares in accordance with Section 2.2(g).

(g) Dividends or Distributions with Respect to BioTime Common Shares. No dividends or other distributions with respect to BioTime Common Shares with a record date after the Effective Time will be paid to the holder of any unsurrendered Certificate or Book-Entry Share with respect to the BioTime Common Shares represented thereby, and all such dividends and other distributions will be paid by BioTime to the Exchange Agent and will be included in the Exchange Fund, in each case until the surrender of such Certificate or Book-Entry Share (or affidavit of loss in lieu thereof) in accordance with this Agreement. Subject to applicable Laws, following surrender of any such Certificate or Book-Entry Share (or affidavit of loss in lieu thereof) there will be paid to the holder thereof, without interest, (1) promptly, the amount of dividends or other distributions with a record date after the Effective Time theretofore paid with respect to such BioTime Common Shares to which such holder is entitled pursuant to this Agreement and (2) at the appropriate payment date, the amount of dividends or other distributions with a record date after the Effective Time but prior to such surrender and with a payment date subsequent to such surrender payable with respect to such BioTime Common Shares.

Section 2.3 Treatment of Asterias Equity Awards.

(a) No Asterias Equity Awards shall be assumed or continued by BioTime in connection with the Merger or the other Transactions.

(b) Upon the terms and subject to the conditions set forth in this Agreement, at the Effective Time, by virtue of the Merger and without any action on the part of BioTime, Merger Sub, Asterias, or the holders or recipients of Asterias Stock Options, each Asterias Stock Option that is outstanding immediately prior to the Effective Time shall be cancelled and extinguished for no consideration and shall cease to exist.

(c) Upon the terms and subject to the conditions set forth in this Agreement, immediately prior to the Effective Time, by virtue of the Merger and without any action on the part of BioTime, Merger Sub, Asterias, or the holders or recipients of Asterias RSU Awards, (i) each Asterias RSU Award that is held by any Worker and is outstanding as of immediately prior to the Effective Time shall vest in full and (ii) each Asterias RSU Award shall be cancelled and converted automatically into the right to receive, as soon as reasonably practicable after the Effective Time (but no later than five (5) business days thereafter), the Merger Consideration in respect of each share of Asterias Common Stock underlying the vested portion of the Asterias RSU Award.

(d) Prior to the Effective Time, and subject to the prior review and approval of BioTime, Asterias shall take all actions necessary to effect the transactions anticipated by this Section 2.3 under the Asterias Equity Plan and any Contract applicable to any Asterias Equity Awards (whether written or oral, formal or informal), including delivering all required notices, obtaining all necessary approvals and consents, and delivering evidence satisfactory to BioTime that all necessary determinations by Asterias Board of Directors or applicable committee thereof to cancel all Asterias Equity Awards in accordance with this Section 2.3 have been made. At the Effective Time, BioTime shall assume sponsorship of the Asterias Equity Plan, provided that references to Asterias in the Asterias Equity Plan and award agreements for the Asterias Equity Awards shall thereupon be deemed references to BioTime and references to shares therein shall be deemed references to BioTime Common Shares with appropriate equitable adjustments to reflect the Transactions.

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Section 2.4 Treatment of Warrants. Prior to the Effective Time, Asterias shall take any necessary actions in accordance with the terms of the Asterias Warrants, including the giving of any notices that may be required as a result of the Transactions constituting a “Fundamental Transaction” as such terms are defined in the Asterias Warrants. Asterias and BioTime shall take all actions as may be necessary to ensure that the Asterias Warrants are treated in accordance with Section 4(b) of the Asterias Warrants.

Section 2.5 Withholding. Notwithstanding any other provision of this Agreement, each of BioTime, Merger Sub, the Surviving Corporation, and the Exchange Agent will be entitled to deduct and withhold from the consideration otherwise payable to a holder of shares of Asterias Common Stock and Asterias Equity Awards pursuant to this Agreement, any amounts as are required to be withheld or deducted with respect to such consideration under the Code, or any applicable provisions of state, local or non-U.S. Tax Law unless such Person receives the requisite certification or documents to eliminate such withholding obligation. To the extent that amounts are so withheld and remitted to the appropriate Governmental Authority, such withheld amounts will be treated for all purposes of this Agreement as having been paid to the holder of shares of Asterias Common Stock and Asterias Equity Awards (to the extent applicable) in respect of which such deduction and withholding was made.

Section 2.6 Fractional Shares.

(a) No certificates, receipts or scrip representing fractional BioTime Common Shares will be issued upon the surrender or transfer for exchange of Certificates or Book-Entry Shares, no dividend or distribution of BioTime will relate to such fractional BioTime Common Shares, and such fractional BioTime Common Shares will not entitle the owner thereof to vote or to any rights of a stockholder of BioTime.

(b) BioTime shall pay to the Exchange Agent an amount in cash in United States dollars, to be deposited promptly following the Effective Time, sufficient for the Exchange Agent to pay each holder of Certificates or Book-Entry Shares an amount in cash equal to the product obtained by multiplying (1) the fraction of a BioTime Common Share to which such holder would otherwise have been entitled by (2) the closing price for a BioTime Common Share on NYSE American on the last complete trading day immediately prior to the Effective Time.

ARTICLE III
REPRESENTATIONS AND WARRANTIES OF ASTERIAS

Except as disclosed in (a) the Asterias SEC Reports filed on or after January 1, 2016 and prior to the date of this Agreement (excluding any amendment thereto made after the date of this Agreement, any forward looking disclosures set forth in any “risk factors” section, any disclosures in any “forward looking statements” section and any other disclosures included therein to the extent they are predictive or forward-looking in nature); provided that the exception set forth in this clause (a) will not apply to the representations set forth in Section 3.3 (Capitalization), Section 3.4 (Authority) or Section 3.8(a) (Absence of Certain Changes or Events) or (b) with respect to each section and subsection within this Article III, the corresponding section or subsection of the disclosure letter delivered by Asterias to BioTime immediately prior to the execution of this Agreement (the “Asterias Disclosure Letter”) (disclosure of any item in any section or subsection of the Asterias Disclosure Letter being deemed disclosure with respect to any other Section or subsection of this Agreement to which the relevance of such item is reasonably apparent), Asterias represents and warrants to BioTime and the Merger Sub as set forth below.

Section 3.1 Organization and Power and Subsidiaries.

(a) Asterias is a corporation duly organized, validly existing and in good standing under the Laws of the State of Delaware and has the requisite corporate power and authority to own, lease and operate its properties and assets and to carry on its business as it is now being conducted. Asterias is duly qualified or licensed as a foreign corporation to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification or licensing necessary, except where the failure to be so duly qualified or licensed and in good standing would not have, individually or in the aggregate, an Asterias Material Adverse Effect.

(b) Asterias has no Subsidiaries and does not directly or indirectly own any equity or similar interest in, or any interest convertible into or exchangeable or exercisable for, any equity or similar interest in, any Person.

Section 3.2 Certificate of Incorporation and Bylaws. Asterias has made available to BioTime a complete and correct copy of the certificate of incorporation and the bylaws, each as amended to date, of Asterias. Such certificate of incorporation and bylaws are in full force and effect. Asterias is not in material violation of any of the provisions of its certificate of incorporation or bylaws.

Section 3.3 Capitalization.

(a) The authorized capital stock of Asterias consists of (i) 125,000,000 shares of Series A Common Stock, par value \$0.0001 per share (the “Asterias Common Stock”); (ii) 75,000,000 shares of Series B Common Stock, par value \$0.0001 per share (the “Asterias Series B Common Stock”); and (iii) 5,000,000 shares of preferred stock, par value \$0.0001 per share (“Asterias Preferred Stock”). All outstanding shares of Asterias Common Stock are validly issued, fully paid and nonassessable and are issued free of any preemptive rights. All shares of Asterias Common Stock subject to issuance upon the exercise, vesting or conversion of any convertible security will, upon issuance on the terms and conditions specified in the instruments pursuant to which they are issuable, be duly authorized, validly issued, fully paid and nonassessable and free of any preemptive rights.

(b) As of the close of business on November 7, 2018:

- (1) 55,658,684 shares of Asterias Common Stock were issued and outstanding;
- (2) no shares of Asterias Series B Common Stock were issued and outstanding;
- (3) 75,771 shares of Asterias Common Stock were held in treasury;
- (4) 5,962,213 shares of Asterias Common Stock were subject to outstanding Asterias Stock Options, of which Asterias Stock Options to purchase 3,744,559 shares of Asterias Common Stock were vested;
- (5) 13,500,000 shares of Asterias Common Stock were reserved for issuance pursuant to Asterias' 2013 Equity Incentive Plan;
- (6) 585,126 shares of Asterias Common Stock were subject to outstanding Asterias RSU Awards;
- (7) 2,813,159 shares of Asterias Common Stock were subject to outstanding Asterias Warrants; and
- (8) no shares of Asterias Preferred Stock were issued or outstanding.

(c) Except for changes since the date specified in Section 3.3(b) resulting from the exercise or vesting of Asterias Equity Awards outstanding on such date, the exercise of Asterias Warrants outstanding on such date or actions taken after the date of this Agreement in compliance with Section 5.1, there are no outstanding (1) options, warrants or other Contracts of Asterias relating to the issued or unissued capital stock of Asterias or obligating Asterias to issue, grant or sell any shares of capital stock of, or other equity interests in, Asterias, (2) shares of capital stock of, or other voting securities or ownership interests in, Asterias or (3) restricted shares, restricted share units, stock appreciation rights, performance shares, contingent value rights, "phantom" stock or similar securities or rights that are derivative of or provide economic benefits based, directly or indirectly, on the value or price of any capital stock or other voting securities (including any bonds, debentures, notes or other indebtedness having voting rights or convertible into securities having voting rights) or ownership interests in Asterias (the items in clauses (1) through (3) being referred to collectively as the "Asterias Securities"), other than as described in Section 3.3(b). There are no voting trusts or other Contracts to which Asterias is a party with respect to the voting of any capital stock of, or other equity interest in, Asterias. Section 3.3(c)(1) of the Asterias Disclosure Letter contains, as of November 7, 2018, a complete and correct list of each outstanding Asterias Equity Award, including (A) the employee identification number or name of the holder of such Asterias Equity Award, (B) the date of grant, (C) if applicable, the date of expiration, (D) the number of shares of Asterias Common Stock subject to such award as of the date of this Agreement, (E) for each Asterias Stock Option, the exercise price, (F) the vesting schedule (including any rights to acceleration of vesting) and any right to exercise unvested options, (G) the number of shares of Asterias Common Stock subject to such award that are vested and unvested as of the date of this Agreement. Section 3.3(c)(2) of the Asterias Disclosure Letter contains with respect to the Asterias Warrants: (i) the date of issuance, (ii) the date of expiration, (iii) the aggregate number of shares of Asterias Common Stock subject to such Asterias Warrant, (iv) the exercise price, and (v) the aggregate number of shares of Asterias Common Stock subject to such Asterias Warrants.

(d) Except with respect to the Asterias Warrants, there are no outstanding contractual obligations of Asterias to repurchase, redeem or otherwise acquire any shares of Asterias Common Stock or any other Asterias Securities or to provide funds to, or make any investment (in the form of a loan, capital contribution or otherwise) in, any other Person that would be material to Asterias.

Section 3.4 Authority.

(a) Asterias has all necessary corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and, subject to obtaining the Asterias Stockholder Approval, to consummate the Transactions, including the Merger. The execution, delivery and performance of this Agreement by Asterias and the consummation by Asterias of the Transactions have been duly and validly authorized by all necessary corporate action, and no other corporate proceedings on the part of Asterias are necessary to authorize this Agreement or to consummate the Transactions (other than, with respect to the Merger, (1) receipt of the Asterias Stockholder Approval and (2) the filing of the Certificate of Merger with the DSOS). This Agreement has been duly and validly executed and delivered by Asterias and, assuming due authorization, execution and delivery by BioTime and Merger Sub, constitutes a legal, valid and binding obligation of Asterias, enforceable against Asterias in accordance with its terms, except that (x) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, affecting creditors' rights generally and (y) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(b) The Asterias Board of Directors by the unanimous vote of the disinterested members of the Asterias Board of Directors (acting upon the unanimous recommendation of the Asterias Special Committee) have adopted resolutions (1) determining that this Agreement and the Transactions, including the Merger, are fair to, and in the best interests of, Asterias and the stockholders of Asterias, (2) approving and declaring advisable this Agreement, in accordance with the requirements of the DGCL, (3) directing that this Agreement be submitted to the stockholders of Asterias for adoption and (4) subject to Section 5.3, resolving to make the Asterias Board Recommendation.

Section 3.5 No Conflicts: Required Filings and Consents.

(a) The execution and delivery of this Agreement by Asterias do not, and the performance of this Agreement by Asterias will not, (1) conflict with or violate the certificate of incorporation or bylaws of Asterias, (2) assuming that the Asterias Stockholder Approval and all consents, approvals, authorizations and other actions described in Section 3.5(b) have been obtained and all filings and obligations described in Section 3.5(b) have been made, conflict with or violate any Law or Order applicable to Asterias or by which any property or asset of Asterias is bound or (3) subject to obtaining the consents listed in Section 3.5(a) of the Asterias Disclosure Letter, result in any breach of, constitute a default (or an event that, with notice or lapse of time or both, would become a default or breach) under, constitute or be deemed an impermissible or void assignment (by operation of Law or otherwise) by Asterias of, result in the acceleration of any obligation of Asterias or right of a Third Party, or result in the creation of an Encumbrance on any property or asset of Asterias pursuant to, any Asterias Material Contract.

(b) The execution and delivery of this Agreement by Asterias do not, and the performance of this Agreement by Asterias will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Governmental Authority, except for (1) any filings as may be required under the rules and regulations of NYSE American, (2) the filing of the Joint Proxy Statement and the Registration Statement with the SEC and the declaration of effectiveness of the Registration Statement, (3) applicable requirements, if any, of the Exchange Act and state securities or “blue sky” Laws (“Blue Sky Laws”), and (4) the filing of the Certificate of Merger with the DSOS.

Section 3.6 Permits: Compliance. Asterias is in possession of all material franchises, licenses, permits, consents, approvals and Orders of any Governmental Authority necessary for Asterias to own, lease and operate its properties or to carry on its business as it is now being conducted (the “Asterias Permits”). No suspension or cancellation of any of the Asterias Permits is pending or, to the knowledge of Asterias, threatened in writing, and to the knowledge of Asterias, there are no defaults under, violations of, or events giving rise to a right of termination, amendment or cancellation of any Asterias Permits (with or without notice, the lapse of time or both). Asterias is not, and has been since January 1, 2015, in conflict with, or in default, breach or violation of, in any material respect, (1) any Law or Order applicable to Asterias or by which any property or asset of Asterias is bound or, to the knowledge of Asterias, affected, or (2) any Asterias Permit, in each case where such conflict, default, breach or violation would be material to Asterias and except for any past noncompliance as has been remedied, imposes no continuing obligations or costs on Asterias and is set forth on Section 3.6 of the Asterias Disclosure Letter.

Section 3.7 SEC Filings: Financial Statements.

(a) Asterias has filed or furnished all forms, reports and other documents required to be filed or furnished by it with the SEC since January 1, 2015 (such documents filed, including any amendments thereof, the “Asterias SEC Reports”). Each Asterias SEC Report (1) complied as to form in all material respects with the applicable requirements of the Securities Act, or the Exchange Act, as the case may be, and the Sarbanes-Oxley Act of 2002 (“SOX”) and the applicable rules and regulations promulgated thereunder and (2) did not, at the time it was filed (or, if amended prior to the date hereof, as of the date of such amendment), contain any untrue statement of a material fact, or omit to state a material fact, required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading.

(b) Each of the financial statements contained in the Asterias SEC Reports and all related compilations, reviews and other reports issued by Asterias' accountants with respect thereto included in the Asterias SEC Reports (1) complied as of their respective dates of filing with the SEC, in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto, (2) was prepared in accordance with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis with Asterias' past practices throughout the periods indicated (except as may be indicated in the notes thereto or, in the case of unaudited statements, as permitted by the rules and regulations of the SEC) and (3) fairly present, in all material respects, the financial position, results of operations and cash flows of Asterias as at the respective dates thereof and for the respective periods indicated therein (subject, in the case of unaudited interim statements, to normal and recurring year-end adjustments).

(c) Except as and to the extent set forth in the balance sheet of Asterias as of June 30, 2018, including the notes thereto (the "2018 Asterias Balance Sheet"), Asterias has no liability or obligation of any nature (whether accrued, absolute, contingent or otherwise) required to be disclosed by GAAP except for liabilities and obligations (1) incurred in the ordinary course of business and consistent with past practices since the date of the 2018 Asterias Balance Sheet, (2) executory obligations explicitly included under any written Contract to which Asterias is a party or is bound (that are not in the nature of breaches and that are not required by GAAP to be disclosed on a balance sheet), (3) incurred in connection with the preparation and negotiation of this Agreement and (4) that are not material to Asterias, individually or in the aggregate. Except as required by GAAP, Asterias has not, since January 1, 2017, made or adopted any material change in its accounting methods, practices or policies in effect on January 1, 2017.

(d) Since January 1, 2015, each of the principal executive officer of Asterias and the principal financial officer of Asterias (and each former principal executive officer of the Asterias and each former principal financial officer of Asterias, as applicable) has made all certifications required by Rule 13a-14 or 15d-14 under the Exchange Act or Sections 302 and 906 of SOX and the rules and regulations of the SEC promulgated thereunder with respect to the Asterias SEC Reports, and since January 1, 2015, neither Asterias nor any of its executive officers has received written notice from any Governmental Authority challenging or questioning the accuracy, completeness, form or manner of filing such certifications. For purposes of this Section 4.7(d), "principal executive officer" and "principal financial officer" have the meanings given to such terms in SOX. Asterias has no outstanding, or has arranged any outstanding, "extensions of credit" to directors or executive officers within the meaning of Section 402 of SOX. Asterias is in compliance in all material respects with SOX.

(e) Asterias maintains a system of internal controls over financial reporting designed to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external purposes, including to provide reasonable assurance that: (1) transactions are executed in accordance with management's general or specific authorizations, (2) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP, (3) access to assets that could have a material effect on Asterias' financial statements is permitted only in accordance with management's general or specific authorization and (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Neither Asterias nor, to the knowledge of Asterias, any of its officers or employees identified or is aware of (i) any significant deficiencies or material weaknesses in the design or operation of Asterias' internal control over financial reporting that could adversely affect Asterias' ability to record, process, summarize and report financial information or (ii) any fraud, whether or not material, that involves management or other employees who have a role in Asterias' internal control over financial reporting or the preparation of financial statements.

(f) Since January 1, 2015, neither Asterias nor Asterias' independent auditors has identified or been made aware of (i) any material weakness in the system of internal accounting controls utilized by Asterias, (ii) any fraud, whether or not material, that involves Asterias' management or other employees who have a role in the preparation of financial statements or the internal accounting controls utilized by Asterias or (iii) any substantive or credible and material Claim regarding any of the foregoing.

(g) Asterias has in place "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) that are designed to ensure that material information that is required to be disclosed by Asterias in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and made known to its principal executive officer and principal financial officer as appropriate to allow timely decisions regarding required disclosure.

(h) As of the date hereof, there are no outstanding unresolved comments with respect to Asterias or the Asterias SEC Reports noted in comment letters or, to the knowledge of Asterias, other correspondence received by Asterias or its attorneys from the SEC, and there are no pending (1) formal or informal investigations of Asterias by the SEC or (2) inspection of an audit of Asterias' financial statements by the Public Company Accounting Oversight Board.

(i) Asterias has adopted a code of ethics, as defined by Item 406(b) of Regulation S-K of the SEC, for senior financial officers, applicable to its principal financial officer, comptroller or principal accounting officer, or Persons performing similar functions. Asterias has promptly disclosed any change in or waiver of Asterias' code of ethics with respect to any such Persons, as required by Section 406(b) of SOX.

Section 3.8 Absence of Certain Changes or Events. Since the date of the 2018 Asterias Balance Sheet and through the date hereof, Asterias has conducted its business, in all material respects, in the ordinary course and in a manner consistent with past practice. Since the date of the 2018 Asterias Balance Sheet and through the date hereof, (a) there has not been any event, condition, circumstance, development, change or effect having, individually or in the aggregate, an Asterias Material Adverse Effect and (b) Asterias has not taken any action, or authorized, committed or agreed to take any action, that if taken between the date hereof and the Effective Time would have been prohibited by Section 5.1 if such covenant had been in effect as of the date of the 2018 Asterias Balance Sheet.

Section 3.9 Absence of Litigation. Except as set forth on Section 3.9 of the Asterias Disclosure Letter, there is (a) no Action pending and (b) (1) to the knowledge of Asterias, no inquiry, audit or investigation by any Governmental Authority pending, (2) no Action threatened in writing against Asterias, or any property or asset of Asterias and (3) neither Asterias nor any property or asset of Asterias is subject to any continuing Order, settlement agreement or similar written agreement with any Governmental Authority, or any Order, determination or award of any Governmental Authority, except in each case for Actions initiated by a Third Party that is not a Governmental Authority that is not individually or in the aggregate material to Asterias.

Section 3.10 Employee Benefit Plans.

(a) Section 3.10(a) of the Asterias Disclosure Letter lists (1) all employee benefit plans (as defined in Section 3(3) of ERISA), (2) all bonus, stock option, stock purchase, restricted stock, restricted stock unit, equity-based incentive, cash-based incentive, retention incentive, change in control payment, profit sharing, vacation, paid time off, cafeteria, fringe benefit, deferred compensation, supplemental termination pay, retiree medical or life insurance, supplemental retirement, severance, Tax gross-up or other compensation or benefit plans, programs or arrangements and (3) all compensation Contracts containing rights to any compensatory payment, acceleration of vesting or other benefits upon a change of control of Asterias or the termination of any Worker in connection with a change in control of Asterias beyond the payments, vesting or other benefits that are strictly required by applicable Law, in each of (1), (2) or (3) with respect to which Asterias has or could have any liability or that are maintained, contributed to or sponsored by Asterias, or any Asterias ERISA Affiliate for the benefit of any current or former Worker (or dependent or beneficiary thereof) (collectively, the "Asterias Plans") and all Asterias Plans, excluding Asterias Plans not subject to U.S. Law, the "Asterias US Plans"). Asterias has made available to BioTime a true and complete copy of each Asterias Plan and has made available to BioTime, where applicable, a true and complete copy of (i) each trust or other funding arrangement, (ii) each most recent summary plan description and summary of material modifications, (iii) all annual reports on IRS Form 5500 (or other material Governmental Authority filing made in respect of any Asterias Plan that is not an Asterias US Plan) filed within the past three (3) years, (iv) the most recently received IRS or other Governmental Authority determination or opinion letter for each such Asterias Plan and (v) the most recently prepared actuarial report and financial statement in connection with each such Asterias Plan.

(b) Except as set forth on Section 3.10(b) of the Asterias Disclosure Letter, none of the Asterias Plans is a multiemployer plan (within the meaning of Section 3(37) or 4001(a)(3) of ERISA) (a "Multiemployer Plan"), a "multiple employer plan" (within the meaning of Section 413(c) of the Code) (a "Multiple Employer Plan"), a "multiple employer welfare arrangement" (within the meaning of Section 3(40) of ERISA), a plan that is subject to Title IV of ERISA or Section 412 of the Code, or a "funded welfare plan" within the meaning of Section 419 of the Code. In addition, none of Asterias or any Asterias ERISA Affiliate sponsors, maintains, or contributes to, or has, within the past six (6) years, sponsored, maintained or contributed to, a Multiemployer Plan or other pension plan subject to Title IV of ERISA or Section 412 of the Code.

(c) Each Asterias Plan is and has been established and operated in accordance with its terms and the requirements of all applicable Laws including ERISA and the Code, except as would not, individually or in the aggregate, result in material liability to Asterias. No Action is pending or, to the knowledge of Asterias, threatened with respect to any Asterias Plan (other than routine Claims for benefits in the ordinary course of business) that, individually or in the aggregate, would result in any material liability to Asterias. No administrative investigation, audit or other administrative proceeding by the U.S. Department of Labor, the IRS or other Governmental Authority is in progress or pending or, to the knowledge of Asterias, threatened, with respect to any Asterias US Plan.

(d) Each Asterias US Plan that is intended to be qualified under Section 401(a) of the Code or Section 401(k) of the Code has timely received a favorable determination letter from the IRS covering all of the provisions applicable to such Asterias US Plan for which determination letters are currently available that such Asterias US Plan is so qualified, has a remaining period of time under applicable Treasury Regulations or IRS pronouncements in which to apply for such letter and to make any amendments necessary to obtain a favorable determination, or may rely upon an advisory or opinion letter for a prototype or volume submitter plan. Each trust established in connection with any Asterias US Plan that is intended to be exempt from federal income taxation under Section 501(a) of the Code has received a determination letter from the IRS that it is so exempt, has a remaining period of time under applicable Treasury Regulations or IRS pronouncements in which to apply for such letter and to make any amendments necessary to obtain a favorable determination, or may rely upon an advisory or opinion letter for a prototype or volume submitter plan. To the knowledge of Asterias, no fact or event has occurred since the date of such determination letter or letters from the IRS, if applicable, that could be expected to adversely affect the qualified status of any such Asterias US Plan or the exempt status of any such trust.

(e) There has not been any prohibited transaction (within the meaning of Section 406 of ERISA or Section 4975 of the Code and not otherwise exempt under Section 408 of ERISA) with respect to any Asterias US Plan. Except as would not, individually or in the aggregate, result in material liability to Asterias, neither Asterias nor any Asterias ERISA Affiliate has any liability under, arising out of or by operation of Title IV of ERISA (other than liability for premiums to the Pension Benefit Guaranty Corporation arising in the ordinary course of business), including any liability in connection with (1) the termination or reorganization of any employee benefit plan subject to Title IV of ERISA or (2) the withdrawal from any Multiemployer Plan or Multiple Employer Plan, and, to the knowledge of Asterias, no fact or event exists that could give rise to any such liability.

(f) Neither the execution and delivery of this Agreement nor the consummation of the Transactions (either alone or in conjunction with any other event, such as termination of employment) will (1) result in any compensatory payment or benefit (including severance, golden parachute, tax gross-up or otherwise) becoming due to any Worker, (2) increase any benefits otherwise payable under any Asterias Plan, (3) result in any acceleration of the time of any payment or vesting of any compensatory payment or benefits to any Worker or (4) result in any payment or benefit being non-deductible pursuant to Section 280G and 4999 of the Code. No Asterias Plan provides for the payment of a Tax gross-up, whether with respect to Section 280G of the Code, Section 409A of the Code or otherwise.

(g) Each Asterias US Plan that constitutes a nonqualified deferred compensation plan (within the meaning of Section 409A of the Code) has been maintained and operated in material documentary and operational compliance with Section 409A of the Code or an available exemption therefrom.

(h) With respect to any Asterias US Plan that is an employee welfare benefit plan, (i) each such Asterias US Plan that is a “group health plan” (as such term is defined in Section 5000(b)(1) of the Code) materially complies with the applicable requirements of Section 4980B(f) of the Code and any applicable similar state or local Law except as would not, individually or in the aggregate, result in material liability to Asterias, (ii) to the knowledge of Asterias, each such Asterias US Plan may be amended or terminated without material liability to Asterias on or at any time after the Effective Time, and (iii) no such Asterias US Plan provides benefits to, or on behalf of, any former employee after the termination of employment except (A) where the full cost of such benefit is borne entirely by the former employee (or such former employee’s eligible dependents or beneficiaries) or coverage through the end of the calendar month in which a termination of employment occurs, (B) where the benefit is required by Section 4980B of the Code (“COBRA”) or any similar state Law or (C) pursuant to an applicable employment agreement or severance agreement, plan or policy requiring Asterias to pay or subsidize COBRA premiums for a terminated employee following the employee’s termination.

(i) Asterias has never maintained, established, sponsored, participated in or contributed to any Asterias International Plan.

Section 3.11 Labor and Employment Matters.

(a) There are no Claims pending or, to the knowledge of Asterias, threatened between Asterias and any of its Workers, in any case, with respect to Employment Practices (as defined below), except for Claims that are not individually or in the aggregate material to Asterias.

(b) Asterias is not a party to any collective bargaining agreement or similar labor union agreement with any labor union, labor organization or works council, and, as of the date hereof, no such agreement is being negotiated. None of the employees of Asterias is represented by any labor union with respect to their employment with Asterias and there are no activities or proceedings of any labor union to organize any such employees. There has not been at any time since January 1, 2015 any union organizing activities concerning any employees of Asterias. There are no current and there have not been any labor strikes, slowdowns, work stoppages, lockouts, or any similar activity or dispute, by Workers since January 1, 2015.

(c) Asterias is in compliance in all material respects with all U.S. federal, state, and local, and all foreign, Laws and Contracts respecting or with its Workers, including, but not limited to wages, hours, compensation, fringe benefits, paid sick leave, employment or termination of employment, leave of absence rights, employment policies, immigration, terms and conditions of employment, child labor, labor or employee relations, affirmative action, government contracting obligations, equal employment opportunity and fair employment practices, disability rights or benefits, workers’ compensation, unemployment compensation and insurance, health insurance continuation, whistle-blowing, privacy rights, harassment, discrimination, retaliation, and working conditions or employee safety or health (“Employment Practices”). Without derogating from the generality of the above: (x) there are no material audits or investigations pending or, to the knowledge of Asterias, scheduled by any Governmental Authority pertaining to the Employment Practices of Asterias and (y) no material complaints relating to Employment Practices of Asterias has been, since January 1, 2015, filed with any Governmental Authority. Asterias are not engaged, and since January 1, 2015 have not been engaged, in any unfair labor practice (as defined under the National Labor Relations Act).

(d) Asterias is not delinquent in payments to any of its Workers for any wages, salaries, commissions, bonuses or other direct compensation for any services performed for it or amounts required to be reimbursed to such Workers, except for such delinquent payments, individually or in the aggregate, which would not reasonably be expected to result in material liability to Asterias.

(e) To the knowledge of Asterias, and except as would not be, individually or in the aggregate, material to Asterias, no Worker is in violation of any material term of any employment or service Contract, non-disclosure or confidentiality agreement, noncompetition agreement, or any restrictive covenant to a former employer relating to the right of any such Worker to be employed or retained by Asterias by which the individual is employed or engaged because of the nature of the business conducted or presently proposed to be conducted by it or to the use of Trade Secrets or proprietary information of others.

(f) To the knowledge of Asterias, and except as would not be, individually or in the aggregate, material to Asterias, Asterias is in compliance with the Worker Readjustment and Notification Act (the "WARN Act") (29 U.S.C. §2101) and any applicable state Laws or other Laws regarding redundancies, reductions in force, mass layoffs, and plant closings, including all obligations to promptly and correctly furnish all notices required to be given thereunder in connection with any redundancy, reduction in force, mass layoff, or plant closing to affected employees, representatives, any state dislocated worker unit and local government officials, or any other Governmental Authority. Asterias has not conducted any mass layoffs or plant closings in the 90-day period prior to the date of this Agreement.

Section 3.12 Information Supplied. The information supplied by Asterias for inclusion in the Joint Proxy Statement and the Registration Statement will not, (a) in the case of the Registration Statement, at the time the Registration Statement is filed with the SEC, at any time it is amended or supplemented or at the time it is declared effective under the Securities Act, contain any untrue statement of a material fact, or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not false or misleading and (b) in the case of the Joint Proxy Statement, as of the date the Joint Proxy Statement is first mailed to the stockholders of Asterias and the shareholders of BioTime, and at the time of the Asterias Special Meeting and the BioTime Special Meeting, contain any untrue statement of a material fact, or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not false or misleading. Notwithstanding the foregoing sentence, Asterias makes no representation or warranty with respect to any information supplied by BioTime, Merger Sub or any of their Representatives for inclusion in any of the foregoing documents. The information supplied by Asterias for inclusion in the Joint Proxy Statement and the Registration Statement will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and the rules and regulations thereunder.

Section 3.13 Property and Leases.

(a) Except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias, Asterias owns, and has good title to, each of the tangible assets reflected as owned by Asterias on the 2018 Asterias Balance Sheet (except for tangible assets sold or disposed of since that date in the ordinary course of business and consistent with past practices), free of any Encumbrances other than Permitted Encumbrances. Except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias, all of the machinery, equipment and other tangible personal property and assets owned or used by Asterias are usable in the ordinary course of business.

(b) Asterias does not own any real property.

(c) Section 3.13(c)(1) of the Asterias Disclosure Letter sets forth a complete and accurate list of all material leases of real property to which Asterias is a party, as lessee (“Asterias Real Property Leases”). Section 3.13(c)(2) of the Asterias Disclosure Letter sets forth a complete and accurate list of all subleases with respect to the Asterias Real Property Leases. All of the fixtures and other improvements located on the premises subject to the Asterias Real Property Leases are reasonably adequate and suitable for the purpose of conducting Asterias’ business as presently conducted.

Section 3.14 Intellectual Property.

(a) Section 3.14(a) of the Asterias Disclosure Letter identifies (i) the name (or names for co-applicants/registrants/owners) of applicant/registrant/current owner, (ii) the jurisdiction of application/registration and (iii) the application or registration number for each item of Registered Intellectual Property, owned or purported to be owned by or exclusively licensed or purported to be exclusively licensed to Asterias. Each of the Patents included in the Asterias Owned Intellectual Property properly identifies by name each and every inventor of the claims thereof as determined in accordance with the Laws of the jurisdiction in which such patent is issued or such patent application is pending. Asterias owns and possesses all right, title and interest in and to or have the right to use, pursuant to a valid and enforceable agreement, all Asterias Intellectual Property, free and clear of all Encumbrances or royalties other than Permitted Encumbrances. No interference, opposition, reissue, reexamination, cancellation or other proceeding of any nature (other than initial examination proceedings) is pending or was pending during the past three (3) years or threatened, in which the scope, validity, enforceability or ownership of any Asterias Intellectual Property is being or has been contested or challenged. All Trademarks and designs included in Asterias Intellectual Property have been in continuous use by Asterias since they were first used by Asterias or are planned to be in use by Asterias. To the knowledge of Asterias, there has been no prior use of such Trademarks or designs by any Person which would confer upon such Person superior rights in such Trademarks or designs, respectively. Since January 1, 2015, no Patent included in the Asterias Registered Intellectual Property, has been or is now involved in any infringement, interference, reissue, re-examination, opposition, invalidity or nullity proceeding. To the knowledge of Asterias, there are no (i) Trademarks of any Third Party potentially conflicting with the Trademarks included in the Asterias Intellectual Property, (ii) designs of any Third Party potentially conflicting with the designs included in Asterias Intellectual Property or (iii) Patents of any Third Parties potentially interfering with the Patents included in Asterias Registered Intellectual Property. Section 3.14(a) of the Asterias Disclosure Letter describes each filing, payment, and action that, as of the date of this Agreement, must be made or taken on or before the date that is ninety (90) days after the date of this Agreement with respect to such Asterias Registered Intellectual Property and intellectual property that is exclusively licensed to Asterias and for which Asterias is responsible. All Asterias Intellectual Property owned or purported to be owned by Asterias is (x) subsisting and is valid and enforceable and in full force and effect and valid and (y) has not lapsed (except for any Patents that lapsed or expired at the end of their statutory term), been abandoned, been disclaimed, been cancelled or been forfeited.

(b) No Asterias Associate owns or has any Claim, right (whether or not currently exercisable) or interest to or in any Intellectual Property rights that are owned or purported to be owned by Asterias and each Asterias Associate who is or was involved in the invention, creation or development of any Intellectual Property rights that are owned or purported to be owned by Asterias has signed a valid and enforceable written agreement containing an assignment of all Intellectual Property rights to Asterias and confidentiality provisions protecting the Intellectual Property rights that are owned or purported to be owned by Asterias. Such assignments of Intellectual Property rights to Asterias by an Asterias Associate have complied with the local Laws in which Asterias operates, including Laws regarding remuneration or compensation, to effectuate a valid assignment.

(c) No funding, facilities or personnel of any Governmental Authority or any university, college, research institute or other educational institution is being used, directly or indirectly, to create, in whole or in part, Asterias Owned Intellectual Property.

(d) Asterias has taken commercially reasonable steps to maintain the confidentiality of and otherwise protect and enforce its rights in all material proprietary information held by Asterias, or purported to be held by Asterias, as a material Trade Secret. To the knowledge of Asterias, no current or former employee, consultant, contractor, partner or investor of Asterias is in unauthorized possession of any of the Trade Secrets included in Asterias Intellectual Property.

(e) Section 3.14(e) of the Asterias Disclosure Letter sets forth each: (i) license agreement pursuant to which Asterias licenses in any Intellectual Property right (each an "Asterias In-bound License") or licenses out any Intellectual Property right owned by Asterias; provided, that, Asterias licenses shall not include clinical trial related agreements that license in or license out any Intellectual Property solely for the purposes of conducting a clinical trial and/or analyzing the results of such clinical trial; and provided further that Asterias In-bound Licenses shall not include commercially available off-the-shelf software that are generally available on the basis of nondiscriminatory pricing terms for \$5,000 or less, and (ii) agreement containing a covenant not to sue with respect to any Intellectual Property.

(f) To the knowledge of Asterias, the operation of the business of the Asterias as currently conducted does not infringe, misappropriate, dilute or otherwise violate any Intellectual Property rights owned by any other Person and no other Person is infringing, misappropriating, diluting or otherwise violating any Asterias Intellectual Property. No Action is pending and served (or is being threatened or is pending and has not been served) against Asterias or by Asterias relating to any actual, alleged or suspected infringement, misappropriation, dilution or other violation of any Intellectual Property rights of another Person or to Asterias Intellectual Property. Since January 1, 2015, Asterias has not received any written notice or other written communication relating to any actual, foreseen, alleged or suspected infringement, misappropriation, dilution or other violation of any Intellectual Property right of another Person by Asterias.

(g) Asterias is not now and has never been a member or promoter of, or a contributor to, any industry standards body or any similar organization that would reasonably be expected to require or obligate Asterias to grant or offer to any other Person any license or right to any Asterias Intellectual Property. No Asterias Product is distributed with any software that is licensed pursuant to an "open source" or other Third Party license agreement that requires the disclosure or licensing of any source code for any Asterias Product or requires any Asterias Product to be made available at no charge or grant, or purport to grant, to any Third Party, any rights or immunities under any Asterias Intellectual Property (including, but not limited to, using any Open Source Materials that require, as a condition of use, modification or distribution of the Open Source Materials that other software incorporated into, derived from or distributed with the Open Source Materials (i) be disclosed or distributed in source code form, (ii) be licensed for the purpose of making derivative works or (iii) be redistributable at no charge). Asterias has not disclosed, delivered, licensed or otherwise made available, and Asterias do not have a duty or obligation (whether present, contingent, or otherwise) to disclose, deliver, license, or otherwise make available, any source code for any Asterias Product to any Third Party who is not, as of the date of this Agreement, an employee of Asterias.

(h) There are no defects in any of software included in the Asterias Products that would prevent the same from performing materially in accordance with its user specifications and there are no viruses, worms, Trojan horses or similar disabling codes or programs in any of software included in the Asterias Products.

(i) None of the Asterias Intellectual Property owned or purported to be owned by Asterias is subject to any pending or outstanding injunction, directive, Order, judgment, or other disposition of dispute that adversely restricts the use, transfer, registration or licensing of any such Intellectual Property rights by Asterias or otherwise adversely affects the validity, scope, use, registrability or enforceability of any Asterias Owned Intellectual Property.

(j) Asterias is in compliance in all material respects with contractual requirements, internal policies and procedures (which are consistent with industry standards) and Laws that are designed to protect the security, confidentiality and integrity of transactions executed through the Asterias IT Systems, including encryption or other security protocols and techniques when appropriate and other confidential or proprietary data or information of Asterias. Since January 1, 2015, none of Asterias has suffered and, to the knowledge of Asterias, no service provider to Asterias has suffered any material security breach with respect to any Personal Data, data or information owned or held for use by Asterias, nor has Asterias been notified or been required by Laws to notify any Persons or any Governmental Authority of any security breach involving Personal Data.

(k) The Asterias IT Systems are in good repair and operating condition, subject only to ordinary wear and tear, and are adequate and suitable for the purposes for which they are being used or held for use, except as have not resulted in, and would not reasonably be expected to result in, an Asterias Material Adverse Effect. Asterias (i) has implemented business continuity, back-up and disaster recovery technologies that are commercially reasonable, (ii) has periodically, but no less frequently than annually, tested such technologies, and (iii) such technologies have not materially failed such tests.

Section 3.15 Taxes.

(a) Asterias has duly and timely filed with the appropriate Governmental Authority all income Tax Returns and other material Tax Returns that it was required to file under applicable Laws and all such Tax Returns are true, correct and complete in all respects. Asterias has timely paid all Taxes, and any related interest, fees or penalties, required to be paid by them (whether or not shown on any Tax Return) and are not currently the beneficiary of any extension of time within which to file any Tax Return. There are no Encumbrances for Taxes (other than Permitted Encumbrances) upon any material assets of Asterias. The unpaid Taxes did not, as of the date of the 2018 Asterias Balance Sheet, exceed the reserve for Tax liability (excluding any reserve for deferred Taxes established to reflect timing differences between book and Tax income) set forth on the face of the 2018 Asterias Balance Sheet (rather than in any notes thereto). Since the date of the 2018 Asterias Balance Sheet, Asterias has not incurred any liability for Taxes outside the ordinary course of business or otherwise inconsistent with past custom and practice.

(b) No Tax Returns of Asterias are currently the subject of audit, assessment or other action for or relating to any liability in respect of Taxes. Asterias has made available to BioTime correct and complete copies of all examination reports and statements of deficiencies assessed against, or agreed to by Asterias since January 1, 2015. Asterias has not waived any statutes of limitations in respect of Taxes, or agreed to any extension of time with respect to a Tax assessment or deficiency. No Claim has been made in writing by an authority to Asterias in a jurisdiction where Asterias does not file Tax Returns that it is subject to taxation by that jurisdiction. No deficiencies for Taxes with respect to Asterias has been claimed, proposed or assessed by any Governmental Authority in writing. There are no pending or, threatened audits, assessments or other actions for or relating to any liability in respect of Taxes of Asterias.

(c) Asterias has not constituted either a “distributing corporation” or a “controlled corporation” within the meaning of Section 355(a)(1)(A) of the Code in a distribution of stock intended to qualify for tax-free treatment under Section 355 of the Code.

(d) Asterias is not a party to or bound by any Tax allocation, Tax indemnification, Tax sharing agreement or similar agreement (other than commercial agreements the primary purposes of which does not relate to Taxes) or has any liability for Taxes of another Person (other than Asterias) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local or Non-U.S. Law), as a transferee or successor, by contract or otherwise.

(e) Asterias has not been a party to a transaction that is or is substantially similar to a “listed transaction” as defined in Treasury Regulations Section 1.6011-4(b)(2), or any other transaction requiring disclosure under analogous provisions of state, local or non-U.S. Tax Law.

(f) Asterias has duly and timely withheld and remitted to the appropriate Governmental Authority all Taxes required to have been withheld and remitted in connection with any amounts paid or owing to any employee, independent contractor, creditor, stockholder or other Third Party.

(g) Asterias has not taken or agreed to take any action (other than actions contemplated by this Agreement) or knows of any fact that is reasonably likely to prevent or impede the Merger from qualifying as a “reorganization” within the meaning of Section 368(a) of the Code.

(h) Neither BioTime or Asterias will be required to include any item of income in, or exclude any item of deduction from, taxable income for any period (or any portion thereof) ending after the Closing Date as a result of (i) pursuant to Section 481 of the Code (or any analogous provision of state, local or non-U.S. Tax Law) any accounting method change or agreement with any Governmental Authority filed or made on or prior to the Closing Date by Asterias, (ii) any prepaid amount received on or prior to the Closing by Asterias, (iii) any intercompany transaction or excess loss account described in Section 1502 of the Code (or any corresponding provision of state, local or non-U.S. Tax Law), (iv) any election under Section 108(i) of the Code by Asterias, (v) any “closing agreement” as described in Section 7121 of the Code (or any corresponding or similar provision of state, local or non-U.S. Tax Law) executed on or prior to the Closing Date by Asterias, (vi) any amounts includable under Sections 951, 951A or 965 of the Code with respect to Asterias or (vii) any installment sale or other transaction on or prior to the Closing Date with respect to Asterias.

(i) Asterias has been a resident in its jurisdiction of incorporation for Tax purposes and has not, at any time, been treated as a resident of or as having a permanent establishment or fixed place of business in any other jurisdiction.

(j) Asterias has never been a member of an affiliated group filing a consolidated federal income Tax Return (other than a group the common parent of which is Asterias) or any similar group for federal, state, local or non-U.S. Tax purposes.

(k) Asterias has not elected at any time to be treated as an S corporation within the meaning of Sections 1361 or 1362 of the Code.

(l) Asterias has complied with all transfer pricing rules. All documentation required by all relevant transfer pricing laws have been timely prepared.

Section 3.16 Environmental Matters.

- (a) Asterias is, and has at all times, since January 1, 2015, been, in compliance with all applicable Environmental Laws, except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias.
- (b) To the knowledge of Asterias and except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias, none of the properties currently owned, leased or operated by Asterias (including soils and surface and ground waters) are contaminated with any Hazardous Substance above cleanup levels established by Governmental Authorities pursuant to Environmental Laws and require remediation.
- (c) Asterias has not received any written notice, letter or request for information stating that it may be liable under any Contract, or pursuant to Environmental Law, for any contamination by Hazardous Substances at any site.
- (d) Except as would not reasonably be expected to have, individually or in the aggregate, a Asterias Material Adverse Effect, Asterias possesses and is in compliance with all permits, licenses and other authorizations required under any Environmental Law ("Environmental Permits") and (1) Asterias' operations are in compliance with applicable Environmental Permits, (2) all such Environmental Permits are in full force and effect, (3) no suspension or cancellation of any of the Environmental Permits is pending or threatened in writing and (4) no such suspension or cancellation of such Environmental Permits will result from the Transactions.
- (e) Except for contracts entered into in the ordinary course of business, and to the knowledge of Asterias, Asterias has not entered into any agreement (other than Asterias Real Property Leases) that may require it to guarantee, reimburse, pledge, defend, hold harmless or indemnify any other party with respect to liabilities arising out of Environmental Laws or Hazardous Substances. Except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias, no Action arising under or pursuant to Environmental Laws is pending, or to the knowledge of Asterias, threatened against Asterias. To the knowledge of Asterias and except as would not reasonably be expected to be, individually or in the aggregate, material to Asterias, no condition exists on any property, currently owned or operated by Asterias that has given rise to, or would reasonably be expected to give rise to, any liability or obligation under Environmental Laws.

Section 3.17 Material Contracts.

- (a) Section 3.17(a) of the Asterias Disclosure Letter lists the following respective Contracts (other than Asterias Plans) in effect as of the date hereof (together with all amendments and supplements) to which Asterias is a party, or by which any property or asset of Asterias is bound or affected (collectively being, the "Asterias Material Contracts") (provided, however, that the Asterias Material Contracts will be deemed to include, without requirement of listing, any "material contract" (as such term is used in Item 601(b)(10) of Regulation S-K of the SEC) that was filed as an exhibit to the Asterias SEC Reports prior to the date of this Agreement, other than any Asterias Plan):

(1) other than leases of real property, each Contract that (A) provides for payment obligations by Asterias of more than \$100,000, in the aggregate, during the current or any future fiscal years or (B) provides for payment obligations of more than \$50,000 by Asterias, in the aggregate, over the remaining term of such Contract, and that, in either case, cannot be canceled by Asterias upon ninety (90) days or less notice without material liability to Asterias excluding non-exclusive outbound licenses, clinical trial agreements and material transfer agreements entered into in the ordinary course of business;

(2) all revenue-generating Contracts that provide for payments to Asterias of more than \$50,000 in revenues in the fiscal year ended December 31, 2018;

(3) all distributor, supplier, wholesaler, sales, reseller, joint marketing, or joint development Contracts that (A) provide for payment obligations by Asterias of more than \$50,000, in the aggregate, during the fiscal year ended December 31, 2018 or (B) provide for payment obligations by Asterias of more than \$100,000, in the aggregate, over the remaining term of such Contract;

(4) all Contracts involving the payment of royalties or other amounts calculated based upon the revenues or income of Asterias, or income or revenues related to any product of Asterias where such payments are expected to exceed \$50,000 in the 12-month period following the date hereof;

(5) other than leases of real property, all Contracts that grant a right of first refusal, first offer or similar right, in each case, that is material to Asterias;

(6) all Contracts that (A) limit or purport to limit the ability of Asterias, or, upon the consummation of the Merger, BioTime or any BioTime Subsidiary, to compete with any Person, in any geographic area or during any period of time, (B) subject Asterias or, upon the consummation of the Merger, BioTime or any BioTime Subsidiary to any “most-favored nation” or other similar limitations on future product pricing or (C) otherwise restrict in a material respect Asterias or, upon completion of the Merger, BioTime or any BioTime Subsidiary, from engaging or competing in any material line of business, in any location;

(7) other than in the ordinary course, any Contract relating to the disposition or acquisition by Asterias of assets or equity ownership interests for consideration in excess of \$50,000 that contain ongoing obligations that are material to Asterias;

(8) any mortgages, indentures, guarantees, loans, credit agreements, security agreements or other Contracts relating to Indebtedness, other than accounts receivables and payables in the ordinary course of business consistent with past practice;

(9) each “material contract” (as such term is used in Item 601(b)(10) of Regulation S-K of the SEC) executed on or prior to the date hereof that is anticipated to be filed (or required to be filed) pursuant to Item 601(b)(10) of Regulation S-K with Asterias’ next periodic report under the Exchange Act;

(10) other than leases of real property, all Contracts providing for (A) material indemnification obligations (including with respect to Intellectual Property rights) or (B) any material guaranty of Third Party obligations, in each of the foregoing cases except for those entered into in the ordinary course of business and consistent with past practices (including those in connection with Asterias Outbound License Agreements);

(11) all Contracts relating to revenue or profit-sharing joint ventures (whether in partnership, limited liability company or other organizational form);

(12) all Contracts with any Governmental Authority or Contracts that, to the knowledge of Asterias, are subcontracts under any Contract with any Governmental Authority;

(13) all Contracts to which Asterias is a party (other than confidentiality agreements entered in the ordinary course of business and consistent with past practices that do not separately license any Intellectual Property but allow disclosure and use of confidential information) pursuant to which (A) any Person is authorized to use or is granted any right in or to any material Asterias Owned Intellectual Property or (B) to the knowledge of Asterias, Asterias has agreed to any restriction, still in effect as of the date of this Agreement, on the right of Asterias to enforce any material Intellectual Property rights;

(14) all Contracts (excluding commercial off the shelf computer software that are generally available on nondiscriminatory pricing terms) under which Asterias is granted any license, option or other right or immunity (including a covenant not to be sued or right to enforce or prosecute any Patents) with respect to any Intellectual Property of a Third Party, which Contract is material to Asterias;

(15) all Asterias Real Property Leases;

(16) all Contracts that are a settlement, conciliation or similar agreement with or before any Governmental Authority;

(17) all Contracts entered into in the last five (5) years in connection with the settlement or other resolution of any Action that has any material continuing obligation, liability or restriction on the part of Asterias; and

(18) (A) any Contract with any labor union or any collective bargaining agreement or similar Contract with any Worker; (B) any separation agreement or settlement agreement with any Worker, under which Asterias has any current, actual, or potential liability; (C) any settlement agreement, consent decree, or other similar agreement with any Governmental Authority; and (D) any employment Contract or offer letter with any Worker that is not immediately terminable at-will by Asterias without notice, severance, or other cost or liability.

(b) Each Asterias Material Contract is a legal, valid and binding agreement and is in full force and effect and enforceable in accordance with its terms (subject to applicable bankruptcy, insolvency, reorganization, moratorium or other Laws relating to, or affecting the rights and remedies of creditors generally). Asterias is not in default under any Asterias Material Contract, has not committed or failed to perform any material act that, with or without notice, lapse of time, or both, would constitute a default under the Asterias Material Contract. To the knowledge of Asterias, no other party is in breach or violation of, or default under, any Asterias Material Contract. To the knowledge of Asterias, Asterias has not received written notice of the intention of any party to cancel, terminate, materially change the scope of rights under or fail to renew any Asterias Material Contract. Asterias has made available to BioTime true and complete copies of all Asterias Material Contracts, including any material amendments and supplements thereto.

Section 3.18 NYSE American. Asterias is in material compliance with the applicable criteria for continued listing of the shares of Asterias Common Stock on NYSE American, including all applicable corporate governance rules and regulations.

Section 3.19 Insurance.

(a) Asterias is, and since January 1, 2015 has been, insured against such losses and risks and in such amounts as are customary in and reasonable for the businesses in which they are engaged, except where the failure to be so insured would not have, individually or in the aggregate, an Asterias Material Adverse Effect.

(b) Section 3.19(b) of the Asterias Disclosure Letter sets forth each insurance policy (including policies providing casualty, liability, medical and works compensation coverage) to which Asterias is currently a party. Except as would not have a Asterias Material Adverse Effect, (a) each insurance policy under which Asterias is an insured or otherwise the principal beneficiary of coverage is in full force and effect, all premiums due thereon have been paid in full, and Asterias is in material compliance with the terms and conditions of such insurance policy, (b) Asterias is in breach or default under any such insurance policy, (c) no notice of cancellation or termination has been received with respect to any insurance policy (including any such breach or default with respect to the payment of premiums or the giving of notice or both) and (d) to the knowledge of Asterias, no event has occurred which, with notice or lapse of time, would constitute such breach or default, or permit termination, or modification, under any such insurance policy.

(c) Other than with respect to any Asterias Plans set forth in Section 3.10(a) of the Asterias Disclosure Letter pursuant to which benefits are provided through insurance contracts, since January 1, 2015, Asterias has not been denied any insurance or indemnity bond coverage.

Section 3.20 Brokers and Expenses

. No agent, broker, finder or investment banker other than Raymond James LLC (the "Asterias Financial Advisor") is entitled to any brokerage, finder's or other fee or commission in connection with the Transactions based upon arrangements made by, or on behalf of, Asterias.

Section 3.21 Takeover Statutes

. The board of directors of Asterias has taken all necessary actions so that no "fair price," "moratorium," "control share acquisition" or other anti-takeover Law or any anti-takeover provision in Asterias' certificate of incorporation or bylaws is applicable to this Agreement, the Merger, and the Transactions.

Section 3.22 Certain Business Practices.

(a) Since January 1, 2015, neither Asterias nor, to the knowledge of Asterias, any director, officer, employee or agent of Asterias acting on behalf of Asterias has (1) used any Asterias funds for unlawful contributions, gifts, entertainment or other unlawful payments relating to political activity or (2) made any unlawful payment to any foreign or domestic government official or employee or to any foreign or domestic political party or campaign in violation of any provision of the FCPA or any comparable Law.

(b) Since January 1, 2015, Asterias has conducted its import and export transactions in accordance in all material respects with applicable provisions of U.S. trade Laws, and other trade Laws of the countries where it conducts business. Without limiting the foregoing:

(1) Asterias has obtained all material export licenses and other approvals required for their exports of products, software and technologies from the U.S., except as would not result in a liability that is material to Asterias; and

(2) Asterias is in compliance in all material respects with the terms of such applicable export licenses or other approvals.

Section 3.23 Affiliate Transactions. Other than compensation payable to officers and directors and employee expense reimbursement obligations and except to the extent not required to be disclosed pursuant to Item 404 of Regulation S-K promulgated under the Securities Act, there are no existing Contracts, transactions, Indebtedness or other arrangements between Asterias, on the one hand, and any of the directors, officers or other affiliates of the Asterias, on the other hand.

Section 3.24 Vote Required. The Asterias Stockholder Approval is the only vote of the holders of any class or series of Asterias' capital stock necessary to adopt or approve this Agreement, the Merger or any of the other Transactions.

Section 3.25 Opinion of Financial Advisor. The Asterias Financial Advisor has delivered to the Asterias Special Committee its written opinion (or oral opinion to be confirmed in writing), dated as of the date of this Agreement, to the effect that, as of such date and based upon and subject to the various assumptions made, procedures followed, matters considered and qualifications and limitations set forth therein, the Exchange Ratio is fair from a financial point of view to the stockholders of Asterias holding shares of Asterias Common Stock (other than shares of Asterias Common Stock held by Asterias, BioTime, or any of BioTime's wholly-owned Subsidiaries). Asterias has agreed to make available to BioTime a copy of such opinion as soon as practicable following the execution of this Agreement solely for informational purposes.

Section 3.26 Regulatory Matters.

(a) Except as would not have a material impact on Asterias, as to each product subject to the FDCA, the U.S. Public Health Service Act (“PHS Act”), or similar Laws in any non-United States jurisdiction that is investigated, manufactured, distributed or marketed by Asterias to be used in humans (a “Medical Product”), each such Medical Product is being manufactured, tested, distributed, marketed, sold and stored in material compliance with all applicable requirements under the FDCA, the PHS Act, and similar applicable Laws, including those relating to good laboratory practices, good clinical practices, investigational use, Human Cell, Tissue and Cellular and Tissue-based Products (HCT/Ps), pre-market clearance or marketing approval to market a Medical Product, current good manufacturing practices and quality system requirements, labeling, advertising, record keeping, filing of reports and security, and in material compliance with federal and state fraud and abuse and false claims Laws, privacy Laws, Laws governing gifts and other transfers of value to physicians, and any equivalent applicable Laws and regulations in any non-United States jurisdiction. Further, with regard to each such Medical Product, Asterias, and to the knowledge of Asterias, Asterias’ agents are in material compliance with all United States Laws, and similar applicable Laws in any non-United States jurisdiction, governing the storage, handling, shipment, transfer, import, export, or sale of human cells or tissues. Asterias has not received any written notice or other written communication from the FDA or any other applicable Governmental Authority (i) contesting the pre-market clearance or approval of, the uses of or the labeling and promotion of any Medical Products or (ii) otherwise stating any violation applicable to any Medical Product of any applicable Law, including but not limited to any applicable Law governing the storage, handling, shipment, manufacturing, import, export, or sale of human cells or tissues.

(b) No Medical Product is under consideration by senior management of Asterias for recall, withdrawal, removal, suspension, seizure or discontinuation, or has been recalled, withdrawn, removed, suspended, seized or discontinued (other than for commercial or other business reasons) by Asterias, in the United States or outside the United States (whether voluntarily or otherwise) and no legal proceedings in the United States or outside of the United States (whether completed or pending) seeking the recall, withdrawal, suspension, seizure or discontinuation of any Medical Product are pending against Asterias its agents or any licensee of any Medical Product.

(c) To the knowledge of Asterias, no Medical Product manufactured or distributed by Asterias is or has been (i) adulterated within the meaning of 21 U.S.C. § 351 (or similar Laws), including, but not limited to, applicable requirements of 21 C.F.R. Parts 600, or 1271, (ii) misbranded within the meaning of 21 U.S.C. § 352 (or similar Laws) or (iii) a product that is in violation of 21 U.S.C. § 355, § 360, § 360e (or similar Laws).

(d) Except as would not have a material impact on Asterias, neither Asterias nor, to the knowledge of Asterias, any of its officers, employees or agents has made an untrue statement of a material fact or fraudulent statement to the FDA or any other Governmental Authority, failed to disclose a material fact required to be disclosed to the FDA or any other Governmental Authority, or committed an act, made a statement, or failed to make a statement that, at the time such disclosure was made, could reasonably be expected to provide a basis for the FDA or any other Governmental Authority to invoke its policy respecting “Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities,” set forth in 56 Fed. Reg. 46191 (10 September 1991) or any similar policy, Law, regulation or procedure of any other Governmental Authority.

(e) Neither Asterias nor, to the knowledge of Asterias, any of its officers, employees or agents has been convicted of any crime or engaged in any conduct for which debarment is mandated by 21 U.S.C. § 335a(a) or any similar Law or authorized by 21 U.S.C. § 335a(b) or any similar Law. Neither Asterias nor, to the knowledge of Asterias, any of its officers, employees or agents has been convicted of any crime or engaged in any conduct for which such Person could be excluded from participating in the federal health care programs under Section 1128 of the U.S. Social Security Act of 1935, as amended, or any similar Laws.

(f) Asterias has not received any written notice that the FDA or any other Governmental Authority has (i) commenced, or threatened to initiate, any action to limit or enjoin production of any Medical Product or (ii) commenced, or threatened to initiate, any action to limit or enjoin the use of any facility where any Medical Product is manufactured, stored, handled, shipped, transferred, tested or packaged by Asterias or its agents.

(g) For each study of a Medical Product controlled by and, to the knowledge of Asterias, for each study of a Medical Product not controlled by but sponsored or commissioned by, or conducted at the request of, Asterias in which human subjects participated, Asterias or the party conducting the study obtained the informed consent of such human subjects in accordance with FDA regulations on Protection of Human Subjects, 21 C.F.R. Part 50, the ICH E6 Good Clinical Practice: Consolidated Guidance (1996), and in accordance with all applicable Laws, statutes, rules, regulations and ordinances, and all amendments to any of the foregoing. All clinical studies conducted by or on behalf of Asterias were conducted in accordance with applicable requirements of 21 C.F.R. Parts 54 and 56, and such other Laws governing the conduct of clinical studies.

Section 3.27 No Other Representations or Warranties. Except for the representations and warranties expressly set forth in this Agreement, neither Asterias nor any other Person on behalf of Asterias makes any express or implied representation or warranty with respect to Asterias or with respect to any other information provided to BioTime or Merger Sub in connection with the Transactions.

Section 3.28 Disclaimer of Other Representations and Warranties. Asterias acknowledges and agrees that, except for the representations and warranties expressly set forth in this Agreement (a) each of BioTime and Merger Sub is not making and has not made any representations or warranties relating to itself or its business or otherwise in connection with the Transactions, including the Merger, and none of Asterias or its Representatives is relying on any representation or warranty of BioTime or Merger Sub except for those expressly set forth in this Agreement and (b) no Person has been authorized by BioTime or Merger Sub to make any representation or warranty relating to BioTime or Merger Sub or their respective businesses, and if made, such representation or warranty must not be relied upon by Asterias as having been authorized by BioTime or Merger Sub.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF BIOTIME AND MERGER SUB

Except as disclosed in (a) the BioTime SEC Reports filed on or after January 1, 2018 and prior to the date of this Agreement (excluding any amendment thereto made after the date of this Agreement, any forward looking disclosures set forth in any “risk factors” section, any disclosures in any “forward looking statements” section and any other disclosures included therein to the extent they are predictive or forward-looking in nature); provided that the exception set forth in this clause (a) will not apply to the representations set forth in Section 4.3 (Capitalization) or Section 4.4 (Authority) or (b) with respect to each section and subsection within this Article IV, the corresponding section or subsection of the disclosure letter delivered by BioTime to Asterias immediately prior to the execution of this Agreement (the “BioTime Disclosure Letter”) (disclosure of any item in any section or subsection of the BioTime Disclosure Letter being deemed disclosure with respect to any other Section or subsection of this Agreement to which the relevance of such item is reasonably apparent), BioTime and Merger Sub jointly and severally represent and warrant to Asterias as set forth below.

Section 4.1 Organization and Power. BioTime is a corporation duly organized, validly existing and in good standing under the Laws of the State of California, and has the requisite corporate power and authority to own, lease and operate its properties and assets and to carry on its business as it is now being conducted. Merger Sub is a corporation organized, validly existing and in good standing under the Laws of the State of Delaware, and has the requisite corporate power and authority to own, lease and operate its properties and assets and to carry on its business as it is now being conducted. Each of BioTime and the Merger Sub is duly qualified or licensed as a foreign corporation to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification or licensing necessary, except where the failure to be so duly qualified or licensed and in good standing would not have, individually or in the aggregate, a BioTime Material Adverse Effect.

Section 4.2 Certificate of Incorporation and Bylaws. BioTime has made available to Asterias a complete and correct copy of the certificate of incorporation and the bylaws or equivalent organizational documents of BioTime and Merger Sub, each as amended to date (such certificates of incorporation, bylaws and equivalent organizational documents, collectively, referred to as the “BioTime Charter Documents”). The BioTime Charter Documents are in full force and effect. Neither BioTime nor Merger Sub is in material violation of any of the provisions of its respective BioTime Charter Documents.

Section 4.3 Capitalization.

(a) The authorized capital stock of BioTime consists of 250,000,000 BioTime Common Shares and 2,000,000 preferred shares, no par value (“BioTime Preferred Shares”). All outstanding BioTime Common Shares are validly issued, fully paid and nonassessable and are issued free of any preemptive rights. All BioTime Common Shares subject to issuance upon the exercise, vesting or conversion of any convertible security will, upon issuance on the terms and conditions specified in the instruments pursuant to which they are issuable, will be duly authorized, validly issued, fully paid and nonassessable and free of any preemptive rights.

(b) As of the close of business on November 7, 2018:

- (1) 126,884,482 BioTime Common Shares were issued and outstanding;
- (2) no BioTime Common Shares were held by any BioTime Subsidiary;
- (3) no BioTime Common Shares were held in the treasury of BioTime;
- (4) 11,438,443 BioTime Common Shares were subject to outstanding BioTime Stock Options, of which BioTime Stock Options to purchase 5,959,134 BioTime Common Shares were vested;
- (5) 16,000,000 BioTime Common Shares were reserved for issuance pursuant to BioTime's 2012 Equity Incentive Plan;
- (6) 704,125 BioTime Common Shares were subject to outstanding BioTime RSU Awards;
- (7) no BioTime Common Shares were subject to outstanding BioTime Warrants; and
- (8) no BioTime Preferred Shares were issued or outstanding.

(c) As of November 7, 2018, except for changes since the date specified in Section 4.3(b) there are no outstanding (1) options, warrants or other Contracts of BioTime or any BioTime Subsidiary relating to the issued or unissued capital stock of BioTime or any BioTime Subsidiary or obligating BioTime or any BioTime Subsidiary to issue or sell any shares of capital stock of, or other equity interests in, BioTime or any BioTime Subsidiary, (2) shares of capital stock of, or other voting securities or ownership interests in, BioTime or (3) restricted shares, restricted share units, stock appreciation rights, performance shares, contingent value rights, "phantom" stock or similar securities or rights that are derivative of or provide economic benefits based, directly or indirectly, on the value or price of any capital stock or other voting securities (including any bonds, debentures, notes or other Indebtedness having voting rights or convertible into securities having voting rights) or ownership interests in BioTime or any BioTime Subsidiary (the items in clauses (1) through (3) being referred to collectively as the "BioTime Securities"), other than as described in Section 4.3(b). There are no voting trusts or other Contracts to which BioTime or any BioTime Subsidiary is a party with respect to the voting of any capital stock of, or other equity interest in, BioTime or any BioTime Subsidiary.

(d) There are no outstanding contractual obligations of BioTime or any BioTime Subsidiary to repurchase, redeem or otherwise acquire any BioTime Common Shares or any other BioTime Securities or any capital stock of any BioTime Subsidiary or to provide funds to, or make any investment (in the form of a loan, capital contribution or otherwise) in, any BioTime Subsidiary or any other Person that would be material to BioTime and the BioTime Subsidiaries, taken as a whole. Each outstanding share of capital stock of each BioTime Subsidiary is duly authorized, validly issued, fully paid and nonassessable and was issued free of any preemptive rights, and each such share is owned by BioTime or another BioTime Subsidiary free and clear of all Encumbrances or Contracts or other limitations on BioTime's or any BioTime Subsidiary's voting rights.

Section 4.4 Authority.

(a) Each of BioTime and Merger Sub has all necessary corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and, subject to obtaining the BioTime Shareholder Approval, to consummate the Transactions. The execution, delivery and performance of this Agreement by BioTime and Merger Sub and the consummation by BioTime and Merger Sub of the Transactions have been duly and validly authorized by all necessary corporate action, and no other corporate proceedings on the part of BioTime or Merger Sub are necessary to authorize this Agreement or to consummate the Transactions (other than, with respect to the Merger, (1) receipt of the BioTime Shareholder Approval and (2) the filing of the Certificate of Merger with the DSOS). This Agreement has been duly and validly executed and delivered by BioTime and Merger Sub and, assuming due authorization, execution and delivery by Asterias, constitutes a legal, valid and binding obligation of each of BioTime and Merger Sub, enforceable against each of BioTime and Merger Sub in accordance with its terms, except that (x) such enforcement may be subject to applicable bankruptcy, insolvency, reorganization, moratorium or other similar Laws, now or hereafter in effect, affecting creditors' rights generally and (y) the remedy of specific performance and injunctive and other forms of equitable relief may be subject to equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(b) The BioTime Board of Directors (acting upon the unanimous recommendation of the BioTime Special Committee) has adopted resolutions (by unanimous vote of the disinterested members of the BioTime Board of Directors) (1) determining that this Agreement and the Transactions, including the Merger, are fair to, and in the best interests of, BioTime and its shareholders, (2) approving and declaring advisable this Agreement and the Transactions, and (3) directing that the issuance of BioTime Common Shares contemplated by this Agreement be submitted to the shareholders of BioTime for approval.

(c) The board of directors of Merger Sub adopted resolutions (1) determining that the Merger is fair to, and in the best interests of, Merger Sub and its stockholder and (2) approving and declaring advisable this Agreement and the Transactions (such approval and adoption having been made in accordance with the DGCL).

Section 4.5 No Conflicts; Required Filings and Consents.

(a) The execution and delivery of this Agreement by BioTime and Merger Sub do not, and the performance of this Agreement by BioTime and Merger Sub will not, (1) conflict with or violate the BioTime Charter Documents or (2) assuming that all consents, approvals, authorizations and other actions described in Section 4.5(b) have been obtained and all filings and obligations described in Section 4.5(b) have been made and the BioTime Shareholder Approval, conflict with or violate any Law or Order applicable to BioTime or Merger Sub or by which any property or asset of either of them is bound or (3) subject to obtaining the consents listed in Section 4.5(a) of the BioTime Disclosure Letter, result in any breach of, constitute a default (or an event that, with notice or lapse of time or both, would become a default or breach) under, constitute or be deemed an impermissible or void assignment (by operation of Law or otherwise) by BioTime or a BioTime Subsidiary of, result in the acceleration of any obligation of BioTime or a BioTime Subsidiary or right of a Third Party, or result in the creation of an Encumbrance on any property or asset of BioTime or any BioTime Subsidiary pursuant to, any BioTime material contract (as defined in Item 601(b)(10) of Regulation S-K).

(b) The execution and delivery of this Agreement by BioTime and Merger Sub do not, and the performance of this Agreement by BioTime and Merger Sub will not, require any consent, approval, authorization or permit of, or filing with, or notification to, any Governmental Authority, except for (1) any filings as may be required under the rules and regulations of NYSE American, (2) the filing of the Joint Proxy Statement and the Registration Statement with the SEC and the declaration of effectiveness of the Registration Statement, (3) applicable requirements of the Exchange Act and Blue Sky Laws, and (4) the filing of the Certificate of Merger with the DSOS.

Section 4.6 Permits; Compliance. Each of BioTime and the BioTime Subsidiaries is in possession of all material franchises, licenses, permits, consents, approvals and Orders of any Governmental Authority necessary for each of BioTime or the BioTime Subsidiaries to own, lease and operate its properties or to carry on its business as it is now being conducted (the "BioTime Permits") except where the failure to hold or to comply with, or the suspension or cancellation of, or failure to be valid or to be in full force and effect of, any of the BioTime Permits, would not have, individually or in the aggregate, a BioTime Material Adverse Effect. No suspension or cancellation of any of the BioTime Permits is pending or, to the knowledge of BioTime, threatened in writing. Neither BioTime nor any BioTime Subsidiary is, or has been since January 1, 2015, in conflict with, or in default, breach or violation of, in any material respect, (1) any Law or Order applicable to BioTime or any BioTime Subsidiary or by which any property or asset of BioTime or any BioTime Subsidiary is bound, or (2) any material BioTime Permit, in each case where such conflict, default, breach or violation would be material to BioTime and BioTime Subsidiaries, taken as a whole, except for any past noncompliance as has been remedied and imposes no continuing obligations or costs on BioTime.

Section 4.7 SEC Filings; Financial Statements.

(a) BioTime has filed or furnished all forms, reports and other documents required to be filed or furnished by it with the SEC since January 1, 2015 (such documents filed, including any amendments thereof, the "BioTime SEC Reports"). Each BioTime SEC Report (1) complied as to form in all material respects with the applicable requirements of the Securities Act, or the Exchange Act, as the case may be, and SOX and the applicable rules and regulations promulgated thereunder and (2) did not, at the time it was filed (or, if amended prior to the date hereof, as of the date of such amendment), contain any untrue statement of a material fact, or omit to state a material fact, required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading.

(b) Each of the consolidated financial statements contained in the BioTime SEC Reports and all related compilations, reviews and other reports issued by BioTime's accountants with respect thereto included in the BioTime SEC Reports (1) complied as of their respective dates of filing with the SEC, in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto, (2) was prepared in accordance with GAAP applied on a consistent basis with BioTime's past practices throughout the periods indicated (except as may be indicated in the notes thereto or, in the case of unaudited statements, as permitted by the rules and regulations of the SEC) and (3) fairly present, in all material respects, the consolidated financial position, results of operations and cash flows of BioTime and its consolidated BioTime Subsidiaries as at the respective dates thereof and for the respective periods indicated therein (subject, in the case of unaudited interim statements, to normal and recurring year-end adjustments).

(c) Except as and to the extent set forth in the consolidated balance sheet of BioTime and its consolidated BioTime Subsidiaries as of June 30, 2018, including the notes thereto (the "2018 BioTime Balance Sheet"), neither BioTime nor any BioTime Subsidiary has any liability or obligation of any nature (whether accrued, absolute, contingent or otherwise) required to be disclosed by GAAP except for liabilities and obligations (1) incurred in the ordinary course of business and consistent with past practices since the date of the 2018 BioTime Balance Sheet, (2) executory obligations explicitly included under any written Contract to which BioTime or any BioTime Subsidiary is a party or is bound (that are not in the nature of breaches and that are not required by GAAP to be disclosed on a balance sheet), (3) incurred in connection with the preparation and negotiation of this Agreement and (4) that otherwise would not reasonably be expected to have, individually or in the aggregate, a BioTime Material Adverse Effect. Except as required by GAAP, BioTime has not, since January 1, 2017, made or adopted any material change in its accounting methods, practices or policies in effect on January 1, 2017.

(d) Each of the principal executive officer of BioTime and the principal financial officer of BioTime (and each former principal executive officer of the BioTime and each former principal financial officer of BioTime, as applicable) has made all certifications required by Rule 13a-14 or 15d-14 under the Exchange Act or Sections 302 and 906 of SOX and the rules and regulations of the SEC promulgated thereunder with respect to the BioTime SEC Reports, and neither BioTime nor any of its executive officers has received written notice from any Governmental Authority challenging or questioning the accuracy, completeness, form or manner of filing such certifications. For purposes of this Section 4.7(d), "principal executive officer" and "principal financial officer" have the meanings given to such terms in SOX. Neither BioTime nor any of the BioTime Subsidiaries has outstanding, or has arranged any outstanding, "extensions of credit" to directors or executive officers within the meaning of Section 402 of SOX.

(e) BioTime maintains a system of internal controls over financial reporting designed to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external purposes, including to provide reasonable assurance that: (1) transactions are executed in accordance with management's general or specific authorizations, (2) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP, (3) access to assets that could have a material effect on BioTime's financial statements is permitted only in accordance with management's general or specific authorization and (4) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Neither BioTime nor, to the knowledge of BioTime, any of its officers or employees identified or is aware of (i) any significant deficiencies or material weaknesses in the design or operation of BioTime's internal control over financial reporting that could adversely affect BioTime's ability to record, process, summarize and report financial information or (ii) any fraud, whether or not material, that involves management or other employees who have a role in BioTime's internal control over financial reporting or the preparation of financial statements. Since December 31, 2015, any material change in internal control over financial reporting required to be disclosed in any BioTime SEC Report has been so disclosed.

(f) BioTime has in place “disclosure controls and procedures” (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) that are designed to ensure that material information that is required to be disclosed by BioTime in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and is accumulated and made known to its principal executive officer and principal financial officer as appropriate to allow timely decisions regarding required disclosure.

(g) Since January 1, 2015, neither BioTime nor BioTime’s independent auditors has identified or been made aware of (i) any material weakness in the system of internal accounting controls utilized by BioTime, (ii) any fraud, whether or not material, that involves BioTime’s management or other employees who have a role in the preparation of financial statements or the internal accounting controls utilized by BioTime or (iii) any substantive or credible and material Claim regarding any of the foregoing.

(h) As of the date hereof, there are no outstanding unresolved comments with respect to BioTime or the BioTime SEC Reports noted in comment letters or, to the knowledge of BioTime, other correspondence received by BioTime or its attorneys from the SEC, and there are no pending (1) formal or informal investigations of BioTime by the SEC or (2) inspection of an audit of BioTime’s financial statements by the Public Company Accounting Oversight Board.

(i) BioTime has adopted a code of ethics, as defined by Item 406(b) of Regulation S-K of the SEC, for senior financial officers, applicable to its principal financial officer, comptroller or principal accounting officer, or Persons performing similar functions. BioTime has promptly disclosed any change in or waiver of BioTime’s code of ethics with respect to any such Persons, as required by Section 406(b) of SOX.

Section 4.8 Absence of Certain Changes or Events. Between June 30, 2018 and the date hereof, (a) there has not been any event, condition, circumstance, development, change or effect having, individually or in the aggregate, a BioTime Material Adverse Effect and (b) none of BioTime or any of the BioTime Subsidiaries has taken any action, or authorized, committed or agreed to take any action, that if taken between the date hereof and the Effective Time would be prohibited by Section 5.2 if such covenant had been in effect as of June 30, 2018.

Section 4.9 Absence of Litigation. There is no Claim or Action before any Governmental Authority pending or, to the knowledge of BioTime, threatened against BioTime or Merger Sub or any asset or property of BioTime or Merger Sub that would reasonably be expected, individually or in the aggregate, to: (x) have a BioTime Material Adverse Effect; or (y) prevent or materially delay or impede the consummation of the Transactions. There is no Order outstanding against BioTime or Merger Sub that would reasonably be expected, individually or in the aggregate, to prevent or materially delay or impede the consummation of the Transactions. Neither BioTime nor any BioTime Subsidiary nor any property or asset of BioTime or any BioTime Subsidiary is subject to any continuing Order, settlement agreement or similar written agreement with any Governmental Authority, or any Order, determination or award of any Governmental Authority, in each case that contains ongoing obligations that would have a BioTime Material Adverse Effect.

Section 4.10 Taxes. Each of BioTime and the BioTime Subsidiaries has duly and timely filed with the appropriate Governmental Authority all material income Tax Returns and other material Tax Returns that it was required to file under applicable Laws and all such Tax Returns are true, correct and complete in all material respects. BioTime and the BioTime Subsidiaries have timely paid all Taxes, and any related interest, fees or penalties, required to be paid by them (whether or not shown on any Tax Return) and are not currently the beneficiary of any extension of time within which to file any Tax Return.

Section 4.11 Information Supplied. The information supplied by BioTime and Merger Sub for inclusion in the Joint Proxy Statement and the Registration Statement will not, (a) in the case of the Registration Statement, at the time the Registration Statement is filed with the SEC, at any time it is amended or supplemented or at the time it is declared effective under the Securities Act, contain any untrue statement of a material fact, or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not false or misleading and (b) in the case of the Joint Proxy Statement, as of the date the Joint Proxy Statement is first mailed to the shareholders of BioTime and the stockholders of Asterias, and at the time of the BioTime Special Meeting and the Asterias Special Meeting, contain any untrue statement of a material fact, or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not false or misleading. Notwithstanding the foregoing sentence, BioTime and Merger Sub make no representation or warranty with respect to any information supplied by Asterias or any of its Representatives for inclusion in any of the foregoing documents. The information supplied by BioTime for inclusion in the Joint Proxy Statement and the Registration Statement will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and the rules and regulations thereunder.

Section 4.12 NYSE American. BioTime is in material compliance with the applicable criteria for continued listing of the BioTime Common Shares on NYSE American, including all applicable corporate governance rules and regulations.

Section 4.13 Brokers and Expenses. No agent, broker, finder or investment banker, other than _____ (the "BioTime Financial Advisor"), is entitled to any brokerage, finder's or other fee or commission payable by BioTime in connection with the Transactions based upon arrangements made by or on behalf of BioTime, any BioTime Subsidiary or Merger Sub.

Section 4.14 Vote Required. The BioTime Shareholder Approval is the only vote of the holders of any class or series of BioTime's capital stock necessary to adopt or approve this Agreement, the Merger or any of the other Transactions.

Section 4.15 Opinion of Financial Advisor. Prior to the execution of this Agreement, the BioTime Special Committee and the BioTime Board of Directors received an opinion from the BioTime Financial Advisor to the effect that, as of the date hereof and based upon and subject to the various qualifications and assumptions set forth therein, the Exchange Ratio is fair from a financial point of view to BioTime. BioTime will make available to Asterias a copy of the written opinion as soon as practicable following the execution of this Agreement for informational purposes only.

Section 4.16 Merger Sub. Merger Sub was formed for the purpose of engaging in the Merger. All of its outstanding stock is owned directly by BioTime and it has outstanding no rights or obligations pursuant to which any Person may acquire any of its stock. Except for obligations or liabilities incurred in connection with its incorporation or organization, its entry into this Agreement or the consummation of the Merger, Merger Sub has not incurred any obligations or liabilities, engaged in any business or activities of any type or kind whatsoever or entered into any Contracts or arrangements.

Section 4.17 No Other Representations or Warranties. Except for the representations and warranties contained in this Agreement, neither BioTime nor any other Person on behalf of BioTime makes any express or implied representation or warranty with respect to BioTime or any of its Subsidiaries or with respect to any other information provided to Asterias in connection with the Transactions.

Section 4.18 Disclaimer of Other Representations and Warranties. Each of BioTime and Merger Sub acknowledges and agrees that, except for the representations and warranties expressly set forth in this Agreement (a) Asterias is not making and has not made any representations or warranties relating to itself or its business or otherwise in connection with the Transactions, including the Merger, and none of BioTime, Merger Sub or their respective Representatives is relying on any representation or warranty of Asterias except for those expressly set forth in this Agreement, (b) no Person has been authorized by Asterias to make any representation or warranty relating to Asterias or its business, and if made, such representation or warranty must not be relied upon by BioTime or Merger Sub as having been authorized by Asterias and (c) any estimates, projections, predictions, data, financial information, memoranda, presentations or any other materials or information provided or addressed to BioTime, Merger Sub or any of their Representatives are not and shall not be deemed to be or include representations or warranties unless any such materials or information are the subject of any express representation or warranty set forth in this Agreement.

ARTICLE V
COVENANTS RELATING TO CONDUCT OF BUSINESS PENDING THE MERGER

Section 5.1 Conduct of Business by Asterias Pending the Closing.

(a) From the date of this Agreement until the Effective Time, Asterias will conduct its business in all material respects in the ordinary course of business consistent with past practice, including by using commercially reasonable efforts to (1) preserve intact its present business organizations and to preserve its present relationships with customers, suppliers and other Persons with whom it has material business relations, (2) maintain the existence of, validity, enforceability and rights of Asterias in, to or under the Asterias Permits (including any pending applications for new or renewed Asterias Permits) and (3) keep available the services of the key employees of Asterias, except (A) as set forth in Section 5.1 of the Asterias Disclosure Letter, (B) as specifically required by this Agreement, (C) as required by Law or Order or (D) as consented to in writing by BioTime (which consent will not be unreasonably withheld, delayed or conditioned and must be requested by e-mail addressed to the Persons (at the addresses) set forth in Section 5.1 of the Asterias Disclosure Letter, and which consent will be given by means of an email response from any of such Persons consenting to such request).

(b) Except (i) as set forth in Section 5.1 of the Asterias Disclosure Letter, (ii) as specifically required by this Agreement, (iii) as required by Law or Order or (iv) as consented to in writing by BioTime, from the date of this Agreement until the Effective Time, Asterias will not:

(1) authorize or pay any dividends on or make any distribution with respect to its outstanding shares of capital stock (whether in cash, assets, shares or other securities of Asterias);

(2) split, combine, reduce or reclassify any of its capital stock, or issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for, shares of its capital stock, except for the exercise of any Asterias Warrants outstanding on the date hereof or the exercise, vesting or settlement (as applicable) of Asterias Equity Awards outstanding on the date hereof or granted in accordance with this Section 5.1(b) and in accordance with their respective terms;

(3) (A) increase the compensation payable or to become payable to any of its Workers (including Workers holding the positions of Chief Executive Officer, Chief Financial Officer, Chief Medical Officer and Senior Vice President of Research & Product Development (or equivalent positions with similar roles and responsibilities)), other than increases in annual base salaries and other cash compensation payable to any of its current employees at the rank or title below the rank or title of Vice President, at times and in dollar amounts in the ordinary course of business in connection with Asterias' annual salary review process consistent with past practice, (B) grant to any of its Workers any increase in severance, termination pay, retention pay, or change in control benefits, (C) enter into any employment, severance, change in control, or retention agreement (excluding offer letters for "at will" employment that provide for no severance, retention, or change in control benefits) with any of its Workers, (D) establish, adopt, enter into, materially amend or terminate any collective bargaining agreement or Asterias Plan, (E) except as required by any Asterias Plan in existence as of the date hereof or adopted in accordance with this Agreement, take any action to accelerate any payment or benefit, or the funding of any payment or benefit, payable or to become payable to any of its Workers except in the ordinary course of business consistent with past practice, (F) terminate the employment of any current Worker other than for cause or non-performance of material duties or due to death or disability or (G) hire any Person for employment with Asterias (except that Asterias may hire any Person for employment to fill any position that is vacant as of the date hereof, or any currently existing position that becomes vacant after the date hereof and, notwithstanding anything to the contrary in this clause (G), provide such Person with compensation and benefits commensurate for such position consistent with past practice, including the aggregate award to new hires of Asterias Stock Options pursuant to the Asterias Equity Plans not to exceed 100,000 shares of Asterias Common Stock in the aggregate upon the exercise of such Asterias Stock Options (and for the avoidance of doubt, with an exercise price equal to or in excess of the fair market value of the underlying shares of Asterias Common Stock at the time of grant));

(4) (A) commence, implement or effect any material organizational restructuring of Asterias or (B) reassign the responsibilities of any Worker at the rank or title of Vice President or higher in any material respect, except that Asterias may terminate any Worker for cause or non-performance of material duties or due to death or disability;

(5) make any material change in financial accounting policies or procedures or any of its methods of reporting income, deductions or other material items for financial accounting purposes, except as required by GAAP or SEC policy;

(6) authorize or announce an intention to authorize, or enter into agreements providing for, the acquisition, directly or indirectly (including by merger, consolidation, or acquisition of stock or assets or any other business combination), any corporation, partnership, other business organization or any division thereof or any other business, or any equity interest in any Person or any material amount (individually or collectively) of assets that, in any case, would reasonably be expected to prevent or materially delay or impede the consummation of the Transactions;

(7) amend the Asterias Governing Documents;

(8) issue, deliver, grant, sell, pledge, dispose of or encumber, or authorize the issuance, delivery, grant, sale, disposition or Encumbrance of, any shares in its capital stock, voting securities or other equity interest in Asterias or any securities convertible into or exchangeable for any such shares, voting securities or equity interest, or any rights, warrants or options to acquire any such shares in its capital stock, voting securities or equity interest or any "phantom" stock, "phantom" stock rights, stock appreciation rights or stock based performance units or take any action to cause to be vested or exercisable any otherwise unvested or unexercisable Asterias Equity Awards under any existing Asterias Equity Plan (except as otherwise provided by an Asterias Plan in accordance with its terms on the date hereof), other than (A) the exercise of any Asterias Warrants outstanding on the date hereof or the exercise, vesting or settlement of Asterias Equity Awards outstanding on the date hereof or granted in accordance with this Section 5.1(b), and in accordance with their respective terms, or (B) the award to new hires or in connection with promotion of Asterias Stock Options (and for the avoidance of doubt, with exercise price equal to or in excess of the fair market value of the underlying shares of Asterias Common Stock at the time of grant) pursuant to the Asterias Equity Plans (not to exceed 100,000 shares of Asterias Common Stock in the aggregate upon the exercise of such Asterias Stock Options);

(9) directly or indirectly, purchase, redeem or otherwise acquire any shares in its capital or any rights, warrants or options to acquire any such shares in its capital, except for (A) acquisitions of shares of Asterias Common Stock tendered by holders of Asterias Equity Awards in order to satisfy obligations to pay the exercise price and/or Tax withholding obligations with respect thereto, and (B) the acquisition by Asterias of Asterias Equity Awards in connection with the forfeiture of such awards;

(10) redeem, repurchase, prepay (other than prepayments of revolving loans), defease, incur, assume, endorse, guarantee or otherwise become liable for or modify in any material respects the terms of any Indebtedness for borrowed money or issue or sell any debt securities or calls, options, warrants or other rights to acquire any debt securities (directly, contingently or otherwise);

(11) make any loans, advances or capital contributions, except for (A) loans or advances to employees or independent contractors for travel expenses in the ordinary course of business, and (B) extended payment terms for customers in the ordinary course of business;

(12) sell, lease, license, transfer, exchange, swap or otherwise dispose of, or subject to any Encumbrance (other than Permitted Encumbrances), any of its material properties or assets, except (A) sales of inventory, or dispositions of obsolete or worthless equipment, in the ordinary course of business and (B) non-exclusive licenses of non-material Intellectual Property in the ordinary course of business, and (C) non-exclusive licenses of Asterias Owned Intellectual Property entered into in conjunction with the sale of Asterias Products in the ordinary course of business;

(13) settle, pay, discharge or satisfy any Actions or Claims that (A) impose any injunctive relief on Asterias, (B) concern alleged criminal activity or (C) involve the payment of money in excess of \$50,000 in the aggregate in excess of existing insurance coverage;

(14) commence any Actions against any Person, except for (A) the routine collection of accounts receivable, or (B) a breach of this Agreement;

(15) change any material Tax election, or make any material Tax election other than elections made in the ordinary course of business, change any Tax accounting period, file any amended Tax Return without the prior written consent of BioTime, settle or compromise any audit or proceeding relating to Taxes, agree to an extension or waiver of the statute of limitations with respect to Taxes, enter into any "closing agreement" within the meaning of Section 7121 of the Code (or any similar provision of state, local, or non-U.S. Law) with respect to any Tax, surrender any right to Claim a Tax refund, or take any action that would require the filing of a "gain recognition agreement" (within the meaning of the Treasury Regulations promulgated under Section 367 of the Code) to avoid current recognition of income or gain for U.S. federal income tax purposes;

(16) make any new capital expenditure or expenditures in excess of \$100,000 in the aggregate, or commit to do so;

(17) except in the ordinary course of business (except as otherwise prohibited in any other subclause of this Section 5.1(b)), (A) enter into any Contract or amendment that, if entered into prior to the date hereof, would be an Asterias Material Contract, (B) materially amend, materially modify, terminate or consent to the termination of any Asterias Material Contract or (C) waive, release, relinquish or assign any Asterias Material Contract (or any of Asterias' rights thereunder), right or Claim;

(18) fail to file, deliver or provide any response, document, information or other material, or pay any fee due and payable, necessary to prevent the abandonment, expiration or termination of any material Asterias Registered Intellectual Property; or

(19) agree, in writing or otherwise, to take any of the foregoing actions.

Section 5.2 Conduct of Business by BioTime Pending the Closing.

(a) From the date of this Agreement until the Effective Time, BioTime will conduct its business in all material respects in the ordinary course of business consistent with past practice, except (i) as set forth in Section 5.2(a)(i) of the BioTime Disclosure Letter, (ii) as specifically required by this Agreement, (iii) as required by Law or Order or (iv) as consented to in writing by Asterias (which consent will not be unreasonably withheld, delayed or conditioned and must be requested by e-mail addressed to the Persons (at the addresses) set forth in Section 5.2(a)(ii) of the BioTime Disclosure Letter, and which consent will be given by means of an email response from any of such Persons consenting to such request).

(b) Except (i) as set forth in Section 5.2(b) of the BioTime Disclosure Letter, (ii) as specifically required by this Agreement, (iii) as required by Law or Order or (iv) as consented to in writing by BioTime, from the date of this Agreement until the Effective Time, BioTime will not, and will not permit any BioTime Subsidiary to:

(1) authorize or pay any dividends on or make any distribution with respect to its outstanding shares of capital stock (whether in cash, assets, shares or other securities of BioTime or any BioTime Subsidiary), except dividends and distributions by a wholly owned BioTime Subsidiary to BioTime or another wholly owned BioTime Subsidiary;

(2) split, combine, reduce or reclassify any of its capital stock, or issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for, shares of its capital stock, except for any such transaction by a wholly owned BioTime Subsidiary that remains a wholly owned BioTime Subsidiary after consummation of such transaction and except for the exercise of any BioTime Warrants outstanding on the date hereof or the exercise, vesting or settlement (as applicable) of BioTime Equity Awards outstanding on the date hereof or granted in accordance with this Section 5.2(b) and in accordance with their respective terms;

(3) authorize or announce an intention to authorize, or enter into agreements providing for, the acquisition, directly or indirectly (including by merger, consolidation, or acquisition of stock or assets or any other business combination), any corporation, partnership, other business organization or any division thereof or any other business, or any equity interest in any Person or any material amount (individually or collectively) of assets that, in any case, would reasonably be expected to prevent or materially delay or impede the consummation of the Transactions, except for transactions between BioTime and a wholly owned BioTime Subsidiary or between wholly owned BioTime Subsidiaries;

(4) amend the BioTime Charter Documents, or permit any BioTime Subsidiary to adopt any amendments to its governing documents;

(5) issue, deliver, grant, sell, pledge, dispose of or encumber, or authorize the issuance, delivery, grant, sale, disposition or Encumbrance of, any shares in its capital stock, voting securities or other equity interest in BioTime or any BioTime Subsidiary or any securities convertible into or exchangeable for any such shares, voting securities or equity interest, or any rights, warrants or options to acquire any such shares in its capital stock, voting securities or equity interest or any "phantom" stock, "phantom" stock rights, stock appreciation rights or stock based performance units or take any action to cause to be vested or exercisable any otherwise unvested or unexercisable BioTime Equity Awards under any existing BioTime Equity Plan (except as otherwise provided by a BioTime Plan in accordance with its terms on the date hereof), other than (A) the exercise of any BioTime Warrants outstanding on the date hereof or the exercise, vesting or settlement of BioTime Equity Awards outstanding on the date hereof or granted in accordance with this Section 5.2(b), and in accordance with their respective terms, (B) the award of BioTime Stock Options pursuant to the BioTime Equity Plans (not to exceed 500,000 BioTime Common Shares in the aggregate upon the exercise of such BioTime Stock Options) or (C) transactions between BioTime and a wholly owned BioTime Subsidiary or between wholly owned BioTime Subsidiaries; or

(6) directly or indirectly, purchase, redeem or otherwise acquire any shares in its capital or any rights, warrants or options to acquire any such shares in its capital, except for (A) acquisitions of BioTime Common Shares tendered by holders of BioTime Equity Awards in order to satisfy obligations to pay the exercise price and/or Tax withholding obligations with respect thereto, (B) the acquisition by BioTime of BioTime Equity Awards in connection with the forfeiture of such awards and (C) transactions between BioTime and a wholly owned BioTime Subsidiary or between wholly owned BioTime Subsidiaries.

Section 5.3 Go-Shop.

(a) During the period commencing on the date of this Agreement and ending at 11:59 p.m. (New York City time) on December 3, 2018 (the "Go-Shop Period"), Asterias and its Representatives shall be permitted to, directly or indirectly, (i) solicit, initiate, encourage and facilitate (including by the making of a public announcement) any inquiry, discussion, offer or request that constitutes, or could reasonably be expected to lead to, an Acquisition Proposal, (ii) grant a waiver under or terminate any "standstill" or similar obligation of any Third Party with respect to Asterias solely to allow such Third Party to submit an Acquisition Proposal in compliance with this Article V and (iii) participate in and engage in discussions and negotiations with, furnish non-public information relating to Asterias, and afford access to the books and records of Asterias to any Third Party, in each case in connection with an Acquisition Proposal or any inquiry, discussion, offer or request that could reasonably be expected to lead to an Acquisition Proposal; provided, that, prior to furnishing such non-public information or affording such access, Asterias shall have entered into an Acceptable Confidentiality Agreement with such Third Party and shall have previously provided or made available (or provides or makes available within one (1) business day) all such information, and has afforded such access, to BioTime.

(b) Upon the expiration of the Go-Shop Period, Asterias shall, and shall use its reasonable best efforts to cause its Representatives to, immediately cease and cause to be terminated, and shall not authorize or knowingly permit any of Asterias' Representatives to continue, any and all existing activities, discussions or negotiations with any Third Party conducted prior thereto with respect to any Acquisition Proposal or Acquisition Transaction (other than with respect to each Excluded Party only for so long as such Person is and remains an Excluded Party), and shall terminate all access granted to any such Third Party (other than with respect to each Excluded Party only for so long as such Person is and remains an Excluded Party) to any physical or electronic data room (subject to Asterias' right to subsequently provide access to any such physical or electronic data room pursuant to Section 5.4(b)).

(c) Definitions:

(1) "Acquisition Proposal" means any offer, proposal or indication of interest from any Third Party relating to any Acquisition Transaction.

(2) "Acquisition Transaction" means any transaction or series of related transactions (other than the Transactions) involving: (i) any acquisition or purchase by any Third Party, directly or indirectly, of more than twenty percent (20%) of any class of outstanding voting or equity securities of Asterias, or any tender offer (including a self-tender offer) or exchange offer that, if consummated, would result in any Third Party beneficially owning more than twenty percent (20%) of any class of outstanding voting or equity securities of Asterias; (ii) any merger, consolidation, share exchange, business combination, joint venture, recapitalization, reorganization or other similar transaction involving Asterias and a Third Party pursuant to which the stockholders of Asterias immediately preceding such transaction hold less than eighty percent (80%) of the equity interests in the surviving or resulting entity of such transaction; (iii) any sale, lease (other than in the ordinary course of business), exchange, transfer or other disposition to a Third Party of more than twenty percent (20%) of the consolidated assets, revenue or net income of Asterias and its Subsidiaries (with assets being measured by the fair market value thereof); or (iv) any combination of the foregoing.

(3) “Excluded Party” shall mean any Third Party from which Asterias or its Representatives received during the Go-Shop Period a bona fide written Acquisition Proposal that: (i) remains pending as of, and shall not have been withdrawn prior to, the expiration of the Go-Shop Period; and (ii) during the Go-Shop Period each of the Asterias Board of Directors and the Asterias Special Committee reasonably determines in good faith, after consultation with Asterias’ financial and legal advisors, constitutes or would be reasonably likely to lead to a Superior Proposal; provided, that any such Third Party shall cease to be an Excluded Party upon the earliest to occur of the following: (A) such Third Party’s Acquisition Proposal is withdrawn, terminated or expires; (B) each of the Asterias Special Committee and the Asterias Board of Directors determines in good faith, after consultation with its financial advisor and outside legal counsel, that such Third Party’s Acquisition Proposal no longer constitutes a Superior Proposal or is no longer reasonably likely to lead to a Superior Proposal; and (C) 11:59 p.m. (New York time) on the fiftieth (50th) day following the date hereof.

(4) “Superior Proposal” means any written *bona fide* written Acquisition Proposal (except that, for purposes of this definition, the references in the definition of “Acquisition Proposal” to “20%” shall be replaced by “50%”) made by a Third Party after the date of this Agreement that (i) was not solicited in violation of Section 5.3 through Section 5.6; and (ii) which each of the Asterias Special Committee and the Asterias Board of Directors has determined in its good faith judgment, after consultation with outside legal counsel and financial advisors, taking into account all legal, financial and regulatory aspects of the transaction described in such Acquisition Proposal, including the identity of the Person making such Acquisition Proposal, the certainty of closing, the availability of financing and the ability of such Person to consummate the transactions contemplated by the Acquisition Proposal, (A) would reasonably be expected to be consummated in accordance with its terms (if accepted) and (B) is on terms and conditions more favorable to the holders of Asterias Common Stock (solely in their capacities as such) from a financial point of view than the Transactions (after taking into account any revisions to the terms of the Transactions proposed by BioTime and any different time period likely to be required to consummate such Acquisition Proposal relative to the Transactions).

Section 5.4 No-Solicitation.

(a) Except as permitted by Section 5.4(b), from and after the expiration of the Go-Shop Period and continuing until the earlier to occur of the termination of this Agreement in accordance with Article VIII and the Effective Time, Asterias shall not (and shall use its reasonable best efforts to cause its Representatives not to), directly or indirectly (other than with respect to each Excluded Party only for so long as such Person is and remains an Excluded Party):

(1) solicit, initiate, knowingly encourage, facilitate or induce the making, submission or announcement of an Acquisition Proposal or the making of any inquiry, offer or proposal that would be reasonably likely to lead to any Acquisition Proposal or Acquisition Transaction; or

(2) furnish to any Third Party any non-public information relating to Asterias or any of its Subsidiaries, or afford access to the business, properties, assets, books or records of Asterias or any of its Subsidiaries to any Third Party, in each case in connection with an Acquisition Proposal or an Acquisition Transaction or under circumstances reasonably likely to lead to an Acquisition Proposal or an Acquisition Transaction; or

(3) take any other action intended to assist or facilitate the making of any Acquisition Proposal or any inquiry, offer or proposal that would be reasonably likely to lead to an Acquisition Proposal or Acquisition Transaction; or

(4) participate or engage in discussions or negotiations with any Third Party regarding an Acquisition Proposal or Acquisition Transaction (other than solely to inform the Third Party of the restrictions set forth in this Section 5.4); or

(5) approve, endorse or recommend an Acquisition Proposal or Acquisition Transaction; or

(6) execute or enter into any letter of intent, memorandum of understanding or Contract contemplating or otherwise relating to an Acquisition Proposal or Acquisition Transaction.

(b) Notwithstanding anything to the contrary in Section 5.4(a), prior to obtaining the Asterias Stockholder Approval, the Asterias Board of Directors or the Asterias Special Committee may, directly or indirectly through any Representative, (i) engage or participate in discussions or negotiations with (x) any Excluded Party (only for so long as such Person is and remains an Excluded Party) and (y) any Third Party that has made a written Acquisition Proposal after the date of this Agreement that was not solicited in violation of Article V and that the Asterias Board of Directors determines in good faith (after consultation with its financial advisor and its outside legal counsel) either constitutes or would reasonably be likely to lead to a Superior Proposal, and/or (ii) furnish any non-public information relating to Asterias or any of its Subsidiaries to any Third Party that has made a written Acquisition Proposal after the date of this Agreement that was not solicited in violation of Article V and that the Asterias Board of Directors determines in good faith (after consultation with its financial advisor and its outside legal counsel) either constitutes or would reasonably be likely to lead to a Superior Proposal; provided that, in the case of any action taken pursuant to the foregoing clauses “(i)” or “(ii)”:

(1) each of the Asterias Board of Directors and the Asterias Special Committee has determined in good faith (after consultation with its financial advisor and its outside legal counsel) that the failure to take such action would be inconsistent with its fiduciary duties under applicable Law;

(2) either Asterias is already a party to an Acceptable Confidentiality Agreement with such Third Party or Asterias enters into an Acceptable Confidentiality Agreement with such Third Party;

(3) Unless prohibited by a confidentiality agreement entered into prior to the date hereof, Asterias notifies BioTime of the identity of such Person and provides BioTime all of the terms and conditions of such Acquisition Proposal (and if such Acquisition Proposal is in written form, Asterias provides BioTime a copy thereof); and

(4) contemporaneously with, or promptly (and in any event within one (1) business day) after, furnishing any non-public information to such Third Party, Asterias furnishes such non-public information to BioTime (to the extent such information has not been previously furnished to BioTime).

(c) Asterias hereby acknowledges and agrees that any violation of the restrictions set forth in this Section 5.4 by any Representative of Asterias shall be deemed to be a breach of this Section 5.4 by Asterias.

(d) Except as set forth in Section 5.3(a)(ii) (provided that such exception shall only apply during the Go-Shop Period) and except to permit any Excluded Party (while such Third Party is an Excluded Party) to make a written Acquisition Proposal to Asterias or the Asterias Board of Directors, Asterias agrees not to release or permit the release of any Person from, or to waive or permit the waiver or termination of any provision of, any confidentiality, standstill or similar agreement (or any standstill or confidentiality provision of any other contract or agreement) to which Asterias or any "moratorium," "control share acquisition," "fair price," "interested stockholder," "affiliate transaction," "business combination," or other antitakeover applicable Law, and Asterias will use commercially reasonable efforts to enforce or cause to be enforced to the fullest extent permitted by applicable Law each such agreement.

Section 5.5 Notice and Information.

(a) As promptly as reasonably practicable, and in any event within one (1) business day following the expiration of the Go-Shop Period, Asterias shall deliver to BioTime a written notice setting forth: (i) the identity of each Excluded Party and (ii) the material terms and conditions of the pending Acquisition Proposal made by such Excluded Party. During the Go-Shop Period, Asterias shall promptly (and in any event within one (1) business day) notify BioTime in writing of (A) any Acquisition Proposal received by Asterias, including the terms and conditions of such Acquisition Proposal and the identity of the Person or group making any such Acquisition Proposal (except to the extent prohibited by a confidentiality agreement entered into prior to the date hereof), and (B) the provision to a Third Party considering an Acquisition Proposal (or such Person or group's Representatives) of credentials to access the electronic data room established by Asterias for legal and business due diligence, including the identity of such Third Party; provided that Asterias need not deliver multiple notices pursuant to this clause (B) for successive requests for credentials by different Representatives of such Third Party. From and after the expiration of the Go-Shop Period, Asterias shall promptly (and in any event within one (1) business day) notify BioTime in writing of (x) any Acquisition Proposal received by Asterias, (y) any request for information that would be reasonably likely to lead to an Acquisition Proposal received by Asterias or its Representatives or (z) any inquiry made to Asterias or any of its Representatives with respect to, or that would be reasonably likely to lead to, any Acquisition Proposal, the terms and conditions of such Acquisition Proposal, request or inquiry, and the identity of the Third Party making any such Acquisition Proposal, request or inquiry; provided, in each of the foregoing clauses (x)-(z) that Asterias shall not be required to make such disclosure to the extent such disclosure is expressly prohibited by the terms of a confidentiality agreement with such Third Party that is in effect on the date hereof, in which case Asterias shall notify BioTime that it has received an Acquisition Proposal and provide BioTime with a description of the withheld information.

(b) Asterias shall keep BioTime (including the BioTime Chief Executive Officer and the BioTime Special Committee) reasonably informed on a prompt basis of the status and material details (including all amendments or proposed amendments, whether or not in writing) of any such Acquisition Proposal, request or inquiry (including from an Excluded Party), and promptly (and in any event within one (1) business day) provide BioTime with copies of all documents and written or electronic communications relating to any Acquisition Proposal (including the financing thereof), request or inquiry exchanged between Asterias, its Subsidiaries or any of their respective Representatives, on the one hand, and the Third Party making the Acquisition Proposal, request or inquiry (or such Third Party's affiliates or Representatives), on the other hand.

Section 5.6 Board Recommendation.

(a) Subject to the provisions of Section 5.6(c), (i) the Asterias Board of Directors shall (x) recommend that the Asterias' stockholders adopt this Agreement in accordance with the provisions of applicable Law (the "Asterias Board Recommendation") and (y) include the Asterias Board Recommendation in the Joint Proxy Statement, and (ii) neither the Asterias Board of Directors nor any committee thereof (including the Asterias Special Committee) shall (1) fail to make, withdraw, amend, modify or qualify the Asterias Board Recommendation in a manner that is adverse to BioTime, or publicly propose to withhold, withdraw, amend, modify or qualify the Asterias Board Recommendation in a manner that is adverse to BioTime, (2) approve, endorse, adopt or recommend, or publicly propose to approve, endorse, adopt or recommend, an Acquisition Proposal or Acquisition Transaction, (3) fail to include the Asterias Board Recommendation in the Joint Proxy Statement or (4) fail to publicly recommend against any Acquisition Proposal or Acquisition Transaction subject to Regulation 14D under the Exchange Act in a Solicitation/Recommendation Statement on Schedule 14D-9 within ten (10) business days after the commencement of such Acquisition Proposal or Acquisition Transaction (the actions or inactions referred to in the preceding clauses (1), (2), (3) and (4) being referred to herein as an "Asterias Board Recommendation Change").

(b) Notwithstanding anything to the contrary set forth in this Agreement, the Asterias Board of Directors may (x) effect an Asterias Board Recommendation Change or (y) terminate this Agreement pursuant to Section 8.1(i) to enter into a definitive agreement to consummate a Superior Proposal, in each case at any time prior to obtaining the Asterias Stockholder Approval in the event that

(1) the Asterias Board of Directors has received a *bona fide* written Acquisition Proposal after the date of this Agreement that was not solicited in violation of Article V;

(2) each of the Asterias Board of Directors and the Asterias Special Committee determines in good faith (after consultation with its financial advisor and its outside legal counsel) that such Acquisition Proposal is a Superior Proposal;

(3) prior to effecting such Asterias Board Recommendation Change or terminating this Agreement pursuant to Section 8.1(i), the Asterias Board of Directors shall have given BioTime at least four (4) business days' prior written notice of its intention to effect an Asterias Board Recommendation Change pursuant to this Section 5.6 or terminate this Agreement (the "Change of Recommendation Notice Period") (which notice shall include the most current version of the proposed definitive agreement (which shall be marked to show changes to this Agreement) and, to the extent not included therein, all material terms and conditions of such Superior Proposal and the identity of the Person making such Superior Proposal);

(4) if requested by BioTime, during the Change of Recommendation Notice Period, Asterias shall have met and negotiated in good faith with BioTime regarding modifications to the terms and conditions of this Agreement so that such Superior Proposal ceases to be a Superior Proposal;

(5) prior to the end of the Change of Recommendation Notice Period, BioTime shall not have made a counter-offer or proposal in writing and in a manner that, if accepted by Asterias, would form a binding contract, that the Asterias Board of Directors and the Asterias Special Committee determines (after consultation with its financial advisor and its outside legal counsel) is at least as favorable to stockholders of Asterias as such Superior Proposal (it being understood that (x) any material revision to the terms of a Superior Proposal, including, any revision in price, shall require a new notice pursuant to clause (C) above, (y) the Change of Recommendation Notice Period shall be extended, if applicable, to the extent necessary to ensure that at least two (2) business days remain in the Change of Recommendation Notice Period subsequent to the time Asterias notifies BioTime of any such material revision and (z) there may be multiple extensions of the Change of Recommendation Notice Period); and

(6) each of the Asterias Board of Directors and the Asterias Special Committee determines (after consultation with its outside legal counsel and after considering any counter-offer or proposal made by BioTime pursuant to clause (E) above), that, in light of such Superior Proposal, the failure to effect an Asterias Board Recommendation Change or terminate this Agreement pursuant to Section 8.1(i) in order to enter into a definitive agreement to consummate such Superior Proposal would be inconsistent with its fiduciary duties under applicable Law.

(c) Notwithstanding anything to the contrary set forth in this Agreement, the Asterias Board of Directors may effect an Asterias Board Recommendation Change in response to an Asterias Intervening Event at any time prior to obtaining the Asterias Stockholder Approval in the event that each of the Asterias Board of Directors and the Asterias Special Committee determines (after consultation with its outside legal counsel) that the failure to effect an Asterias Board Recommendation Change in response to such Asterias Intervening Event would be inconsistent with its fiduciary duties under applicable Law; provided that, prior to effecting an Asterias Board Recommendation Change pursuant to this Section 5.6(c), the Asterias Board of Directors shall have given BioTime at least four (4) business days' notice of its intention to effect an Asterias Board Recommendation Change pursuant to this Section 5.6(c) (which notice shall include the reason (in reasonable detail) for such Asterias Board Recommendation Change) and, if requested by BioTime, Asterias shall have met and negotiated in good faith with BioTime regarding modifications to the terms and conditions of this Agreement so that the Asterias Board of Directors and the Asterias Special Committee no longer determines that the failure to make an Asterias Board Recommendation Change in response to such Asterias Intervening Event would be inconsistent with its fiduciary duties under applicable Law.

(d) As promptly as practicable following the end of the Go-Shop Period, Asterias will request that all confidential or proprietary information previously furnished to any Person (except for an Excluded Party while such Person is an Excluded Party) in connection with discussions and negotiations conducted with respect to any Acquisition Proposal in the two-year period prior to the date of this Agreement, be promptly returned or destroyed. Once a Third Party is no longer an Excluded Party, Asterias will make the request set forth in the foregoing sentence.

(e) Nothing contained in this Section 5.6 or elsewhere in this Agreement shall prohibit Asterias from (i) making any public announcement or disclosure to Asterias' stockholders if the Asterias Board of Directors determines in good faith (after consultation with its outside legal counsel) that failure to make such disclosure would constitute a breach of their fiduciary duties under applicable Law, (ii) disclosing a position contemplated by Rule 14d-9, Rule 14e-2(a)(2) or (3) or Item 1012(a) of Regulation M-A under the Exchange Act, or (iii) making any "stop-look-and-listen" communication of the type contemplated by Rule 14d-9(f) under the Exchange Act, provided, however, that an Asterias Board Recommendation Change can be made only in compliance with Section 5.6(b).

(f) Subject to the provisions of Section 5.6(g), (i) the BioTime Board of Directors shall (x) recommend that the BioTime's shareholders approve the issuance of BioTime Common Shares as provided in this Agreement (the "BioTime Board Recommendation") and (y) include the BioTime Board Recommendation in the Joint Proxy Statement, and (ii) neither the BioTime Board of Directors nor any committee thereof shall (1) fail to make, withdraw, amend, modify or qualify the BioTime Board Recommendation in a manner that is adverse to Asterias, or publicly propose to withhold, withdraw, amend, modify or qualify the BioTime Board Recommendation in a manner that is adverse to Asterias, or (2) fail to include the BioTime Board Recommendation in the Joint Proxy Statement (the actions or inactions referred to in the preceding clauses (1) and (2) being referred to herein as a "BioTime Board Recommendation Change").

(g) Notwithstanding anything to the contrary set forth in this Agreement, the BioTime Board of Directors and the BioTime Special Committee may (x) effect a BioTime Board Recommendation Change or (y) terminate this Agreement pursuant to Section 8.1(g) in response to a BioTime Intervening Event at any time prior to obtaining the BioTime Shareholder Approval in the event that the BioTime Board of Directors determines (after consultation with its outside legal counsel) that the failure to effect a BioTime Board Recommendation Change in response to such BioTime Intervening Event would be inconsistent with its fiduciary duties under applicable Law; provided that, prior to effecting a BioTime Board Recommendation Change pursuant to this Section 5.6(g), the BioTime Board of Directors shall have given Asterias at least four (4) business days' notice of its intention to effect a BioTime Board Recommendation Change pursuant to this Section 5.6(g) (which notice shall include the reason (in reasonable detail) for such BioTime Board Recommendation Change) and, if requested by Asterias, BioTime shall have met and negotiated in good faith with Asterias regarding modifications to the terms and conditions of this Agreement so that the BioTime Board of Directors no longer determines that the failure to make a BioTime Board Recommendation Change in response to such BioTime Intervening Event would be inconsistent with its fiduciary duties under applicable Law.

(h) Nothing contained in this Section 5.6 or elsewhere in this Agreement shall prohibit BioTime from (i) making any public announcement or disclosure to BioTime's shareholders if the BioTime Board of Directors determines in good faith (after consultation with its outside legal counsel) that failure to make such disclosure would constitute a breach of their fiduciary duties under applicable Law, (ii) disclosing a position contemplated by Rule 14d-9, Rule 14e-2(a)(2) or (3) or Item 1012(a) of Regulation M-A under the Exchange Act, or (iii) making any "stop-look-and-listen" communication of the type contemplated by Rule 14d-9(f) under the Exchange Act, provided, however, that a BioTime Board Recommendation Change can be made only in compliance with Section 5.6(g).

Section 5.7 Preparation of the Registration Statement and the Joint Proxy Statement; Stockholders' Meetings.

(a) As promptly as reasonably practicable following the date of this Agreement, (1) Asterias and BioTime will jointly prepare and cause to be filed with the SEC the Joint Proxy Statement in preliminary form and (2) BioTime will prepare and cause to be filed with the SEC the Registration Statement with respect to the BioTime Common Shares issuable in the Merger, which will include the Joint Proxy Statement with respect to the Asterias Special Meeting and the BioTime Special Meeting. Each of Asterias and BioTime will use its reasonable best efforts to (A) have the Registration Statement declared effective under the Securities Act as promptly as practicable after such filing, (B) ensure that the Registration Statement complies in all material respects with the applicable provisions of the Exchange Act and the Securities Act and (C) keep the Registration Statement effective for so long as necessary to complete the Transactions, including the Merger. Each of Asterias and BioTime will furnish all information concerning itself, its affiliates and the holders of its shares to the other and provide such other assistance as may be reasonably requested in connection with the preparation, filing and distribution of the Registration Statement and Joint Proxy Statement. The Registration Statement and Joint Proxy Statement will include all information reasonably requested by such other Party to be included therein. Each of Asterias and BioTime will promptly notify the other upon the receipt of any comments from the SEC or any request from the SEC for amendments or supplements to the Registration Statement or Joint Proxy Statement, and will, as promptly as practicable after receipt thereof, provide the other with copies of all correspondence between it and its Representatives, on one hand, and the SEC, on the other hand, and all written comments with respect to the Joint Proxy Statement or the Registration Statement received from the SEC and advise the other Party or any oral comments with respect to the Joint Proxy Statement or the Registration Statement received from the SEC. Each of Asterias and BioTime will use its reasonable best efforts to respond as promptly as practicable to any comments from the SEC with respect to the Joint Proxy Statement, and BioTime will use its reasonable best efforts to respond as promptly as practicable to any comment from the SEC with respect to the Registration Statement. Notwithstanding the foregoing, prior to filing the Registration Statement (or any amendment or supplement thereto) or mailing the Joint Proxy Statement (or any amendment or supplement thereto) or responding to any comments of the SEC with respect thereto, each of Asterias and BioTime will cooperate and provide the other a reasonable opportunity to review and comment on such document or response in advance (including the proposed final version of such document or response). BioTime will advise Asterias, promptly after it receives notice thereof, of the time of effectiveness of the Registration Statement, the issuance of any stop order relating thereto or the suspension of the qualification of the BioTime Common Shares issuable in connection with the Merger for offering or sale in any jurisdiction, and BioTime will use its reasonable best efforts to have any such stop order or suspension lifted, reversed or otherwise terminated. BioTime will also take any other action required to be taken under the Securities Act, the Exchange Act, any applicable foreign or state securities or Blue Sky Laws and the rules and regulations thereunder in connection with the issuance of the BioTime Common Shares in the Merger, and Asterias will furnish all information concerning Asterias and the holders of Asterias Common Stock as may be reasonably requested in connection with any such actions.

(b) If, at any time prior to the receipt of the Asterias Stockholder Approval or the BioTime Shareholder Approval, any information relating to Asterias or BioTime, or any of their respective affiliates, should be discovered by Asterias or BioTime that, in the reasonable judgment of Asterias or BioTime, should be set forth in an amendment of, or a supplement to, any of the Registration Statement or the Joint Proxy Statement, so that any of such documents would not include any misstatement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, the Party that discovers such information will promptly notify the other Parties, and Asterias and BioTime will cooperate in the prompt filing with the SEC of any necessary amendment of, or supplement to, the Joint Proxy Statement or the Registration Statement and, to the extent required by Law, in disseminating the information contained in such amendment or supplement to stockholders of Asterias and the stockholders of BioTime. Nothing in this Section 5.7(b) will limit the obligations of any Party under Section 5.7. For purposes of this Section 5.7(b), any information concerning or related to Asterias, its affiliates or the Asterias Special Meeting will be deemed to have been provided by Asterias, and any information concerning or related to BioTime, its affiliates or the BioTime Special Meeting will be deemed to have been provided by BioTime.

(c) As promptly as practicable following the date of this Agreement, Asterias will, in accordance with applicable Law and the Asterias Governing Documents, establish a record date for, duly call, give notice of, convene and, not later than thirty five (35) days after the effectiveness of the Registration Statement, hold the Asterias Special Meeting. Asterias will use its reasonable best efforts to cause the Joint Proxy Statement to be mailed to the stockholders of Asterias entitled to vote at the Asterias Special Meeting and to hold the Asterias Special Meeting as soon as practicable after the Registration Statement is declared effective under the Securities Act. Asterias will solicit and use its reasonable best efforts to obtain the Asterias Stockholder Approval, except in each case to the extent that the Asterias Board of Directors has made an Asterias Board Recommendation Change as permitted by [Section 5.6](#). Notwithstanding the foregoing provisions of this [Section 5.7\(c\)](#), if, on a date for which the Asterias Special Meeting is scheduled, Asterias has not received proxies representing a sufficient number of shares of Asterias Common Stock to obtain the Asterias Stockholder Approval, whether or not a quorum is present, Asterias will have the right to make one or more successive postponements or adjournments of the Asterias Special Meeting; provided that the Asterias Special Meeting is not postponed or adjourned to a date that is more than twenty (20) days after the date for which the Asterias Special Meeting was originally scheduled (other than any adjournments or postponements required by applicable Law, including adjournments or postponements to the extent reasonably necessary or advisable to ensure that any required supplement or amendment to the Joint Proxy Statement is provided or made available to Asterias stockholders or to permit dissemination of information that is material to stockholders voting at the Asterias Special Meeting and to give Asterias stockholders sufficient time to evaluate any such supplement or amendment or other information). Nothing contained in this [Section 5.7\(c\)](#) will relieve Asterias of its obligations to submit this Agreement to its stockholders for a vote on the adoption thereof.

(d) As promptly as practicable following the date of this Agreement, BioTime will, in accordance with applicable Law and the BioTime Governing Documents, establish a record date for, duly call, give notice of, convene and, not later than thirty five (35) days after the effectiveness of the Registration Statement, hold the BioTime Special Meeting. BioTime will use its reasonable best efforts to cause the Joint Proxy Statement to be mailed to the stockholders of BioTime entitled to vote at the BioTime Special Meeting and to hold the BioTime Special Meeting as soon as practicable after the Registration Statement is declared effective under the Securities Act. BioTime will, through the BioTime Board of Directors, recommend to its stockholders that they vote in favor of the BioTime Shareholder Approval, include such recommendations in the Joint Proxy Statement, and solicit and use its reasonable best efforts to obtain the BioTime Shareholder Approval, except in each case to the extent that the BioTime Board of Directors has made a BioTime Board Recommendation Change as permitted by [Section 5.6\(g\)](#). Notwithstanding the foregoing provisions of this [Section 5.7\(d\)](#), if, on a date for which the BioTime Special Meeting is scheduled, BioTime has not received proxies representing a sufficient number of BioTime Common Shares to obtain the BioTime Shareholder Approval, whether or not a quorum is present, BioTime will have the right to make one or more successive postponements or adjournments of the BioTime Special Meeting; provided that the BioTime Special Meeting is not postponed or adjourned to a date that is more than twenty (20) days after the date for which the BioTime Special Meeting was originally scheduled (other than any adjournments or postponements required by applicable Law, including adjournments or postponements to the extent reasonably necessary or advisable to ensure that any required supplement or amendment to the Joint Proxy Statement is provided or made available to the BioTime stockholders or to permit dissemination of information that is material to stockholders voting at the BioTime Special Meeting and to give the BioTime stockholders sufficient time to evaluate any such supplement or amendment or other information). Nothing contained in this [Section 5.7\(d\)](#) will relieve BioTime of its obligation to submit the issuance of the BioTime Common Shares in the Merger to its stockholders for a vote on the approval thereof.

(e) Asterias and BioTime will use their respective reasonable best efforts to hold the Asterias Special Meeting and the BioTime Special Meeting on the same date and as soon as reasonably practicable after the date of this Agreement.

Section 5.8 BioTime Vote. Immediately following the execution and delivery of this Agreement, BioTime, in its capacity as the sole stockholder of Merger Sub, will execute and deliver to Merger Sub and Asterias a written consent approving the Merger in accordance with the DGCL. BioTime shall vote or shall cause to be voted all of the shares of Asterias Common Stock and Asterias Preferred Stock owned beneficially or of record by BioTime or any BioTime Subsidiaries at the Asterias Special Meeting. In the event that a special meeting of Asterias stockholders is called for the purposes of obtaining the Asterias Stockholder Approval in respect of a Superior Proposal with an Excluded Party that was obtained in accordance with Section 5.3, BioTime shall vote or shall cause to be voted all of the shares of Asterias Common Stock and Asterias Preferred Stock owned beneficially or of record by BioTime or any BioTime Subsidiaries in proportion to all other votes cast by other Asterias stockholders.

ARTICLE VI ADDITIONAL AGREEMENTS

Section 6.1 Access; Confidentiality; Notice of Certain Events.

(a) From the date of this Agreement until the Effective Time or the date, if any, on which this Agreement is terminated in accordance with Article VIII, to the extent permitted by applicable Law, Asterias afford BioTime and its Representatives access during normal business hours and upon reasonable advance notice to all of their properties, offices, books, contracts, commitments, personnel and records and, during such period, Asterias furnish reasonably promptly to BioTime all information (financial or otherwise, including Tax Returns) concerning its business, properties and personnel as BioTime may reasonably request. From the date of this Agreement until the Effective Time or the date, if any, on which this Agreement is terminated in accordance with Article VIII, to the extent permitted by applicable Law, BioTime shall afford to Asterias and its Representatives access during normal business hours and upon reasonable advance notice to contracts, commitments, personnel and records to the extent necessary for Asterias to confirm the accuracy of BioTime's representations and warranties contained in Article IV. Notwithstanding the foregoing, neither Asterias nor BioTime will be required by this Section 6.1 to provide the other Party with access to or to disclose information (1) the disclosure of which would violate any Law (as long as the Asterias uses its commercially reasonable best efforts to make appropriate substitute arrangements to permit reasonable disclosure not in violation of any Law) or (2) that is subject to any attorney-client, attorney work product or other legal privilege (as long as Asterias or BioTime (as applicable) uses its commercially reasonable best efforts to allow for such access or disclosure to the maximum extent that does not result in a loss of any such attorney-client, attorney work product or other legal privilege). No investigation by BioTime or Asterias or their respective Representatives or information provided, made available or delivered pursuant to this Agreement shall affect the representations, warranties, covenants or agreements of Asterias or BioTime set forth herein.

(b) BioTime and Asterias will hold any nonpublic information exchanged pursuant to this Section 6.1, in confidence to the extent required by and in accordance with, and will otherwise comply with, the terms of the Confidentiality Agreement.

(c) Asterias will give prompt notice to BioTime, and BioTime will give prompt notice to Asterias, (1) of any notice or other communication received by such Party from any Governmental Authority in connection with this Agreement, the Merger or other Transactions, or from any Person alleging that the consent of such Person is or may be required in connection with the Merger or the other Transactions, if the subject matter of such communication or the failure of such Party to obtain such consent could be material to Asterias, the Surviving Corporation or BioTime, (2) of any Action commenced or, to any Party's knowledge, threatened against, such Party or any of its Subsidiaries or otherwise relating to, involving or affecting such Party or any of its Subsidiaries, in each case in connection with, arising from or otherwise relating to the Merger or any other Transaction and (3) upon becoming aware of the occurrence of any event or circumstance relating to it or, in the case of BioTime, any of the BioTime Subsidiaries, that would have, individually or in the aggregate, an Asterias Material Adverse Effect or a BioTime Material Adverse Effect, as the case may be, or that would reasonably be expected to prevent or materially delay or impede the consummation of the Transactions. The delivery of any notice pursuant to this Section 6.1(c) will not cure any breach of any representation or warranty requiring disclosure of such matter prior to the date of this Agreement or otherwise limit or affect the remedies available hereunder to any Party.

Section 6.2 Reasonable Best Efforts.

(a) Subject to the terms and conditions of this Agreement, each Party will use its reasonable best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary or advisable under applicable Laws to consummate the Merger and the other Transactions as soon as practicable after the date hereof, including (1) preparing and filing, in consultation with the other Party and as promptly as practicable and advisable after the date hereof, all documentation to effect all necessary applications, notices, petitions, filings, and other documents and to obtain as promptly as practicable all waiting period expirations or terminations, consents, clearances, waivers, licenses, Orders, registrations, approvals, permits, and authorizations necessary or advisable to be obtained from any Governmental Authority in order to consummate the Merger or any of the other Transactions and (2) taking all steps as may be necessary to obtain all such waiting period expirations or terminations, consents, clearances, waivers, licenses, registrations, permits, authorizations, Orders and approvals. In furtherance and not in limitation of the foregoing, each Party agrees to make all necessary applications, notices, petitions and filings required under Antitrust Laws with respect to this Agreement or the Transactions with any applicable Governmental Authority, in each case to the extent required by applicable Law. Subject to the limitations of Section 6.2(b), the Parties agree to use reasonable best efforts to supply as promptly as practicable and advisable any supplemental information and documentary material that may be requested pursuant to any applicable Governmental Authorities and to take all other actions necessary to cause the expiration or termination of any applicable waiting periods as soon as practicable.

(b) In furtherance and not in limitation of Section 6.2, each of BioTime and Asterias will use its reasonable best efforts to obtain the expiration or termination of all waiting periods and all consents, waivers, authorizations and approvals of all Third Parties, including Governmental Authorities, necessary, proper or advisable for the consummation of the Transactions and to provide any notices to Third Parties required to be provided by them prior to the Effective Time; provided that without consulting with BioTime, Asterias will not incur any expense or liability, enter into any new commitment or agreement or agree to any modification to any contractual arrangement to obtain such consents or certificates. Without limiting the foregoing, each of BioTime and Asterias shall (i) each use its reasonable best efforts to avoid the entry of, or to have vacated or terminated, any decree, Order, or judgment that would restrain, prevent or delay the Closing, on or before the Outside Date, including without limitation defending through litigation on the merits any Claim or Action asserted in any court by any Person and (ii) each use its reasonable best efforts to avoid or eliminate each and every impediment under any antitrust, competition or trade regulation Law that may be asserted by any Governmental Authority with respect to the Merger so as to enable the Closing to occur as soon as reasonably possible (and in any event no later than the Outside Date). Notwithstanding any provision of this Agreement to the contrary, in no event shall Merger Sub or BioTime be required to offer, accept or agree to, and Asterias shall not, without BioTime's prior written consent, offer, accept or agree to (1) divest, license, dispose of or hold separate any portion of the businesses, operations, assets or product lines of BioTime, Asterias or any of their respective affiliates (or a combination of the respective businesses, operations, assets or product lines of BioTime, Asterias or any of their respective affiliates), (ii) restrict, prohibit or limit the ability of BioTime, Asterias or any of their respective affiliates to conduct its business or own its assets, (iii) restrain, prohibit or limit the ownership or operation by BioTime, Asterias or any of their respective affiliates of all or any portion of the business or assets of BioTime, Asterias or any of their respective affiliates in any part of the world, (iv) cause BioTime or any of its affiliates to divest any shares of the capital stock of the Surviving Corporation or (v) impose limitations on the ability of BioTime or any of its affiliates effectively to acquire, hold or exercise full rights of ownership of, any shares of capital stock of the Surviving Corporation, including the right to vote any shares of capital stock of the Surviving Corporation acquired or owned by BioTime or any of its affiliates on all matters properly presented to the stockholders of Asterias. Notwithstanding the foregoing or any other provision of this Agreement to the contrary, in no event shall BioTime, Merger Sub or any of their affiliates be obligated to (x) enter into any settlement, undertaking, consent decree, stipulation or agreement with any Governmental Authority in connection with the Transactions or (y) litigate or participate in the litigation of any Action or Claim, whether judicial or administrative, brought by any Governmental Authority challenging or seeking to restrain, prohibit or place conditions on the consummation of the Transactions or the ownership or operation by BioTime, Asterias or any of their respective affiliates of all or any portion of their respective businesses as presently conducted and as currently proposed to be conducted.

Section 6.3 Publicity. The initial press release with respect to the execution of this Agreement will be a joint press release in form and substance acceptable to Asterias and BioTime, respectively. Thereafter, so long as this Agreement is in effect, neither Asterias nor any of its affiliates, will issue or cause the publication of any press release or other public statement with respect to this Agreement, the Merger or the other Transactions and shall not issue any such press release or make any such public statement without the prior consent (not to be unreasonably withheld, delayed or conditioned) of BioTime; provided that Asterias may, without obtaining the prior consent of the other Party (but after prior consultation, to the extent practicable in the circumstances), issue such press release or make such public statement as may upon the advice of outside counsel be required by applicable Law or the rules and regulations of NYSE American. Without limiting the foregoing, BioTime and Asterias shall use reasonable efforts to cooperate to develop all public announcement materials and make appropriate management available at presentations related to the Transactions as reasonably requested by the other Party. The restrictions of this Section 6.3 do not apply to communications in connection with and following an Asterias Board Recommendation Change or a BioTime Board Recommendation Change in compliance with Section 5.6.

Section 6.4 Directors' and Officers' Insurance and Indemnification. For not less than six (6) years from and after the Effective Time, the Surviving Corporation will, and BioTime will cause the Surviving Corporation to, indemnify and hold harmless all past and present directors, officers and employees of Asterias (collectively, the "Indemnified Parties") against any costs or expenses (including advancing attorneys' fees and expenses in advance of the final disposition of any actual or threatened Claim, Action, investigation, suit or proceeding, whether civil, criminal, administrative or investigative, to each Indemnified Party to the fullest extent permitted by Law, as long as such Indemnified Party agrees in advance to return any such funds to which a court of competent jurisdiction has determined in a final, nonappealable judgment such Indemnified Party is not ultimately entitled), judgments, fines, losses, Claims, damages, liabilities and amounts paid in settlement in connection with any actual or threatened Claim, Action, investigation, suit or proceeding in respect of acts or omissions occurring or alleged to have occurred at or prior to the Effective Time (including acts or omissions occurring in connection with the approval of this Agreement and the consummation of the Merger or any of the other Transactions), whether asserted or claimed prior to, at or after the Effective Time, in connection with such Persons serving as an officer, director, employee or other fiduciary of Asterias or of any Person if such service was at the request or for the benefit of Asterias, to the fullest extent permitted by Law or provided pursuant to the Asterias Governing Documents or any indemnification agreements, if any, in existence on the date of this Agreement. All rights to elimination of liability, indemnification and advancement of expenses for acts or omissions occurring or alleged to have occurred at or prior to the Effective Time, whether asserted or claimed prior to, at or after the Effective Time, now existing in favor of the Indemnified Parties as provided in their respective certificate of incorporation or by-laws (or comparable organizational documents) or in any agreement will survive the Merger and will continue in full force and effect. For six (6) years after the Effective Time, the Surviving Corporation will cause to be maintained in effect the provisions in (1) the Asterias Governing Documents and (2) any other agreements of Asterias with any Indemnified Party, in each case, regarding elimination of liability, indemnification of officers, directors and employees and advancement of expenses that are in existence on the date of this Agreement, and no such provision will be amended, modified or repealed in any manner that would adversely affect the rights or protections thereunder of any such Indemnified Party in respect of acts or omissions occurring or alleged to have occurred at or prior to the Effective Time (including acts or omissions occurring in connection with the approval of this Agreement and the consummation of the Merger or any of the other Transactions). BioTime will cause the Surviving Corporation to provide, for an aggregate period of not less than six (6) years from the Effective Time, Asterias' current directors and officers an insurance and indemnification policy that provides coverage for events occurring prior to the Effective Time (the "D&O Insurance") that is no less favorable than Asterias' existing policy or, if insurance coverage that is no less favorable is unavailable, the best available coverage; provided however that the Surviving Corporation will not be required to pay an annual premium for the D&O Insurance in excess of 300% of the last annual premium paid prior to the date of this Agreement; provided further that Asterias may prior to the Effective Time substitute therefor a single premium tail coverage with respect to D&O Insurance with an annual cost not in excess of 300% of the last annual premium paid prior to the date of this Agreement. Notwithstanding anything herein to the contrary, if any Indemnified Party notifies BioTime on or prior to the sixth (6th) anniversary of the Effective Time of a matter in respect of which such Person may seek indemnification pursuant to this Section 6.4, the provisions of this Section 6.4 will continue in effect with respect to such matter until the final disposition of all Claims and Actions relating thereto. In the event BioTime or the Surviving Corporation or any of their respective successors or assigns (1) consolidates with or merges into any other Person and will not be the continuing or surviving corporation or entity of such consolidation or merger or (2) transfers all or substantially all of its properties and assets to any Person, then, and in each such case, proper provision will be made so that the successors and assigns of BioTime or the Surviving Corporation, as the case may be, will assume the obligations set forth in this Section 6.4. The rights and obligations under this Section 6.4 will survive consummation of the Merger and will not be terminated or amended in a manner that is adverse to any Indemnified Party without the written consent of such Indemnified Party. The provisions of this Section 6.4 are intended to be for the benefit of, and shall be enforceable by, each Indemnified Party, his or her heirs and his or her Representatives. The indemnification and advancement provided for in this Section 6.4 is not exclusive of any other rights to which the Indemnified Party is entitled whether pursuant to Law, contract, or otherwise.

Section 6.5 Takeover Statutes. The Parties will use their respective reasonable best efforts (a) to take all action necessary so that no Takeover Statute is or becomes applicable to the Merger or any of the other Transactions and (b) if any such Takeover Statute is or becomes applicable to any of the foregoing, to take all action necessary so that the Merger and the other Transactions may be consummated as promptly as practicable on the terms contemplated by this Agreement and otherwise to eliminate or minimize the effect of such Takeover Statute on the Merger and the other Transactions.

Section 6.6 Obligations of Merger Sub. BioTime will take all action necessary to cause each of Merger Sub and the Surviving Corporation to perform their respective obligations under this Agreement before and after the Effective Time and to consummate the Transactions, including the Merger, upon the terms and subject to the conditions set forth in this Agreement.

Section 6.7 Employee Benefits. If requested by BioTime at least five (5) business days prior to the Closing, then effective as of no later than the day immediately preceding the Closing, Asterias will terminate each Asterias Plan intended to be “qualified” within the meaning of Section 401(a) of the Code.

Section 6.8 Rule 16b-3. Prior to the Effective Time, BioTime and Asterias shall take all such steps as may be required to cause any acquisitions or dispositions of Asterias Common Stock (including derivative securities with respect to Asterias Common Stock) or acquisitions of BioTime Common Shares (including derivative securities with respect to BioTime Common Shares) resulting from the Transactions by each individual who is subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Asterias or will become subject to such reporting requirements with respect to BioTime, to be exempt under Rule 16b-3 promulgated under the Exchange Act, to the extent permitted by applicable Law.

Section 6.9 Security Holder Litigation. Each Party will provide the other Party prompt notice of any litigation brought by any stockholder of that Party against such Party, any of its Subsidiaries and/or any of their respective directors relating to the Merger, this Agreement or any of the Transactions, and will provide the other Party with updates and such information as such other Party will reasonably request with respect to the status of the litigation and discussions between the parties to such litigation (unless the provision of such updates and information could reasonably be expected to result in a loss of attorney-client privilege). Asterias will give BioTime the opportunity to participate in the defense of and settlement discussions with respect to any such litigation and will not settle or make any payment or settlement offer with respect to any such litigation unless BioTime has consented in writing to such payment or settlement, which consent will not be unreasonably withheld, conditioned or delayed. In the event of, and to the extent of, any conflict or overlap between the provisions of this Section 6.9 and Section 5.1 or Section 5.2, the provisions of this Section 6.9 will control.

Section 6.10 Delisting. Each of the Parties agrees to cooperate with the other Parties in taking, or causing to be taken, all actions necessary to delist Asterias Common Stock from NYSE American and terminate its registration under the Exchange Act, provided that such delisting and termination will not be effective until after the Effective Time.

Section 6.11 Stock Exchange Listing. BioTime will use its reasonable best efforts to cause the BioTime Common Shares to be issued in the Merger to be approved for listing on NYSE American, subject to official notice of issuance, prior to the Effective Time.

Section 6.12 Accounting Matters. Prior to the Closing Date, each of Asterias and BioTime shall cooperate in good faith with, and to use commercially reasonable efforts to cause their respective Representatives to cooperate in good faith with, the other Party and its Representatives in planning for the integration of their respective accounting principles and practices to be used for the consolidated financial statements of BioTime after the Closing.

Section 6.13 Qualification as a Reorganization. The Merger is intended to qualify as a “reorganization” within the meaning of Section 368(a) of the Code, and this Agreement is intended to constitute a “plan of reorganization” within the meaning of Treasury Regulations Sections 1.368-2(g) and 1.368-3. From and after the date of this Agreement, each Party shall use its best efforts to cause the Merger to qualify as a reorganization under Section 368(a) of the Code. BioTime, Merger Sub and Asterias will not take or cause to be taken any action that, either alone or in combination, could reasonably be expected to cause the Merger to fail to qualify as a “reorganization” within the meaning of Section 368(a) of the Code. BioTime and its affiliates (including the Surviving Corporation) will use commercially reasonable efforts to continue the historic business of Asterias (or alternatively, if Asterias has more than one line of business, continue at least one significant line of Asterias’ historic business) or use a significant portion (at least 33-1/3% by value) of Asterias’ historic business assets in a business within the meaning of Treasury Regulations Section 1.368-1(d). The Parties will take the position for all Tax purposes that the Merger qualifies as a reorganization within the meaning of Section 368(a) of the Code, unless a contrary position is required by a taxing authority in connection with a good faith resolution of a Tax contest. Asterias will use reasonable best efforts to obtain a Tax opinion satisfying the requirements of Item 601 of Regulation S-K under the Securities Act. Officers of each of Asterias and BioTime will deliver to Dentons LLP, counsel to Asterias, a customary representation letter for purposes of such Tax opinion, at such time or times as may be reasonably requested by Dentons LLP, including the effective date of the Registration Statement and the Closing Date.

Section 6.14 Cooperation. Asterias shall furnish BioTime as promptly as practicable following BioTime's request, such information regarding Asterias as is customarily required in connection with the Merger including (a) financial statements that have been prepared in conformity with GAAP, (b) such other financial, business and other information regarding the Asterias as BioTime shall request from the Asterias, that BioTime may be required to file with the SEC in connection with the approval of this Agreement and the consummation of the Merger or any of the other Transactions.

Section 6.15 Notification of Certain Matters. Asterias and BioTime shall promptly notify each other of the discovery of any fact or circumstance that, or the occurrence or non-occurrence of any event the occurrence or non-occurrence of which would reasonably be expected to result in any of the conditions to the Merger set forth in Article VII not being satisfied or satisfaction of those conditions being materially delayed in violation of any provision of this Agreement; provided, however, that the delivery of any notice pursuant to this Section 6.15 shall not (x) cure any breach of, or non-compliance with, any other provision of this Agreement or (y) limit the remedies available to the party receiving such notice; provided further, that unintentional failure to give prompt notice pursuant to this clause shall not constitute a failure of a condition to the Merger set forth in Article VII except to the extent that the underlying fact or circumstance not so notified would standing alone constitute such a failure.

Section 6.16 Employee and Labor Matters.

(a) For a period commencing on the Effective Time, and ending on December 31, 2019, the Surviving Corporation will provide individuals who are employees of Asterias immediately prior to the Effective Time and continue to be employees of BioTime or one of the BioTime Subsidiaries (including the Surviving Corporation) immediately following the Effective Time, but only for so long as such individuals are so employed (each, a "Continuing Employee"), employee benefits (other than equity-based awards) that are either (A) substantially comparable to the employee benefits (other than equity-based awards) provided by Asterias on the date of this Agreement or (B) substantially comparable to the employee benefits (other than equity-based awards) provided to similarly-situated employees of BioTime.

(b) As of the Effective Time, BioTime shall, and shall cause the Surviving Corporation to, use commercially reasonable efforts to give Continuing Employees credit for purposes of eligibility, benefit accrual, vesting and entitlement to benefits where length of service is relevant (but not for any purposes under any employee benefit plan that is a defined benefit pension plan or with respect to an equity plan) under any applicable BioTime Plans that such employees may be eligible to participate in after the Effective Time (“New Plans”) for such Continuing Employees’ service with Asterias to the same extent that such service was credited for purposes of any comparable employee benefit plan of Asterias immediately prior to the Effective Time and in no event shall service prior to the Effective Time be required to be taken into account if such service credit would result in the duplication of benefits with respect to the same period or if such service credit would violate the terms of any New Plan. In addition, and without limiting the generality of the foregoing, BioTime shall use commercially reasonable efforts to provide that (1) each Continuing Employee shall be immediately eligible to participate, without any waiting time, in any and all New Plans to the extent coverage under such New Plan replaces coverage under a comparable Asterias Plan in which such Continuing Employee participated immediately before the replacement, and (2) for purposes of each New Plan providing medical, dental, pharmaceutical and/or vision benefits to any Continuing Employee, all pre-existing condition limitations, exclusions, actively-at-work requirements or waiting periods of such New Plan be waived for such employee and his or her covered dependents to the extent waived or not applicable under a comparable Asterias Plan in which such Continuing Employee participated immediately before the replacement, and any eligible expenses incurred by such employee and his or her covered dependents under a Asterias Plan during the portion of the plan year prior to the Effective Time to taken into account under such New Plan for purposes of satisfying all deductible, co-insurance, co-payment and maximum out-of-pocket requirements applicable to such employee and his or her covered dependents for the remainder of the applicable plan year during which the Effective Time occurs as if such amounts had been paid in accordance with such New Plan, in each case subject to the terms and conditions of each New Plan.

(c) From and after the Effective Time, Asterias or the Surviving Corporation, as applicable, will, and BioTime will cause Asterias or the Surviving Corporation, as applicable, to, honor, in accordance with their terms, all employment, severance, income continuity and change of control programs, plans or agreements between Asterias and its employees including bonuses, incentives, severance payments or deferred compensation that are listed on Section 6.16(c) of the Asterias Disclosure Letter (which disclosure shall include the amount payable under any such programs, plans or arrangements), in each case, in accordance with their terms as of the date of this Agreement.

(d) No provision of this Section 6.16 shall be construed as a limitation on the right of BioTime, or to cause any BioTime Subsidiary to, amend or terminate any specific employee benefit plan that BioTime or a BioTime Subsidiary would otherwise have under the terms of such employee benefit plan, nor shall any provision of this Section 6.16 be construed to require the continuation of the employment of any particular Continuing Employee. The provisions of this Section 6.16 are solely for the benefit of the Parties, and no Person shall be a third-party beneficiary of this Section 6.16, and nothing herein shall be construed as an amendment to any employee benefit plan of BioTime or any BioTime Subsidiary or other compensation or benefit plan or arrangement for any purpose.

ARTICLE VII
CONDITIONS TO CONSUMMATION OF THE MERGER

Section 7.1 Conditions to Each Party's Obligations to Effect the Merger. The respective obligations of each Party to effect the Merger will be subject to the satisfaction on or prior to the Closing Date of each of the following conditions, any and all of which may be waived in whole or in part by BioTime, Merger Sub and Asterias, as the case may be, to the extent permitted by applicable Law:

- (a) Stockholder Approval. Each of the Asterias Stockholder Approval and the BioTime Shareholder Approval has been obtained;
- (b) Registration Statement. The Registration Statement has become effective in accordance with the provisions of the Securities Act and no stop order suspending the effectiveness of the Registration Statement has been issued by the SEC and remain in effect and no proceeding to that effect has been commenced or threatened in writing by the SEC;
- (c) Adverse Laws or Orders. No Adverse Law or Order has occurred;
- (d) Required Antitrust Clearances. Any approval of a Governmental Authority required under any applicable Antitrust Law (if applicable) has been obtained and any mandatory waiting period related thereto has expired;
- (e) Listing. The BioTime Common Shares to be issued in the Merger have been approved for listing on NYSE American, subject to official notice of issuance.

Section 7.2 Conditions to Obligations of BioTime and Merger Sub. The obligations of BioTime and Merger Sub to effect the Merger are also subject to the satisfaction or waiver (in writing) by BioTime on or prior to the Closing Date of each of the following additional conditions:

- (a) Representations and Warranties. The representations and warranties of Asterias (1) set forth in Section 3.3 (Capitalization) and Section 3.24 (Vote Required) shall have been true and correct as of the date of this Agreement and will be true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date (except to the extent expressly made as of an earlier date, in which case as of such date), in each case with respect to Section 3.3 except for de minimis inaccuracies where the failure to be so true and correct would not reasonably be expected to result in additional cost, expense or liability to the Parties and their affiliates, individually or in the aggregate that is more than \$300,000, (2) set forth in Section 3.1(a) (Organization, Power and Subsidiaries), Section 3.4 (Authority), Section 3.20 (Brokers and Expenses), and Section 3.25 (Opinion of Financial Advisor) shall have been true and correct in all material respects as of the date of this Agreement and will be true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on and as of the Closing Date (except to the extent expressly made as of an earlier date, in which case as of such date) and (3) set forth in this Agreement, other than the representations referred to in the preceding clauses "(1)" and "(2)" shall have been true and correct in all respect as of the date of this Agreement and will be true and correct on and as of the Closing Date with the same force and effect as if made on and as of the Closing Date, except for any failure to be so true and correct that has not had, and would not reasonably be expected to have, individually or in the aggregate, an Asterias Material Adverse Effect and except for those representations and warranties that address matters only as of a particular date (which representations will have been true and correct as of such particular date, except for any failure to be so true and correct as of such date that has not had, and would not reasonably be expected to have, individually or in the aggregate, an Asterias Material Adverse Effect); provided however that for purposes of determining the accuracy of the representations and warranties of Asterias set forth in this Agreement: (x) for purposes of clauses "(2)" and "(3)" of this Section 7.2(a), all qualifications based on an "Asterias Material Adverse Effect" and all materiality qualifications and other qualifications based on the word "material" or similar phrases contained in such representations and warranties will be disregarded; (y) in each case, any update made or purport to be made to the Asterias Disclosure Schedule after execution of this Agreement shall be disregarded completely and have no further force or effect.

(b) Covenants. Asterias has complied with or performed, in all material respects, all covenants, obligations and agreements of Asterias under this Agreement to be complied with or performed by it prior to the Effective Time;

(c) Asterias Material Adverse Effect. No Asterias Material Adverse Effect has occurred since the date of this Agreement; and

(d) Certificate. Asterias has furnished BioTime with a certificate signed on its behalf by the chief executive officer or chief financial officer of Asterias to the effect that the conditions set forth in Section 7.2(a), (b) and (c) are satisfied.

(e) Return or Destruction of Information. BioTime shall have received confirmation that all Persons who received non-public information relating to Asterias in accordance with Section 5.3 have either returned or destroyed all such non-public information.

Section 7.3 Conditions to Obligations of Asterias. The obligations of Asterias to effect the Merger are also subject to the satisfaction or waiver (in writing) by Asterias on or prior to the Closing Date of each of the following additional conditions:

(a) Representations and Warranties. The representations and warranties of BioTime (1) set forth in Section 4.3 (Capitalization) and Section 4.14 (Vote Required) shall have been true and correct as of the date of this Agreement and shall be true and correct as of the Closing Date with the same force and effect as if made on and as of the Closing Date (except to the extent expressly made as of an earlier date, in which case as of such date), in each case with respect to Section 4.3 except for de minimis inaccuracies where the failure to be so true and correct would not reasonably be expected to result in additional cost, expense or liability to the all the Parties and their affiliates, individually or in the aggregate that is more than \$1,500,000, (2) set forth in Section 4.1 (Organization and Power), Section 4.4 (Authority), Section 4.13 (Brokers and Expenses), and Section 4.15 (Opinion of Financial Advisor) shall have been true and correct in all material respects as of the date of this Agreement and will be true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on and as of the Closing Date (except to the extent expressly made as of an earlier date, in which case as of such date) and (3) set forth in this Agreement, other than the representations referred to in the preceding clauses “(1)” and “(2)” shall have been true and correct as of the date of this Agreement and will be true and correct on and as of the Closing Date with the same force and effect as if made on and as of the Closing Date, except for any failure to be so true and correct that has not had, and would not reasonably be expected to have, individually or in the aggregate, a BioTime Material Adverse Effect and except for those representations and warranties that address matters only as of a particular date (which representations will have been true and correct as of such particular date, except for any failure to be so true and correct as of such date that has not had, and would not reasonably be expected to have, individually or in the aggregate, a BioTime Material Adverse Effect); provided however that for purposes of determining the accuracy of the representations and warranties of BioTime set forth in this Agreement: (x) for purposes of clauses “(2)” and “(3)” of this Section 7.3(a), all qualifications based on an “BioTime Material Adverse Effect” and all materiality qualifications and other qualifications based on the word “material” or similar phrases contained in such representations and warranties will be disregarded; and (y) in each case any update made or purport to be made to the BioTime Disclosure Schedule after execution of this Agreement shall be disregarded completely and have no further force or effect;

(b) Covenants. BioTime and Merger Sub have complied with or performed, in all material respects, all covenants, obligations and agreements of BioTime and Merger Sub under this Agreement to be complied with or performed by them on or prior to the Effective Time;

(c) BioTime Material Adverse Effect. No BioTime Material Adverse Effect has occurred since the date of this Agreement; and

(d) Certificate. BioTime has furnished Asterias with a certificate signed on its behalf by the chief executive officer or chief financial officer of BioTime to the effect that the conditions set forth in Section 7.3(a), (b) and (c) are satisfied.

Section 7.4 Frustration of Closing Conditions. None of BioTime, Merger Sub or Asterias may rely on the failure of any condition set forth in this Article VII (as applicable such Party) to be satisfied if such failure was caused by such Party's failure to comply with any provision of this Agreement.

ARTICLE VIII TERMINATION

Section 8.1 Termination. This Agreement may be terminated and the Merger and the other Transactions may be abandoned as follows:

(a) by mutual written consent of BioTime and Asterias;

(b) by either Asterias or BioTime if a Governmental Authority of competent jurisdiction has issued an Adverse Law or Order permanently restraining, permanently enjoining or otherwise permanently prohibiting the consummation of the Merger and, in the case of an Order, such Order has become final and non-appealable; provided that the right to terminate this Agreement pursuant to this Section 8.1(b) shall not be available to any Party if the issuance of such Order was attributable to the failure of such Party to perform its obligations under this Agreement;

(c) by either BioTime or Asterias, prior to the Effective Time, if there has been a breach by Asterias, on the one hand, or BioTime or Merger Sub, on the other hand, of any representation, warranty, covenant or agreement set forth in this Agreement, which breach would result in the conditions in Article VII not being satisfied (assuming that the date of such determination is the Closing Date and that such breach is not curable prior to the Outside Date, or if curable prior to the Outside Date, has not been cured within the earlier of thirty (30) calendar days after the receipt of notice thereof by the defaulting Party from the non-defaulting Party or (2) three (3) business days before the Outside Date); provided however that neither BioTime nor Asterias shall have a right to terminate this Agreement pursuant to this Section 8.1(c) if it is then in breach of any representations, warranties, covenants or other agreements contained in this Agreement that would result in a failure of a condition set forth in Article VII;

(d) by either BioTime or Asterias, if the Effective Time has not occurred by 5:00 p.m., Pacific Time, on May 31, 2019 (the “Outside Date”); provided however that the right to terminate this Agreement pursuant to this Section 8.1(d) will not be available to any Party whose breach of any representation, warranty, covenant or agreement set forth in this Agreement has been the cause of, or resulted in, (1) the failure to satisfy the conditions to the obligations of the terminating Party to consummate the Merger set forth in Article VII prior to the Outside Date or (2) the Effective Time not occurring prior to the Outside Date;

(e) by BioTime, if, prior to receipt of the Asterias Stockholder Approval, (1) the Asterias Board of Directors or any committee thereof (including the Asterias Special Committee) has effected an Asterias Board Recommendation Change (whether or not effected in compliance with the terms of this Agreement), (2) Asterias has failed to include the Asterias Board Recommendation in the Joint Proxy Statement distributed to Asterias stockholders (3) Asterias has failed to make a statement in opposition and recommend rejection to Asterias’ stockholders of a tender or exchange offer for any Asterias Securities initiated by a Person or group (other than BioTime or its affiliates) pursuant to Rule 14e-2 promulgated under the Exchange Act within ten (10) business days after such tender or exchange offer has been published, sent or given by such Person or group; or (4) Asterias fails to publicly reaffirm the Asterias Board Recommendation within ten (10) business days after BioTime requests in writing following any public statement by a stockholder of Asterias or a member of the Asterias Board of Directors expressing opposition to the Merger or the terms included herein; provided that BioTime’s right to terminate this Agreement pursuant to this Section 8.1(e) shall expire upon the earlier of (i) the Asterias Stockholder Approval having been obtained, and (ii) 5:00 p.m. (New York City time) on the thirtieth (30th) calendar day following the date on which such Asterias Board Recommendation Change occurs.

(f) by BioTime, if, prior to receipt of the Asterias Stockholder Approval, Asterias has materially and willfully breached its obligations under Section 5.3, Section 5.4 or Section 5.5;

(g) by BioTime, in the event that prior to receipt of the BioTime Shareholder Approval, the BioTime Board of Directors shall have effected a BioTime Board Recommendation Change in compliance with the provisions of Section 5.6(g), provided that prior to or concurrently with (and as a condition to) such termination BioTime pays Asterias the BioTime Termination Fee pursuant to Section 8.2(c);

(h) by Asterias, if, prior to receipt of the BioTime Shareholder Approval, (1) the BioTime Board of Directors or the BioTime Special Committee has effected a BioTime Board Recommendation Change (whether or not effected in compliance with the terms of this Agreement), (2) BioTime has failed to include the BioTime Board Recommendation in the Joint Proxy Statement distributed to BioTime stockholders or (3) BioTime fails to publicly reaffirm the BioTime Board Recommendation within ten (10) business days after Asterias requests in writing following any public statement by a stockholder of BioTime or a member of the BioTime Board of Directors expressing opposition to the Merger or the terms included herein;

(i) by Asterias, in the event that (i) Asterias shall have received a Superior Proposal, (ii) the Asterias Board of Directors (acting upon the unanimous recommendation of the Asterias Special Committee) shall have determined to terminate this Agreement in accordance with the terms set forth in Section 5.4(b); (iii) Asterias has complied in all material respects with Section 5.3, Section 5.4 and Section 5.5 and (iv) prior to or concurrently with (and as a condition to) such termination Asterias pays BioTime the Asterias Termination Fee pursuant to Section 8.2(b)(1);

(j) by either Asterias or BioTime, if the Asterias Stockholder Approval has not been obtained at the Asterias Special Meeting or at any adjournment or postponement thereof, in each case at which a vote on such approval was taken; provided that Asterias may not terminate this Agreement pursuant to this Section 8.1(j) if Asterias has breached in any material respect its obligations under Section 5.7 of this Agreement in a manner that primarily caused or primarily resulted in the failure of the Asterias Stockholder Approval to be obtained; or

(k) by either BioTime or Asterias, if the BioTime Shareholder Approval has not been obtained at the BioTime Special Meeting or at any adjournment or postponement thereof, in each case at which a vote on such approval was taken; provided that BioTime may not terminate this Agreement pursuant to this Section 8.1(k) if BioTime has breached in any material respect its obligations under Section 5.7 of this Agreement in a manner that primarily caused or primarily resulted in the failure of the BioTime Shareholder Approval to be obtained.

Section 8.2 Effect of Termination.

(a) Notice of Termination. To terminate this Agreement as provided in Section 8.1 (other than in the case of termination pursuant to Section 8.1(a)), the terminating Party will give written notice to the other Party specifying the subsection of Section 8.1 pursuant to which such termination is made, and this Agreement will become null and void and there will be no liability on the part of BioTime, Merger Sub or Asterias, except that the Confidentiality Agreement, the last sentence of Section 5.8, Section 6.3, this Section 8.2 and Section 9.3 through Section 9.13 will survive such termination; provided however that subject to Section 8.2(c), nothing herein will relieve any Party from liability for fraud or a willful or intentional breach of its representations, warranties, covenants or agreements set forth in this Agreement prior to such termination and any aggrieved party will be entitled to all rights and remedies available under applicable Law or in equity.

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(b) Asterias Termination Fee.

(1) If Asterias terminates this Agreement pursuant to Section 8.1(i), then Asterias will pay or cause to be paid to BioTime, substantially concurrently with and as a condition to the effectiveness of such termination the Asterias Termination Fee.

(2) If BioTime terminates this Agreement pursuant to Section 8.1(f) or Section 8.1(e), then Asterias will pay or cause to be paid to BioTime, within three (3) business days after such termination, the Asterias Termination Fee.

(3) If (A) this Agreement is terminated: (x) by BioTime or Asterias pursuant to Section 8.1(d) or Section 8.1(j), or (y) by BioTime pursuant to Section 8.1(c) (B) an Acquisition Proposal with respect to Asterias has been publicly disclosed at any time after the date of this Agreement and prior to the Asterias Special Meeting (and not publicly withdrawn prior to the date of the Asterias Special Meeting) and (C)(1) any Acquisition Transaction with respect to Asterias is consummated within 12 months after such termination or (2) Asterias enters into a definitive agreement providing for an Acquisition Transaction within 12 months after such termination and such Acquisition Transaction is consummated (whether or not within the 12-month period), then within one (1) business day after the date any such Acquisition Transaction is consummated, Asterias will pay or cause to be paid to BioTime the Asterias Termination Fee; provided, however, that for purposes of this Section 8.2(b)(3), the references to “twenty percent (20%)” in the definition of Acquisition Transaction shall be deemed to be references to “fifty percent (50%)”.

(4) In the event any amount is payable by Asterias pursuant to the preceding clauses (1), (2), or (3), such amount will be paid by wire transfer of immediately available funds to an account designated in writing by BioTime. In no event will Asterias be obligated to pay the Asterias Termination Fee on more than one occasion.

(c) BioTime Termination Fee. If BioTime or Asterias terminates this Agreement pursuant to Section 8.1(g) or Section 8.1(h), then BioTime will pay or cause to be paid to Asterias, within three (3) business days after such termination, the BioTime Termination Fee. The BioTime Termination Fee will be paid by wire transfer of immediately available funds to an account designated in writing by Asterias. In no event will BioTime be obligated to pay the BioTime Termination Fee on more than one occasion.

(d) If this Agreement is terminated by BioTime or Asterias pursuant to Section 8.1(j) and the BioTime Shareholder Approval is obtained, then Asterias shall pay to BioTime, by wire transfer of immediately available funds to an account designated in writing by BioTime, within two (2) business days after the termination of this Agreement the Reimbursable Expenses, which shall be credited against the Asterias Termination Fee, if any.

(e) If this Agreement is terminated by BioTime or Asterias pursuant to Section 8.1(k) and the Asterias Stockholder Approval is obtained, then BioTime shall pay to Asterias, by wire transfer of immediately available funds to an account designated in writing by Asterias, within two (2) business days after the termination of this Agreement the Reimbursable Expenses, which shall be credited against the BioTime Termination Fee, if any.

(f) If this Agreement is terminated by BioTime pursuant to Section 8.1(c), then Asterias shall pay to BioTime, by wire transfer of immediately available funds to an account designated in writing by BioTime, within two (2) business days after the termination of this Agreement the Reimbursable Expenses, which shall be credited against the Asterias Termination Fee, if any.

(g) If this Agreement is terminated by Asterias pursuant to Section 8.1(c), then BioTime shall pay to Asterias, by wire transfer of immediately available funds to an account designated in writing by Asterias, within two (2) business days after the termination of this Agreement the Reimbursable Expenses, which shall be credited against the BioTime Termination Fee, if any.

(h) As used in this Agreement, "Asterias Termination Fee" shall mean \$2,000,000. As used in this Agreement, "BioTime Termination Fee" shall mean \$2,000,000. As used in this Agreement, "Reimbursable Expenses" shall mean all out-of-pocket fees, costs and expenses of any kind incurred or paid by or on behalf of the party receiving payment thereof and its affiliates in connection with the Transactions, or related to the authorization, preparation, negotiation, execution and performance of this Agreement, in each case including all fees, costs and expenses of law firms, commercial banks, investment banking firms, financing sources, accountants, experts and consultants to such party and its affiliates; provided, that the aggregate amount of Reimbursable Expenses payable shall not exceed \$1,500,000.

(i) Each of the Parties acknowledges that the agreements contained in this Section 8.2 are an integral part of the Transactions and that (1) the Asterias Termination Fee or the Reimbursable Expenses, as applicable, is not a penalty, but rather is a reasonable amount that will compensate BioTime and Merger Sub in the circumstances in which the Asterias Termination Fee or the Reimbursable Expenses, as applicable, is payable for the efforts and resources expended and opportunities foregone while negotiating this Agreement and in reliance on this Agreement and on the expectation of the consummation of the Transactions and that (2) the BioTime Termination Fee is not a penalty, but rather is a reasonable amount that will compensate Asterias in the circumstances in which and BioTime Termination Fee or the Reimbursable Expenses, as applicable, is payable for the efforts and resources expended and opportunities foregone while negotiating this Agreement and in reliance on this Agreement and on the expectation of the consummation of the Transactions, each of which amounts would otherwise be impossible to calculate with precision. Accordingly, if a Party fails to pay any amounts due under this Section 8.2 and, in order to obtain such payment, BioTime or Asterias, as the case may be, commences a suit that results in a judgment against such Party for such amounts, such Party shall pay interest on such amounts from the date payment of such amounts were due to the date of actual payment at the rate equal to the prime rate published in the Wall Street Journal for the relevant period, together with the costs and expenses of the other Party (including reasonable legal fees and expenses) in connection with such suit. Notwithstanding anything to the contrary in this Agreement, except in the case of fraud or material and willful breach, (A) upon payment of the Asterias Termination Fee or the Reimbursable Expenses, as applicable, pursuant to this Section 8.2, the Asterias Termination Fee or the Reimbursable Expenses, as applicable, shall be considered the sole and exclusive remedy of BioTime and its affiliates for any loss or damage based upon, arising out of or relating to this Agreement or the Transactions and none of Asterias or any of its former, current or future officers, directors, partners, stockholders, managers, members, affiliates or agents will have any further liability or obligation relating to or arising out of this Agreement or the Transactions and (B) upon payment of the BioTime Termination Fee or the Reimbursable Expenses, as applicable, pursuant to this Section 8.2, the BioTime Termination Fee shall be considered the sole and exclusive remedy of Asterias and its affiliates for any loss or damage based upon, arising out of or relating to this Agreement or the Transactions and none of BioTime, any of its Subsidiaries or any of their respective former, current or future officers, directors, partners, shareholders, managers, members, affiliates or agents will have any further liability or obligation relating to or arising out of this Agreement or the Transactions.

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**ARTICLE IX
MISCELLANEOUS**

Section 9.1 Amendment and Modification: Waiver.

(a) Subject to applicable Law and except as otherwise provided in this Agreement, this Agreement may be amended, modified and supplemented, whether before or after receipt of the Asterias Stockholder Approval or the BioTime Shareholder Approval, as applicable, by written agreement of Asterias and BioTime; provided, however, that after receipt of the Asterias Stockholder Approval or the BioTime Shareholder Approval, as applicable, no amendment will be made that by Law requires further approval by such stockholders without obtaining such further approval. This Agreement may not be amended except by an instrument in writing signed on behalf of each of the Parties.

(b) At any time and from time to time prior to the Effective Time, either Asterias, on the one hand, or BioTime, on the other hand, may, to the extent legally allowed and except as otherwise set forth herein, (1) extend the time for the performance of any of the obligations or other acts of BioTime, Merger Sub or Asterias, as applicable, (2) waive any inaccuracies in the representations and warranties made to BioTime or Asterias contained herein or in any document delivered pursuant hereto and (3) waive compliance with any of the agreements or conditions for the benefit of BioTime, Merger Sub or Asterias contained herein. Any agreement on the part of BioTime or Asterias to any such extension or waiver will be valid only if set forth in an instrument in writing signed on behalf of BioTime or Asterias, as applicable. Any delay in exercising any right under this Agreement will not constitute a waiver of such right.

Section 9.2 Non-Survival of Representations and Warranties. None of the representations and warranties in this Agreement or in any schedule, instrument or other document delivered pursuant to this Agreement will survive the Effective Time. This Section 9.2 will not limit any covenant or agreement of the Parties that by its terms contemplates performance after the Effective Time.

Section 9.3 Expenses. Except as otherwise expressly provided in this Agreement, all Expenses incurred in connection with this Agreement and the Transactions will be paid by the Party incurring such Expenses.

Section 9.4 Notices. All notices, requests, demands and other communications under this Agreement will, except to the extent expressly provided to be oral, be in writing and will be deemed to have been duly given or made as follows: (a) if sent by certified mail in the United States, upon receipt; (b) if sent designated for overnight delivery by globally recognized overnight delivery service (such as DHL or FedEx), the time of delivery as confirmed in the courier's systems; (c) if sent by e-mail (including email of an attachment in Adobe Portable Document Format or other file format based on common standards), when the sender has received confirmation of receipt from the recipient or, if the time of confirmation of receipt is after 5:00 p.m. in the time zone of the receiving party or is not on a business day, on the business day immediately after the time of confirmation of receipt and (d) if otherwise actually personally delivered, when delivered, provided that such notices, requests, demands and other communications are delivered to the address set forth below, or to such other address as any Party will provide by like notice to the other Parties:

if to BioTime or Merger Sub, to:

BioTime, Inc.
Attention: Stephana Patton
Attention: Angus C. Russell
Email: legal@biotimeinc.com

with a copy to:

Cooley LLP
3175 Hanover Street
Palo Alto, California 94304
Attention: Glen Sato and Tali Sealman
Email: gsato@cooley.com; tsealman@cooley.com

if to Asterias, to:

Asterias Biotherapeutics, Inc.
Attention: Don M. Bailey
Attention: Ryan Chavez
6300 Dumbarton Cir
Fremont, CA 94555
Email: donmatthewbailey@sbcglobal.net; RChavez@asteriasbio.com

with copies to:

Dentons US LLP
1221 Avenue of the Americas
New York, NY 10020
Attention: Ilan Katz and Brian Lee
Email: ilan.katz@dentons.com; brian.lee@dentons.com

Section 9.5 Certain Definitions. For the purposes of this Agreement, the term:

“Acceptable Confidentiality Agreement” means a confidentiality agreement that contains terms that are no less favorable in the aggregate to Asterias than those contained in the Confidentiality Agreement; provided however that an Acceptable Confidentiality Agreement (1) will not provide for an exclusive right to negotiate with Asterias and (2) will not restrict Asterias from complying with Article V.

“Acquisition Proposal” has the meaning set forth in Section 5.3(c)(1).

“Acquisition Transaction” has the meaning set forth in Section 5.3(c)(2).

“Action” means any and all litigation, suits, actions, proceedings, arbitrations, mediations, audits, hearings, or inquiries commenced, brought, conducted or heard by or before any Governmental Authority.

“Adverse Law or Order” means (1) any Law has been enacted or promulgated by any Governmental Authority of competent jurisdiction that prohibits or makes illegal the consummation of the Merger or (2) there will be in effect any Order preventing the consummation of the Merger.

“affiliates” has the meaning set forth in Rule 12b-2 of the Exchange Act.

“Antitrust Laws” means any federal, state, local and non-U.S. statutes, rules, regulations, Orders, decrees, administrative and judicial doctrines and other Laws that are designed or intended to prohibit, restrict or regulate actions having the purpose or effect of monopolization or restraint of trade or lessening competition through merger or acquisition.

“Asterias” has the meaning set forth in the Preamble.

“Asterias Associate” means each officer or other employee, or individual who is an independent contractor, consultant or director, of or to Asterias.

“Asterias Board of Directors” has the meaning set forth in the Recitals.

“Asterias Board Recommendation” has the meaning set forth in Section 5.6(a).

“Asterias Board Recommendation Change” has the meaning set forth in Section 5.6(a).

“Asterias Common Stock” has the meaning set forth in Section 3.3(a).

“Asterias Disclosure Letter” has the meaning set forth in Article III.

“Asterias Equity Awards” means each outstanding award granted under the Asterias Equity Plans (including each outstanding Asterias Stock Option and Asterias RSU Award).

“Asterias Equity Plans” means the 2013 Equity Incentive Plan.

“Asterias ERISA Affiliate” means any trade or business (whether or not incorporated) under common control with Asterias and that, together with Asterias, is treated as a single employer within the meaning of Section 414 of the Code or Section 4001 of ERISA.

“Asterias Financial Advisor” has the meaning set forth in Section 3.20.

“Asterias Governing Documents” means (a) the Asterias certificate of incorporation as amended and in effect on the date hereof and (b) the bylaws of Asterias, as amended and restated as of the date of this Agreement.

“Asterias In-bound License” has the meaning set forth in Section 3.14(e).

“Asterias Intellectual Property” means (a) all Intellectual Property rights that are owned or purported to be owned by Asterias, (b) all Intellectual Property rights licensed by Asterias and (c) all other Intellectual Property rights that are used or previously used by Asterias.

“Asterias International Plan” means an Asterias Plan that is subject to the Laws of any jurisdiction outside the United States or provides compensation or benefits to an employee of Asterias who performs services primarily outside the United States.

“Asterias Intervening Event” means an Effect that relates to Asterias (a) that was not known to the Asterias Board of Directors, or the material consequences of which (based on facts known to members of the Asterias Board of Directors as of the date of this Agreement) were not reasonably foreseeable by the Asterias Board of Directors, as of the date of this Agreement and (b) that does not relate to (1) any Acquisition Proposal, (2) any change in the price, or change in trading volume, of BioTime Common Shares or Asterias Common Stock (provided, however, that the exception in this clause (2) shall not apply to the underlying causes giving rise to or contributing to such change or prevent any of such underlying causes from being taken into account in determining whether an Asterias Intervening Event has occurred) and (3) meeting or exceeding internal or analysts’ expectations, projections or results of operations (provided, however, that the exception in this clause (3) shall not apply to the underlying causes giving rise to or contributing to such circumstances or prevent any of such underlying causes from being taken into account in determining whether an Asterias Intervening Event has occurred).

“Asterias IT Systems” shall mean hardware, software, data, databases, data communication lines, network and telecommunications equipment, Internet-related information technology infrastructure, wide area network and other information technology equipment, owned, leased or licensed by Asterias.

“Asterias Material Adverse Effect” means any Effect that, individually or taken together in the aggregate, is, or would reasonably be expected to (a) be, materially adverse to the business, assets, properties, condition (financial or otherwise) or results of operations of Asterias; provided that none of the following will be deemed, either alone or in combination, to be or constitute an “Asterias Material Adverse Effect” or be taken into account when determining whether an “Asterias Material Adverse Effect” has occurred or may, would or could occur: (1) conditions in the industry in which Asterias operates, (2) general economic conditions within the U.S. or any other country, (3) conditions in the securities markets, credit markets, currency markets or other financial markets in the United States or any other country, (4) political conditions in the United States or any other country or acts of war, sabotage or terrorism in the United States or any other country, (5) earthquakes, hurricanes, tsunamis, tornadoes, floods, mudslides, wild fires or other natural disasters, weather conditions and other force majeure events in the United States or any other country, (6) changes in Law or other legal or regulatory conditions or changes in GAAP or other accounting standards, (7) changes in Asterias’ stock price or the trading volume of Asterias’ stock, or any failure by Asterias to meet any public estimates or expectations of Asterias’ revenue, earnings or other financial performance or results of operations for any period, but not, in each case, the underlying cause of such changes or failures, (8) Effects directly resulting from the announcement of this Agreement or the pendency of the Transactions, including any loss of employees and (9) the taking of any action explicitly contemplated hereby except any actions taken in the ordinary course of business in accordance with Section 5.1(a), except, in the case of each of clauses (1) through (6), to the extent such Effects disproportionately negatively affect Asterias, in any material negative respect relative to other companies of comparable size in the same industries and geographies in which Asterias operate or (b) prevent, materially delay or materially impede the performance by Asterias of its obligations under this Agreement or the consummation of the Merger or any of the other Transactions.

“Asterias Material Contracts” has the meaning set forth in Section 3.17(a).

“Asterias Owned Intellectual Property” means any Intellectual Property that is owned by or purported to be owned, in whole or in part, by Asterias.

“Asterias Permits” has the meaning set forth in Section 3.6.

“Asterias Plans” has the meaning set forth in Section 3.10(a).

“Asterias Preferred Stock” has the meaning set forth in Section 3.3(a).

“Asterias Products” means any programs in active development, previously in development or contemplated to be in development for the treatment, amelioration, diagnosis and screening of any human or animal disease, or for use as an sort of research reagent or tool.

“Asterias Real Property Leases” has the meaning set forth in Section 3.13(c).

“Asterias Registered Intellectual Property” means all Asterias Owned Intellectual Property that is Registered Intellectual Property.

“Asterias RSU Awards” means any issued and outstanding restricted stock units (including commitments to grant restricted stock units approved by Asterias Board of Directors or authorized committee of the Asterias Board of Directors), whether payable in cash, shares or otherwise, granted under or pursuant to an Asterias Equity Plan or otherwise.

“Asterias SEC Reports” has the meaning set forth in Section 3.7(a).

“Asterias Series B Common Stock” has the meaning set forth in Section 3.3(a).

“Asterias Special Committee” has the meaning set forth in the Recitals.

“Asterias Special Meeting” means the meeting of the holders of shares of Asterias Common Stock for the purpose of seeking the Asterias Stockholder Approval in respect of the Merger and the Transactions, including any postponement or adjournment thereof.

“Asterias Stock Option” means each option to purchase shares of Asterias Common Stock granted by Asterias.

“Asterias Stockholder Approval” means the affirmative vote of the holders of a majority of the outstanding shares of Asterias Common Stock entitled to vote upon the adoption of this Agreement at the Asterias Special Meeting.

“Asterias Termination Fee” has the meaning set forth in Section 8.2(h).

“Asterias US Plans” has the meaning set forth in Section 3.10(a).

“Asterias Warrants” means warrants to acquire Asterias Common Stock.

“BioTime” has the meaning set forth in the Preamble.

“BioTime Board of Directors” has the meaning set forth in the Recitals.

“BioTime Board Recommendation” has the meaning set forth in Section 5.6(f).

“BioTime Board Recommendation Change” has the meaning set forth in Section 5.6(f).

“BioTime Charter Documents” has the meaning set forth in Section 4.2.

“BioTime Common Shares” has the meaning set forth in the Recitals.

“BioTime Disclosure Letter” has the meaning set forth in Article IV.

“BioTime Equity Awards” each outstanding award granted under the BioTime Equity Plans (including each outstanding BioTime Stock Option and BioTime RSU Awards).

“BioTime Equity Plans” means the 2012 BioTime Equity Incentive Plan and the 2002 BioTime Equity Incentive Plan, in each case, as amended.

“BioTime Financial Advisor” has the meaning set forth in Section 4.13.

“BioTime Governing Documents” means (a) the BioTime certificate of incorporation as amended and in effect on the date hereof and (b) the bylaws of BioTime, as amended and restated as of the date of this Agreement.

“BioTime Intervening Event” means an Effect that relates to BioTime (a) that was not known to the BioTime Board of Directors, or the material consequences of which (based on facts known to members of the BioTime Board of Directors as of the date of this Agreement) were not reasonably foreseeable by the BioTime Board of Directors, as of the date of this Agreement and (b) that does not relate to (1) any change in the price, or change in trading volume, of BioTime Common Shares or Asterias Common Stock (provided, however, that the exception in this clause shall not apply to the underlying causes giving rise to or contributing to such change or prevent any of such underlying causes from being taken into account in determining whether a BioTime Intervening Event has occurred) and (2) meeting or exceeding internal or analysts’ expectations, projections or results of operations (provided, however, that the exception in this clause shall not apply to the underlying causes giving rise to or contributing to such circumstances or prevent any of such underlying causes from being taken into account in determining whether a BioTime Intervening Event has occurred).

“BioTime Material Adverse Effect” means any Effect that, individually or taken together in the aggregate, is, or would reasonably be expected to (a) be, materially adverse to the business, assets, properties, condition (financial or otherwise) or results of operations of BioTime and the BioTime Subsidiaries, taken as a whole; provided that none of the following will be deemed, either alone or in combination, to be or constitute an “BioTime Material Adverse Effect” or be taken into account when determining whether an “BioTime Material Adverse Effect” has occurred or may, would or could occur: (1) conditions in the industry in which BioTime and the BioTime Subsidiaries operate, (2) general economic conditions within the U.S. or any other country, (3) conditions in the securities markets, credit markets, currency markets or other financial markets in the United States or any other country, (4) political conditions in the United States or any other country or acts of war, sabotage or terrorism in the United States or any other country, (5) earthquakes, hurricanes, tsunamis, tornadoes, floods, mudslides, wild fires or other natural disasters, weather conditions and other force majeure events in the United States or any other country, (6) changes in Law or other legal or regulatory conditions or changes in GAAP or other accounting standards, (7) changes in BioTime’s stock price or the trading volume of BioTime’s stock, or any failure by BioTime to meet any public estimates or expectations of BioTime’s revenue, earnings or other financial performance or results of operations for any period, but not, in each case, the underlying cause of such changes or failures, (8) Effects directly resulting from the announcement of this Agreement or the pendency of the Transactions, including any loss of employees and (9) the taking of any action explicitly contemplated hereby (except any actions taken in the ordinary course of business in accordance with Section 5.2(a)), except, in the case of each of clauses (1) through (6), to the extent such Effects disproportionately negatively affect BioTime, in any material negative respect relative to other companies of comparable size in the same industries and geographies in which BioTime operate or (b) prevent, materially delay or materially impede the performance by BioTime of its obligations under this Agreement or the consummation of the Merger or any of the Transactions.

“BioTime Plans” means all employee benefit plans (as defined in Section 3(3) of ERISA) that are maintained, contributed to or sponsored by BioTime.

“BioTime Preferred Shares” has the meaning set forth in Section 4.3(a).

“BioTime RSU Awards” means any issued and outstanding restricted stock units (including commitments to grant restricted stock units approved by BioTime Board of Directors or authorized committee of the BioTime Board of Directors), whether payable in cash, shares or otherwise, granted under or pursuant to a BioTime Equity Plan or otherwise.

“BioTime SEC Reports” as the meaning set forth in Section 4.7(a).

“BioTime Shareholder Approval” means the affirmative vote of the holders of a majority of the votes cast by holders of outstanding BioTime Common Shares on the proposal to approve the issuance of BioTime Common Shares as provided in this Agreement at the BioTime Special Meeting.

“BioTime Special Committee” has the meaning set forth in the Recitals.

“BioTime Special Meeting” means the meeting of the holders of BioTime Common Shares for the purpose of seeking the BioTime Shareholder Approval, including any postponement or adjournment thereof.

“BioTime Stock Option” means each option to purchase BioTime Common Shares granted by Asterias.

“BioTime Subsidiary” means each Subsidiary of BioTime.

“BioTime Termination Fee” has the meaning set forth in Section 8.2(h).

“BioTime Warrants” means warrants to acquire BioTime Common Shares.

“Blue Sky Laws” has the meaning set forth in Section 3.5(b).

“Book-Entry Shares” has the meaning set forth in Section 2.2(b).

“business days” has the meaning set forth in Rule 14d-1(g)(3) of the Exchange Act.

“Certificate of Merger” has the meaning set forth in Section 1.3.

“Certificates” has the meaning set forth in Section 2.2(c).

“Change of Recommendation Notice Period” has the meaning set forth in Section 5.6(b)(3).

“Claim” means any and all allegations, claims, demands and causes of action.

“Closing” has the meaning set forth in Section 1.2.

“Closing Date” has the meaning set forth in Section 1.2.

“COBRA” has the meaning set forth in Section 3.10(h).

“Code” means the Internal Revenue Code of 1986, as amended.

“Confidentiality Agreement” means the Mutual Confidentiality and Nondisclosure Agreement, dated as of June 25, 2018, between BioTime and Asterias.

“Continuing Employee” has the meaning set forth in Section 6.16.

“Contract” means any written or oral agreement, contract, subcontract, settlement agreement, lease, sublease, legally-binding understanding, note, option, bond, mortgage, indenture, trust document, loan or credit agreement, license, sublicense, insurance policy or other legally binding commitment or undertaking of any nature.

“Copyrights” means any and all U.S. and non-U.S. copyrights, mask works and all other rights with respect to Works of Authorship and all registrations thereof and applications therefor (including moral and economic rights, however denominated).

“D&O Insurance” has the meaning set forth in Section 6.4.

“DGCL” has the meaning set forth in the Recitals.

“Domain Names” means all Internet domain name registrations.

“DSOS” means the Secretary of State of the State of Delaware.

“Effect” means any change, effect, development, circumstance, condition, state of facts, event or occurrence.

“Effective Time” has the meaning set forth in Section 1.3.

“Employment Practices” has the meaning set forth in Section 3.11(c).

“Encumbrance” shall mean any lien, pledge, hypothecation, charge, mortgage, security interest, encumbrance, Claim, infringement, interference, option, right of first refusal, preemptive right, community property interest or restriction of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

“Environmental Laws” means any Law, including common law, relating to (1) releases or threatened releases of Hazardous Substances, (2) the manufacture, handling, transport, use, treatment, storage or disposal of Hazardous Substances, (3) pollution or protection of the indoor or outdoor environment, occupational health as it relates to exposures to Hazardous Substances or natural resources or (4) the European Union’s Directives on the Restriction of Hazardous Substances (RoHS) and the Waste Electrical and Electronic Equipment (WEEE).

“Environmental Permits” has the meaning set forth in Section 3.16(d).

“ERISA” means the Employee Retirement Income Security Act of 1974, as amended, and the regulations promulgated and rulings issued thereunder.

“Exchange Act” means the United States Securities Exchange Act of 1934, as amended.

“Exchange Agent” has the meaning set forth in Section 2.2(a).

“Exchange Fund” has the meaning set forth in Section 2.2(a).

“Exchange Ratio” has the meaning set forth in the Recitals.

“Excluded Party” has the meaning set forth in Section 5.3(c)(3).

“Expenses” means all reasonable out-of-pocket expenses (including all fees and expenses of counsel, financing sources, accountants, investment bankers, experts and consultants to a Party and its affiliates) incurred by a Party or on its behalf in connection with or related to the authorization, preparation, negotiation, execution and performance of this Agreement, the preparation, printing, filing and mailing of the Joint Proxy Statement, the solicitation of equityholders and equityholder approvals, any filings with the SEC and all other matters related to the Closing of the Merger and the other Transactions.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended.

“FDA” shall mean the United States Food and Drug Administration.

“FDCA” shall mean the Federal Food, Drug, and Cosmetic Act, as amended, and all implementing rules and regulations (including, without limitation, the regulations promulgated in title 21 of the Code of Federal Regulations).

“Fractional Share Consideration” has the meaning set forth in Section 2.1(a).

“GAAP” has the meaning set forth in Section 3.7(b).

“Go-Shop Period” has the meaning set forth in Section 5.3(a).

“Governmental Authority” means any (1) nation, principality, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature, (2) federal, state, local, municipal, non-U.S. or other government, (3) governmental (or quasi-governmental authority authorized to authorize, administer or enforce the Law) of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or entity and any court or other tribunal) or (4) organization, entity or body exercising, or entitled to exercise, any executive, legislative, judicial, administrative, arbitral, regulatory, police, military or taxing authority or power of any nature (including Persons acting as arbitrators, alternative dispute resolution organizations and stock exchanges).

“Hazardous Substances” means (1) those substances, materials, contaminants or wastes defined in or regulated as “hazardous”, “toxic”, or “radioactive”, under the following U.S. federal statutes and their state counterparts, as amended to date, and all regulations thereunder: the Hazardous Materials Transportation Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, the Clean Water Act, the Safe Drinking Water Act, the Atomic Energy Act, the Federal Insecticide, Fungicide and Rodenticide Act, and the Clean Air Act, (2) petroleum and petroleum products, including crude oil and any fractions thereof, (3) natural gas, synthetic gas and any mixtures thereof, (4) polychlorinated biphenyls, friable asbestos and radon and (5) any biological or chemical substance, material or waste regulated or classified as “hazardous”, “toxic”, or “radioactive” by any Governmental Authority pursuant to any Environmental Law.

“Indebtedness” means with respect to any Person, any indebtedness of such Person (excluding accrued expenses and trade payables), whether or not contingent (a) in respect of notes payable, accrued interest payable or other obligations for borrowed money, whether secured or unsecured, (b) evidenced by bonds, notes, debentures or similar instruments or letters of credit (or reimbursement agreements in respect thereof); (c) in respect of banker’s acceptances; (d) representing capital lease obligations; (e) representing the balance deferred and unpaid of the purchase price of any property or services due more than one (1) year after such property is acquired or such services are completed; or (f) representing any hedging obligations, if and to the extent any of the preceding items (other than letters of credit and hedging obligations) would appear as a liability upon a balance sheet of the specified Person prepared in accordance with GAAP. In addition, the term “Indebtedness” includes all Indebtedness of others secured by an Encumbrance on any asset of the specified Person (whether or not such Indebtedness is assumed by the specified Person) and, to the extent not otherwise included, the guarantee by the specified Person of any Indebtedness of any other Person. Indebtedness will be calculated without giving effect to the effects of Statement of Financial Accounting Standards No. 133 and related interpretations to the extent such effects would otherwise increase or decrease an amount of Indebtedness for any purpose under the indenture as a result of accounting for any embedded derivatives created by the terms of such Indebtedness.

“Indemnified Parties” has the meaning set forth in Section 6.4.

“Intellectual Property” means the rights associated with or arising out of any of the following: (a) Patents; (b) Trade Secrets; (c) Copyrights, (d) Trademarks, (e) Domain Names and (f) any similar, corresponding or equivalent Intellectual Property rights to any of the foregoing anywhere in the world.

“IRS” means the Internal Revenue Service.

“Joint Proxy Statement” means a joint proxy statement to be sent to the stockholders of Asterias and the stockholders of BioTime (together with any amendments or supplements thereto) in connection with the Transactions.

“knowledge of Asterias” means the actual knowledge of each executive officer of Asterias set forth on Section 1.1 of the Asterias Disclosure Letter.

“knowledge of BioTime” means the actual knowledge of each executive officer of BioTime set forth on Section 1.1 of the BioTime Disclosure Letter.

“Law” means any federal, state, local, municipal, non-U.S. or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authority.

“Medical Product” has the meaning set forth in Section 3.26(a).

“Merger Consideration” means the Per Share Merger Consideration together with the Fractional Share Consideration.

“Merger Sub” has the meaning set forth in the Preamble.

“Multiemployer Plan” has the meaning set forth in Section 3.10(b).

“Multiple Employer Plan” has the meaning set forth in Section 3.10(b).

“NYSE American” means the New York Stock Exchange American Stock Exchange.

“Open Source Materials” refers to any software or other material that is distributed as “free software,” “open source software” or pursuant to any license identified as an open source license by the Open Source Initiative (www.opensource.org) (including but not limited to the GNU General Public License (GPL), LGPL, Mozilla Public License (MPL), BSD licenses, the Artistic License, the Netscape Public License, the Sun Community Source License (SCSL), the Sun Industry Standards License (SISL), and the Apache License).

“Order” means any injunction, judgment, decree or other order issued by a Governmental Authority of competent jurisdiction.

“Outside Date” has the meaning set forth in Section 8.1(d).

“Party” and “Parties” have the meaning set forth in the Preamble.

“Patents” means domestic and foreign patents and patent applications, utility models and inventors’ certificates, together with all reissues, divisionals, continuations, continuations-in-part, revisions, renewals, substitutions, provisionals, non-provisionals, extensions, and reexaminations thereof.

“Per Share Merger Consideration” has the meaning set forth in Section 2.1(a).

“Permitted Encumbrance” shall mean (a) any Encumbrance that arises out of Taxes not in default and payable without penalty or interest the validity of which is being contested in good faith by appropriate proceedings for which a reserve has been established in accordance with GAAP, (b) any mechanics’, materialmen’s, carriers’, workmen’s, warehouseman’s or repairmen’s liens which arise in the ordinary course of business, (c) in the case of any Contract, Encumbrances that are restrictions against the transfer or assignment thereof that are included in the terms of such Contract, (d) with respect to licensed personal property or Intellectual Property or jointly owned Intellectual Property, covered by a valid contract or license, the terms and conditions of the license or Contract applicable thereto and (e) in the case of real property, Encumbrances that are easements, rights-of-way, encroachments, restrictions, conditions and other similar Encumbrances incurred or suffered in the ordinary course of business and which, individually or in the aggregate, do not and would not materially impair the use (or contemplated use), utility or value of the applicable real property or otherwise materially impair the present or contemplated business operations at such location, or zoning, entitlement, building and other land use regulations imposed by Governmental Authorities having jurisdiction over such real property that are set forth on a title report.

“Person” means a natural person, partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture, Governmental Authority or other entity or organization.

“Personal Data” means any individually identifiable information (or information that, in combination with other information, could allow the identification of an individual) that is in the possession or control of Asterias or any of its Subsidiaries, including Protected Health Information (as defined under HIPAA), in each case, which is protected under any privacy, data security, or data breach notification applicable Law, or which Asterias or any of its Subsidiaries is required to safeguard under its privacy policies or pursuant to any contract with the applicable individual.

“PHS Act” has the meaning set forth in Section 3.26(a).

“Registered Intellectual Property” means any Intellectual Property that is the subject of an application, certificate, filing or registration issued, filed with, or recorded by any Governmental Authority, including any of the following: (a) Patents, (b) Trademarks, (c) Copyrights and (d) Domain Names.

“Registration Statement” means the registration statement on Form S-4, or other applicable form, including any pre-effective or post-effective amendments or supplements thereto, filed with the SEC by BioTime under the Securities Act with respect to BioTime Common Shares to be issued in connection with the Transactions.

“Reimbursable Expenses” has the meaning set forth in Section 8.2(h).

“Representatives” means, when used with respect to BioTime, Merger Sub or Asterias, the directors, officers, employees, consultants, financial advisors, accountants, legal counsel, investment bankers, and other agents, advisors and representatives of BioTime or Asterias, as applicable, and its Subsidiaries.

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

“Securities Act” means the United States Securities Act of 1933, as amended.

“SOX” has the meaning set forth in Section 3.7(a).

“Subsidiary” or “Subsidiaries” means with respect to any Person, any corporation, limited liability company, partnership or other organization, whether incorporated or unincorporated, of which (a) at least a majority of the outstanding shares of capital stock of, or other equity interests, having by their terms ordinary voting power to elect a majority of the board of directors or others performing similar functions with respect to such corporation or other organization is directly or indirectly owned or controlled by such Person or by any one or more of its Subsidiaries, or by such Person and one or more of its Subsidiaries or (b) with respect to a partnership, such Person or any other Subsidiary of such Person is a general partner of such partnership.

“Superior Proposal” has the meaning set forth in Section 5.3(c)(4).

“Surviving Corporation” has the meaning set forth in Section 1.1.

“Takeover Statutes” mean any “business combination,” “control share acquisition,” “fair price,” “moratorium” or other takeover or anti-takeover statute or similar Law.

“Tax” or “Taxes” means any and all taxes, levies, duties, tariffs or imposts in the nature of a tax imposed by any Governmental Authority, including, income, franchise, windfall or other profits, gross receipts, premiums, property, sales, use, net worth, capital stock, payroll, employment, social security (or similar), workers’ compensation, unemployment compensation, excise, withholding, ad valorem, stamp, transfer, value-added, gains tax and license, registration and documentation fees, severance, occupation, environmental, customs duties, disability, real property, personal property, registration, alternative or add-on minimum, or estimated tax, escheat or unclaimed property (whether or not considered a tax under applicable Law and whether or not disputed), including any interest, penalty, additions to tax or additional amounts imposed with respect thereto, and including any obligations to indemnify or otherwise assume or succeed to the tax liability of any other Person.

“Tax Return” means any report, return, statement, certificate, Claim for refund, election, estimated tax filing, or declaration, or other document required to be filed with any Governmental Authority with respect to Taxes, including any schedule, information statement or attachment thereto, and including any amendments thereof.

“Third Party” means any Person other than Asterias, BioTime and each of their respective affiliates (including Merger Sub) and the respective Representatives of Asterias, BioTime and each of their respective affiliates.

“Trade Secrets” means know-how and trade secret rights and corresponding rights in confidential information and other non-public information (whether or not patentable).

“Trademarks” means all trademarks, service marks, logos, trade dress and trade names indicating the source of goods or services, and other indicia of commercial source or origin (whether registered, common law, statutory or otherwise), all registrations, renewals and applications to register the foregoing anywhere in the world and all goodwill associated therewith.

“Transactions” has the meaning set forth in the Recitals.

“Treasury Regulations” means the regulations in force as final or temporary that have been issued by the U.S. Department of Treasury pursuant to its authority under the Code and any successor regulations.

“2018 Asterias Balance Sheet” has the meaning set forth in Section 3.7(c).

“2018 BioTime Balance Sheet” has the meaning set forth in Section 4.7(c).

“WARN Act” has the meaning set forth in Section 3.11(f).

“Worker” means any current or former employee, officer, director or individual independent contractor of Asterias.

Section 9.6 Interpretation. When a reference is made in this Agreement to Sections, such reference will be to a Section of this Agreement unless otherwise indicated. Whenever the words “include”, “includes” or “including” are used in this Agreement they will be deemed to be followed by the words “without limitation.” All references in this Agreement to “Sections,” “Annexes” and “Schedules” are intended to refer to Sections of this Agreement and Annexes and Schedules to this Agreement. The words “hereof,” “herein” and “hereunder” and words of similar import, when used in this Agreement, refer to this Agreement as a whole and not to any particular provision of this Agreement. References herein to a Person are also to such Person’s successors and permitted assigns. All references in this Agreement to “\$” or other monetary amounts refer to U.S. dollars. Unless otherwise specifically provided for herein, the term “or” will not be deemed to be exclusive. The table of contents and headings set forth in this Agreement are for convenience of reference purposes only and will not affect or be deemed to affect in any way the meaning or interpretation of this Agreement or any term or provision hereof. When reference is made herein to a Person, such reference will be deemed to include all direct and indirect Subsidiaries of such Person unless otherwise indicated or the context otherwise requires. All references herein to the Subsidiaries of a Person will be deemed to include all direct and indirect Subsidiaries of such Person unless otherwise indicated or the context otherwise requires. The Parties agree that they have been represented by counsel during the negotiation and execution of this Agreement and, therefore, waive the application of any Law, regulation, holding or rule of construction providing that ambiguities in an agreement or other document will be construed against the Party drafting such agreement or document. Except as otherwise specified, (i) references to any statute shall be deemed to refer to such statute as amended from time to time and to any rules or regulations promulgated thereunder or to any successor statute, rules and regulations thereto, (ii) references to any Person include the successors and permitted assigns of that Person and (iii) references from or through any date mean from and including or through and including, respectively.

Section 9.7 Counterparts. This Agreement may be executed and delivered, including by e-mail of an attachment in Adobe Portable Document Format or other file format based on common standards (“Electronic Delivery”), in any number of counterparts, and by the different Parties hereto in separate counterparts, each of which when executed and delivered will be deemed to be an original but all of which taken together will constitute one and the same agreement. Any such counterpart, to the extent delivered using Electronic Delivery will be treated in all manner and respects as an original executed counterpart and will be considered to have the same binding legal effect as if it were the original signed version thereof delivered in Person. No Party will raise the use of Electronic Delivery to deliver a signature or the fact that any signature or agreement or instrument was transmitted or communicated through the use of Electronic Delivery as a defense to the formation of a contract, and each such Party forever waives any such defense, except to the extent that such defense relates to lack of authenticity.

Section 9.8 Entire Agreement; Third-Party Beneficiaries.

(a) This Agreement (including the Asterias Disclosure Letter and the BioTime Disclosure Letter), the Confidentiality Agreement constitute the entire agreement among the Parties with respect to the subject matter hereof and thereof and supersede all other prior agreements (except that the Confidentiality Agreement will be deemed amended hereby so that until the termination of this Agreement in accordance with Section 8.1, Asterias, BioTime and Merger Sub will be permitted to take the actions contemplated by this Agreement) and understandings, both written and oral, among the Parties or any of them with respect to the subject matter hereof and thereof.

(b) Except as provided in Section 6.4, neither this Agreement (including the Asterias Disclosure Letter and the BioTime Disclosure Letter) nor the Confidentiality Agreement are intended to confer upon any Person other than the Parties any rights or remedies hereunder.

Section 9.9 Severability. If any term or other provision of this Agreement is invalid, illegal or incapable of being enforced by rule of Law or public policy, all other conditions and provisions of this Agreement will nevertheless remain in full force and effect so long as the economic or legal substance of the Merger is not affected in any manner adverse to any Party. Upon such determination that any term or other provision is invalid, illegal or incapable of being enforced, the Parties will negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner to the end that the Merger are fulfilled to the extent possible.

Section 9.10 Governing Law; Jurisdiction.

(a) This Agreement will be governed by, and construed in accordance with, the Laws of the State of Delaware, without giving effect to conflicts of laws principles that would result in the application of the Law of any other state.

(b) Each of the Parties hereto hereby irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of the Court of Chancery of the State of Delaware, or, if (and only if) such court finds it lacks subject matter jurisdiction, the Federal court of the United States of America sitting in Delaware, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Agreement or the agreements delivered in connection herewith or the Transactions or thereby or for recognition or enforcement of any judgment relating thereto, and each of the Parties hereby irrevocably and unconditionally (1) agrees not to commence any such action or proceeding except in the Court of Chancery of the State of Delaware, or, if (and only if) such court finds it lacks subject matter jurisdiction, the Federal court of the United States of America sitting in Delaware, and any appellate court from any thereof, (2) agrees that any Claim in respect of any such action or proceeding may be heard and determined in the Court of Chancery of the State of Delaware, or, if (and only if) such court finds it lacks subject matter jurisdiction, the Federal court of the United States of America sitting in Delaware, and any appellate court from any thereof, (3) waives, to the fullest extent it may legally and effectively do so, any objection that it may now or hereafter have to the laying of venue of any such action or proceeding in such courts and (4) waives, to the fullest extent permitted by Law, the defense of an inconvenient forum to the maintenance of such action or proceeding in such courts. Each of the Parties hereto agrees that a final judgment in any such action or proceeding will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by Law. Each Party to this Agreement irrevocably consents to service of process inside or outside the territorial jurisdiction of the courts referred to in this Section 9.10(b) in the manner provided for notices in Section 9.4. Nothing in this Agreement will affect the right of any Party to this Agreement to serve process in any other manner permitted by Law.

Section 9.11 Waiver of Jury Trial. Each Party hereby irrevocably and unconditionally waives any right it may have to a trial by jury in respect of any litigation directly or indirectly arising out of or relating to this Agreement and any of the agreements delivered in connection herewith or the Merger and the other Transactions contemplated hereby or thereby. Each Party certifies and acknowledges that (a) no representative, agent or attorney of any other Party has represented, expressly or otherwise, that such other Party would not, in the event of litigation, seek to enforce either of such waivers, (b) it understands and has considered the implications of such waivers, (c) it makes such waivers voluntarily and (d) it has been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this Section 9.11.

Section 9.12 Assignment. This Agreement will not be assigned by any of the Parties (whether by operation of Law or otherwise) without the prior written consent of the other Parties, except that Merger Sub may assign, in its sole discretion and without the consent of any other Party, any or all of its rights, interests and obligations hereunder to (1) BioTime or (2) a wholly owned Subsidiary of BioTime; provided that no such assignment will relieve BioTime or Merger Sub of any obligation or liability under this Agreement. Subject to the preceding sentence, but without relieving any Party of any obligation hereunder, this Agreement will be binding upon, inure to the benefit of and be enforceable by the Parties and their respective successors and assigns.

Section 9.13 Enforcement; Remedies.

(a) Except as otherwise expressly provided herein, any and all remedies herein expressly conferred upon a Party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by Law or equity upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy.

(b) The Parties agree that irreparable injury will occur in the event that any of the provisions of this Agreement is not performed in accordance with its specific terms or is otherwise breached. It is agreed that prior to the valid termination of this Agreement pursuant to Article VIII, each Party will be entitled to an injunction or injunctions to prevent or remedy any breaches or threatened breaches of this Agreement by any other Party, to a decree or Order of specific performance to specifically enforce the terms and provisions of this Agreement and to any further equitable relief.

(c) The Parties' rights in this Section 9.13 are an integral part of the Transactions and each Party hereby waives any objections to any remedy referred to in this Section 9.13 (including any objection on the basis that there is an adequate remedy at Law or that an award of such remedy is not an appropriate remedy for any reason at Law or equity). For purposes of clarity, each Party agrees that there is not an adequate remedy at Law for a breach of this Agreement by any Party. In the event any Party seeks any remedy referred to in this Section 9.13, such Party will not be required to obtain, furnish, post or provide any bond or other security in connection with or as a condition to obtaining any such remedy.

(Remainder of Page Intentionally Left Blank)

BioTime, Merger Sub and Asterias have caused this Agreement to be signed by their respective duly authorized officers as of the date first written above.

BIOTIME, INC.

By: /s/Brian Culley
Name: Brian Culley
Title: Chief Executive Officer

PATRICK MERGER SUB, INC.

By: /s/Brian Culley
Name: Brian Culley
Title: Chief Executive Officer

ASTERIAS BIOTHERAPEUTICS, INC.

By: /s/Michael H. Mulroy
Name: Michael H. Mulroy
Title: Chief Executive Officer

[Signature Page to Merger Agreement]

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT ("Agreement") is made as of November 7, 2018 by and between Asterias Biotherapeutics, Inc. ("Asterias"), a California corporation, and Craig Halberstadt ("Executive"), and shall be effective and replace that certain employment agreement dated July 18, 2016 by and between Asterias and Executive at the time that is immediately prior to the consummation of the proposed transaction between Asterias and BioTime, Inc.

1. Engagement; Position and Duties.

(a) Asterias agrees to employ Executive in the position described on Exhibit A (which Exhibit A is a part of this Agreement) effective as of the date of this Agreement. Executive shall perform the duties and functions described on Exhibit A and such other duties as the executive(s) to whom Executive reports or the Board of Directors of Asterias may from time to time determine. Executive shall devote Executive's best efforts, skills, and abilities, on a full-time basis, exclusively to the business of Asterias and its Related Companies pursuant to, and in accordance with, business policies and procedures, as fixed from time to time by the Board of Directors (the "Policies"). Executive covenants and agrees that Executive will faithfully adhere to and fulfill the Policies, including any changes to the Policies that may be made in the future. Executive may be provided with a copy of Asterias' employee manual (the "Manual") which contains the Policies. Asterias may change its Policies from time to time, in which case Executive will be notified of the changes in writing by a memorandum, a letter, or an update or revision of Asterias's employee manual.

(b) **Performance of Services for Related Companies.** In addition to the performance of services for Asterias, Executive shall, to the extent so required by Asterias, also perform services for one or more members of a consolidated group of which Asterias is a part ("Related Company"), provided that such services are consistent with the kind of services Executive performs or may be required to perform for Asterias under this Agreement. If Executive performs any services for any Related Company, Executive shall not be entitled to receive any compensation or remuneration in addition to or in lieu of the compensation and remuneration provided under this Agreement on account of such services for the Related Company. The Policies will govern Executive's employment by Asterias and any Related Companies for which Executive is asked to provide Services. In addition, Executive covenants and agrees that Executive will faithfully adhere to and fulfill such additional policies as may established from time to time by the board of directors of any Related Company for which Executive performs services, to the extent that such policies and procedures differ from or are in addition to the Policies adopted by Asterias.

(c) **No Conflicting Obligations.** Executive represents and warrants to Asterias and each Related Company that Executive is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with Executive's obligations under this Agreement or that would prohibit Executive, contractually or otherwise, from performing Executive's duties as under this Agreement and the Policies.

(d) **No Unauthorized Use of Third Party Intellectual Property.** Executive represents and warrants to Asterias and each Related Company that Executive will not use or disclose, in connection with Executive's employment by Asterias or any Related Company, any patents, trade secrets, confidential information, or other proprietary information or intellectual property as to which any other person has any right, title or interest, except to the extent that Asterias or a Related Company holds a valid license or other written permission for such use from the owner(s) thereof. Executive represents and warrants to Asterias and each Related Company that Executive has returned all property and confidential information belonging to any prior employer.

2. Compensation

(a) **Salary.** During the term of this Agreement, Asterias shall pay to the Executive the salary shown on Exhibit A. Executive's salary shall be paid in equal semi-monthly installments, consistent with Asterias's regular salary payment practices. Executive's salary may be increased from time-to-time by Asterias, in Asterias's sole and absolute discretion, without affecting this Agreement.

(b) **Bonus.** Executive may be eligible for an annual bonus, as may be approved by the Board of Directors in its discretion, based on Executive's performance and achievement of goals or milestones set by the Board of Directors from time to time. Executive agrees that the Board of Directors of Asterias may follow the recommendations of the Compensation Committee of the board of directors of Asterias's parent company in determining whether to award a bonus or to establish performance goals or milestones. Executive also agrees that the Board of Directors and Asterias are not obligated to adopt any bonus plan, to maintain in effect any bonus plan that may now be in effect or that may be adopted during the term of Executive's employment, or to pay Executive a bonus unless a bonus is earned under the terms and conditions of any bonus plan adopted by Asterias.

(c) **Expense Reimbursements.** Asterias or a Related Company shall reimburse Executive for reasonable travel and other business expenses (but not expenses of commuting to work) incurred by Executive in the performance of Executive's duties under this Agreement, subject to the Policies and procedures in effect from time to time, and provided that Executive submits supporting vouchers.

(d) **Benefit Plans.** Executive may be eligible (to the extent Executive qualifies) to participate in certain retirement, pension, life, health, accident and disability insurance, stock option plan or other similar employee benefit plans which may be adopted by Asterias (or a Related Company) for its employees. Asterias and the Related Companies have the right, at any time and without any amendment of this Agreement, and without prior notice to or consent from Executive, to adopt, amend, change, or terminate any such benefit plans that may now be in effect or that may be adopted in the future, in each case without any further financial obligation to Executive. Any benefits to which Executive may be entitled under any benefit plan shall be governed by the terms and conditions of the applicable benefit plan, and any related plan documents, as in effect from time to time. If Executive receives any grant of stock options or restricted stock under any stock option plan or stock purchase plan of Asterias or any Related Company, the terms and conditions of the stock options or restricted stock, and Executive's rights with respect to the stock options or restricted stock, shall be governed by (i) the terms of the applicable stock option or stock purchase plan, as the same may be amended from time to time, and (ii) the terms and conditions of any stock option agreement or stock purchase agreement and related agreements that Executive may sign or be required to sign with respect to the stock options or restricted stock.

(e) **Vacation; Sick Leave.** Executive shall be entitled to the number of days of vacation and sick leave (without reduction in compensation) during each calendar year shown on Exhibit A or as may be provided by the Policies. Executive's vacation shall be taken at such time as is consistent with the needs and Policies of Asterias and its Related Companies. All vacation days and sick leave days shall accrue annually based upon days of service. Executive's right to leave from work due to illness is subject to the Policies and the provisions of this Agreement governing termination due to disability, sickness or illness. The Policies governing the disposition of unused vacation days and sick leave days remaining at the end of Asterias's fiscal year shall govern whether unused vacation days or sick leave days will be paid, lost, or carried over into subsequent fiscal years.

3. Competitive Activities. During the term of Executive's employment, and for one year thereafter, Executive shall not, for Executive or any third party, directly or indirectly employ, solicit for employment or recommend for employment any person employed by Asterias or any Related Company. During the term of Executive's employment, Executive shall not, directly or indirectly as an employee, contractor, officer, director, member, partner, agent, or equity owner, engage in any activity or business that competes or could reasonably be expected to compete with the business of Asterias or any Related Company. Executive acknowledges that there is a substantial likelihood that the activities described in this Section would (a) involve the unauthorized use or disclosure of Asterias's or a Related Company's Confidential Information and that use or disclosure would be extremely difficult to detect, and (b) result in substantial competitive harm to the business of Asterias or a Related Company. Executive has accepted the limitations of this Section as a reasonably practicable and unrestrictive means of preventing such use or disclosure of Confidential Information and preventing such competitive harm.

4. Inventions/Intellectual Property/Confidential Information

(a) As used in this Agreement, "Intellectual Property" means any and all inventions, discoveries, formulas, improvements, writings, designs, or other intellectual property. Any and all Intellectual Property relating to or in any way pertaining to or connected with the systems, products, apparatus, or methods employed, manufactured, constructed, or researched by Asterias, or any Related Company, which Executive may conceive or make while performing services for Asterias or a Related Company shall be the sole and exclusive property of Asterias or the applicable Related Company. Executive hereby irrevocably assigns and transfers to Asterias, or a Related Company, all rights, title and interest in and to all Intellectual Property that Executive may now or in the future have under patent, copyright, trade secret, trademark or other law, in perpetuity or for the longest period otherwise permitted by law, without the necessity of further consideration. Asterias and the Related Companies will be entitled to obtain and hold in their own name all copyrights, patents, trade secrets, trademarks and other similar registrations with respect to such Intellectual Property.

(b) **Moral Rights.** To the extent allowed by law, the rights to Intellectual Property assigned by Executive to Asterias or any Related Company includes all rights of paternity, integrity, disclosure and withdrawal, and any other rights that may be known as or referred to as "moral rights," "artist's rights," "droit moral," or the like (collectively "Moral Rights"). To the extent Executive retains any such Moral Rights under applicable law, Executive hereby ratifies and consents to any action that may be taken with respect to such Moral Rights by or authorized by Asterias or a Related Company and agrees not to assert any Moral Rights with respect thereto. Executive shall confirm in writing any such ratifications, consents, and agreements from time to time as requested by Asterias or Related Company.

(c) **Execution of Documents; Power of Attorney.** Executive agrees to execute and sign any and all applications, assignments, or other instruments which Asterias or a Related Company may deem necessary in order to enable Asterias or a Related Company, at its expense, to apply for, prosecute, and obtain patents of the United States or foreign countries for the Intellectual Property, or in order to assign or convey to, perfect, maintain or vest in Asterias or a Related Company the sole and exclusive right, title, and interest in and to the Intellectual Property. If Asterias or a Related Company is unable after reasonable efforts to secure Executive's signature, cooperation or assistance in accordance with the preceding sentence, whether because of Executive's incapacity or any other reason whatsoever, Executive hereby designates and appoints Asterias or any Related Company or its designee as Executive's agent and attorney-in-fact, to act on Executive's behalf, to execute and file documents and to do all other lawfully permitted acts necessary or desirable to perfect, maintain or otherwise protect Asterias's or a Related Company's rights in the Intellectual Property. Executive acknowledges and agrees that such appointment is coupled with an interest and is irrevocable.

(d) **Disclosure of Intellectual Property.** Executive agrees to disclose promptly to Asterias or a Related Company all Intellectual Property which Executive may create or conceive solely, jointly, or commonly with others. This paragraph is applicable whether or not the Intellectual Property was made under the circumstances described in paragraph (a) of this Section. Executive agrees to make such disclosures understanding that they will be received in confidence and that, among other things, they are for the purpose of determining whether or not rights to the related Intellectual Property is the property of Asterias or a Related Company.

(e) **Limitations.** The obligations provided for by this Section 4, except for the requirements as to disclosure in paragraph 4(d), do not apply to any rights Executive may have acquired in connection with Intellectual Property for which no equipment, supplies, facility, or trade secret information of Asterias or a Related Company was used and which was developed entirely on the Executive's own time and (i) which at the time of conception or reduction to practice does not relate directly or indirectly to the business of Asterias or a Related Company, or to the actual or demonstrable anticipated research or development activities or plans of Asterias or a Related Company, or (ii) which does not result from any work performed by Executive for Asterias or a Related Company. All Intellectual Property that (1) results from the use of equipment, supplies, facilities, or trade secret information of Asterias or a Related Company; (2) relates, at the time of conception or reduction to practice of the invention, to the business of Asterias or a Related Company, or actual or demonstrably anticipated research or development of Asterias or a Related Company; or (3) results from any work performed by Executive for Asterias or a Related Company shall be assigned and is hereby assigned to Asterias or the applicable Related Company. The parties understand and agree that this limitation is intended to be consistent with California Labor Code, Section 2870, a copy of which is attached as Exhibit A. If Executive wishes to clarify that something created by Executive prior to Executive's employment by Asterias or a Related Company that relates to the actual or proposed business of Asterias or a Related Company is not within the scope of this Agreement, Executive has listed it on Exhibit B in a manner that does not violate any third party rights.

(f) **Confidential and Proprietary Information.** During Executive's employment, Executive will have access to trade secrets and confidential information of Asterias and one or more Related Companies. Confidential Information means all information and ideas, in any form, relating in any manner to matters such as: products; formulas; technology and know-how; inventions; clinical trial plans and data; business plans; marketing plans; the identity, expertise, and compensation of employees and contractors; systems, procedures, and manuals; customers; suppliers; joint venture partners; research collaborators; licensees; and financial information. Confidential Information also shall include any information of any kind, whether belonging to Asterias, a Related Company, or any third party, that Asterias or a Related Company has agreed to keep secret or confidential under the terms of any agreement with any third party. Confidential Information does not include: (i) information that is or becomes publicly known through lawful means other than unauthorized disclosure by Executive; (ii) information that was rightfully in Executive's possession prior to Executive's employment with Asterias and was not assigned to Asterias or a Related Company or was not disclosed to Executive in Executive's capacity as a director or other fiduciary of Asterias or a Related Company; or (iii) information disclosed to Executive, after the termination of Executive's employment by Asterias, without a confidential restriction by a third party who rightfully possesses the information and did not obtain it, either directly or indirectly, from Asterias or a Related Company, and who is not subject to an obligation to keep such information confidential for the benefit of Asterias, a Related Company, or any third party with whom Asterias or a Related Company has a contractual relationship. Executive understands and agrees that all Confidential Information shall be kept confidential by Executive both during and after Executive's employment by Asterias or any Related Company. Executive further agrees that Executive will not, without the prior written approval by Asterias or a Related Company, disclose any Confidential Information, or use any Confidential Information in any way, either during the term of Executive's employment or at any time thereafter, except as required by Asterias or a Related Company in the course of Executive's employment.

5. Termination of Employment. Employee understands and agrees that Employee's employment has no specific term. This Agreement, and the employment relationship, are "at will" and may be terminated by Employee or by Asterias (and the employment of Employee by any Related Company may be terminated by the Related Company) with or without cause at any time by notice given in writing. Except as otherwise agreed in writing or as otherwise provided in this Agreement, upon termination of Employee's employment, Asterias and the Related Companies shall have no further obligation to Employee by way of compensation or otherwise as expressly provided in this Agreement or in any separate employment agreement that might then exist between Employee and Asterias or any Related Company.

(a) Payments Due Upon Termination of Employment. Upon termination of Employee's employment with Asterias and all Related Companies at any time and for any reason, Employee will be entitled to receive only the severance benefits set forth below, but Employee will not be entitled to any other compensation, award, or damages with respect to Employee's employment or termination of employment.

(i) Termination for Cause, Death, Disability, or Resignation. In the event that the employment of Employee is terminated for Cause, or is terminated as a result of death, Disability, or resignation without "Good Reason" as defined in this Agreement, Employee will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment. Employee will not be entitled to any cash severance benefits or vesting of any stock options or other equity or cash awards.

(ii) Termination Without Cause and Resignation for Good Reason. In the event that the employment of Employee is terminated by Asterias without "Cause" as defined in this Agreement or Employee resigns for "Good Reason," as defined in this Agreement otherwise than within twelve (12) months following a "Change in Control" as defined in this Agreement, Employee shall receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment, and as severance compensation salary continuation at Employee's then-current base salary for six (6) months. The salary continuation described in this paragraph shall begin as soon as practicable after the effective date of Employee's separation agreement, no later than 60 days after the date of Employee's termination of employment, subject to such payroll deductions and withholdings as are required by law. This paragraph shall not apply to (x) termination of Employee's employment by a Related Company if Employee remains employed by Asterias or another Related Company, or (y) termination of Employee's employment by Asterias if Employee remains employed by a Related Company.

(iii) *Change of Control.* In the event Asterias (or any successor in interest to Asterias that has assumed Asterias' obligation under this Agreement) terminates Employee's employment without "Cause" or Employee resigns for "Good Reason" within twelve (12) months following a Change in Control, Employee will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment, and as severance compensation (A) an amount equal to six months of Employee's base salary, which shall be paid in a lump sum no later than 60 days after the date of Employee's termination of employment, subject to such payroll deductions and withholdings as are required by law, (B) bonus for the year in which Executive's employment terminated based on actual performance and payable (at the discretion of the Company, in cash or in shares of common stock of the Company or its parent company) when annual bonus payments are payable to other members of senior management and pro-rated to reflect the portion of the year during which the Executive performed services, (C) accelerated vesting of 100% of Employee's then unvested stock options and any restricted stock, and (D) payment, for a period of six (6) months, of any health insurance benefits that Executive was receiving at the time of termination of Executive's employment, under an Asterias employee health insurance plan subject to COBRA.

(b) **Release.** Any other provision of this Agreement notwithstanding, paragraphs (a)(ii) and (a)(iii) of this Section shall not apply unless Employee (i) has executed a separation agreement including a general release of all claims against Asterias or its successor in interest (in a form prescribed by Asterias or its successor in interest) and (ii) has returned all property in Employee's possession belonging Asterias or its successor in interest.

(c) **Definitions.** For purposes of this Section, the following definitions shall apply:

(i) "Cause" means: (A) the repeated failure to properly perform Employee's job responsibilities after written receipt being notified of such failure to perform, as determined reasonably and in good faith by the Board of Directors; (B) commission of any act of fraud, gross misconduct or dishonesty with respect to Asterias or any Related Company; (C) conviction of, or plea of guilty or "no contest" to, any felony, or a crime involving moral turpitude; (D) breach of any provision of this Agreement or any provision of any proprietary information and inventions agreement with Asterias or any Related Company; (E) failure to follow the lawful directions of the Board of Directors of Asterias or any Related Company; (F) chronic alcohol or drug abuse; (G) obtaining, in connection with any transaction in which Asterias, any Related Company, or any of Asterias' affiliates is a party, a material undisclosed financial benefit for Employee or for any member of Employee's immediate family or for any corporation, partnership, limited liability company, or trust in which Employee or any member of Employee's immediate family owns a material financial interest; or (H) harassing or discriminating against, or participating or assisting in the harassment of or discrimination against, any employee of Asterias (or a Related Company or an affiliate of Asterias) based upon gender, race, religion, ethnicity, or nationality.

(ii) "Change of Control" means (A) the acquisition of Voting Securities of Asterias by a Person or an Affiliated Group entitling the holder thereof to elect a majority of the directors of Asterias; provided, that an increase in the amount of Voting Securities held by a Person or Affiliated Group who on the date of this Agreement beneficially owned (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended, and the regulations thereunder) more than 30% of the Voting Securities shall not constitute a Change of Control unless such Person or Affiliated Group acquires 80% or more of the Voting Securities; and provided, further, that an acquisition of Voting Securities by one or more Persons acting as an underwriter in connection with a sale or distribution of such Voting Securities shall not constitute a Change of Control under this clause (A); (B) the sale of all or substantially all of the assets of Asterias; (C) a merger or consolidation of Asterias with or into another corporation or entity (irrespective of whether Asterias is the surviving corporation in such merger or consolidation) in which the stockholders of Asterias immediately before such merger or consolidation do not own, in substantially the same percentages, Voting Securities of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity) entitling them, in the aggregate (and without regard to whether they constitute an Affiliated Group) to elect a majority of the directors or persons holding similar powers of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity); or (D) a change in the composition of the Board occurring within a twelve (12) month period, as a result of which the incumbent directors cease to constitute at least a majority of the Board.

(iii) "Disability" shall mean Employee's inability to perform the essential functions of Employee's job responsibilities for a period of one hundred eighty (180) days in the aggregate in any twelve (12) month period.

(iv) "Good Reason" means (A) a diminution in Employee's base salary; (B) a material change in geographic location at which Employee must perform services (a change in location of Asterias office at which Employee will primarily work will be considered material only if it increases Employee's current average one-way commute time by more than twenty five percent (25%)); (C) any material failure of the successors to Asterias after a Change of Control to perform, or causing Asterias not to perform, Asterias' obligations under this Agreement; (D) any action or inaction of Asterias that constitutes a material breach of the terms of this Agreement; or (E) any other material adverse change in Employee's duties, authorities, responsibilities, or reporting structure, provided, however, that Good Reason shall not be deemed to have occurred unless (A) Employee shall first have provided written notice of said Good Reason to Asterias within thirty (30) days of the occurrence of the event(s) giving rise to Good Reason, reasonably explaining such events in said written notice, and (B) Asterias shall have failed to cure said Good Reason within thirty (30) days of its receipt of Employee's written notice, and (C) Employee shall have provided written notice of termination within thirty (30) days of the expiration of Asterias' 30-day cure period.

(v) "Person" means any natural person or any corporation, partnership, limited liability Asterias, trust, unincorporated business association, or other entity.

(vi) "Voting Securities" means shares of capital stock or other equity securities entitling the holder thereof to regularly vote for the election of directors (or for person performing a similar function if the issuer is not a corporation), but does not include the power to vote upon the happening of some condition or event which has not yet occurred.

6. Turnover of Property and Documents on Termination. Executive agrees that on or before termination of Executive's employment, Executive will return to Asterias and all Related Companies all equipment and other property belonging to Asterias and the Related Companies, and all originals and copies of Confidential Information (in any and all media and formats, and including any document or other item containing Confidential Information) in Executive's possession or control, and all of the following (in any and all media and formats, and whether or not constituting or containing Confidential Information) in Executive's possession or control: (a) lists and sources of customers; (b) proposals or drafts of proposals for any research grant, research or development project or program, marketing plan, licensing arrangement, or other arrangement with any third party; (c) reports, job or laboratory notes, specifications, and drawings pertaining to the research, development, products, patents, and technology of Asterias and any Related Companies; (d) any and all Intellectual Property developed by Executive during the course of employment; and (e) the Manual and memoranda related to the Policies.

7. **Arbitration.** Except for injunctive proceedings against unauthorized disclosure of Confidential Information, any and all claims or controversies between Asterias or any Related Company and Executive, including but not limited to (a) those involving the construction or application of any of the terms, provisions, or conditions of this Agreement or the Policies; (b) all contract or tort claims of any kind; and (c) any claim based on any federal, state, or local law, statute, regulation, or ordinance, including claims for unlawful discrimination or harassment, shall be settled by arbitration in accordance with the then current Employment Dispute Resolution Rules of the American Arbitration Association. Judgment on the award rendered by the arbitrator(s) may be entered by any court having jurisdiction over the Company and Executive. The location of the arbitration shall be San Francisco, California. Unless Asterias or a Related Company and Executive mutually agree otherwise, the arbitrator shall be a retired judge selected from a panel provided by the American Arbitration Association, or the Judicial Arbitration and Mediation Service (JAMS). Asterias, or a Related Company if the Related Company is a party to the arbitration proceeding, shall pay the arbitrator's fees and costs. Executive shall pay for Executive's own costs and attorneys' fees, if any. Asterias and any Related Company that is a party to an arbitration proceeding shall pay for its own costs and attorneys' fees, if any. However, if any party prevails on a statutory claim which affords the prevailing party attorneys' fees, the arbitrator may award reasonable attorneys' fees and costs to the prevailing party.

EXECUTIVE UNDERSTANDS AND AGREES THAT THIS AGREEMENT TO ARBITRATE CONSTITUTES A WAIVER OF EMPLOYEE'S RIGHT TO A TRIAL BY JURY OF ANY MATTERS COVERED BY THIS AGREEMENT TO ARBITRATE.

8. **Severability.** In the event that any of the provisions of this Agreement or the Policies shall be held to be invalid or unenforceable in whole or in part, those provisions to the extent enforceable and all other provisions shall nevertheless continue to be valid and enforceable as though the invalid or unenforceable parts had not been included in this Agreement or the Policies. In the event that any provision relating to a time period of restriction shall be declared by a court of competent jurisdiction to exceed the maximum time period such court deems reasonable and enforceable, then the time period of restriction deemed reasonable and enforceable by the court shall become and shall thereafter be the maximum time period.

9. **Agreement Read and Understood.** Executive acknowledges that Executive has carefully read the terms of this Agreement, that Executive has had an opportunity to consult with an attorney or other representative of Executive's own choosing regarding this Agreement, that Executive understands the terms of this Agreement, and that Executive is entering this agreement of Executive's own free will.

10. **Complete Agreement, Modification.** This Agreement is the complete agreement between Executive and Asterias on the subjects contained in this Agreement. This Agreement supersedes and replaces all previous correspondence, promises, representations, and agreements, if any, either written or oral with respect to Executive's employment by Asterias or any Related Company and any matter covered by this Agreement. No provision of this Agreement may be modified, amended, or waived except by a written document signed both by Asterias and Executive.

11. Governing Law. This Agreement shall be construed and enforced according to the laws of the State of California.

12. Assignability. This Agreement, and the rights and obligations of Executive and Asterias under this Agreement, may not be assigned by Executive. Asterias may assign any of its rights and obligations under this Agreement to any successor or surviving corporation, limited liability company, or other entity resulting from a merger, consolidation, sale of assets, sale of stock, sale of membership interests, or other reorganization, upon condition that the assignee shall assume, either expressly or by operation of law, all of Asterias's obligations under this Agreement.

13. Survival. This Section 13 and the covenants and agreements contained in Sections 4 and 6 of this Agreement shall survive termination of this Agreement and Executive's employment.

14. Notices. Any notices or other communication required or permitted to be given under this Agreement shall be in writing and shall be mailed by certified mail, return receipt requested, or sent by next business day air courier service, or personally delivered to the party to whom it is to be given at the address of such party set forth on the signature page of this Agreement (or to such other address as the party shall have furnished in writing in accordance with the provisions of this Section 14).

IN WITNESS WHEREOF, Executive and Asterias have executed this Agreement on the day and year first above written.

EXECUTIVE:

/s/ Craig Halberstadt
(Signature)

Craig Halberstadt
(Please Print Name)

ASTERIAS:

Asterias Biotherapeutics, Inc.

s/ Michael Mulroy
(Signature)

By: Michael Mulroy
Title: Chief Executive Officer

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT ("Agreement") is made as of November 7, 2018 by and between Asterias BioTherapeutics ("Asterias"), a California corporation, and Edward Wirth, III ("Executive"), and shall be effective and replace that certain employment agreement dated June 16, 2013 by and between Asterias and Executive at the time that is immediately prior to the consummation of the proposed transaction between Asterias and BioTime, Inc.

1. Engagement; Position and Duties.

(a) Asterias agrees to employ Executive in the position described on Exhibit A (which Exhibit A is a part of this Agreement) effective as of the date of this Agreement. Executive shall perform the duties and functions described on Exhibit A and such other duties as the executive(s) to whom Executive reports or the Board of Directors of Asterias may from time to time determine. Executive shall be employed by Asterias on a full-time basis unless Exhibit A provides for part-time employment. Executive shall devote Executive's best efforts, skills, and abilities to the business of Asterias and its Related Companies pursuant to, and in accordance with, business policies and procedures, as fixed from time to time by the Board of Directors (the "Policies"). Executive covenants and agrees that Executive will faithfully adhere to and fulfill the Policies, including any changes to the Policies that may be made in the future. Executive may be provided with a copy of Asterias's employee manual (the "Manual") which contains the Policies. Asterias may change its Policies from time to time, in which case Executive will be notified of the changes in writing by a memorandum, a letter, or an update or revision of the Manual.

(b) **Performance of Services for Related Companies.** In addition to the performance of services for Asterias, Executive shall, to the extent so required by Asterias, also perform services for one or more members of a consolidated group of which Asterias is a part ("Related Company"), provided that such services are consistent with the kind of services Executive performs or may be required to perform for Asterias under this Agreement. If Executive performs any services for any Related Company, Executive shall not be entitled to receive any compensation or remuneration in addition to or in lieu of the compensation and remuneration provided under this Agreement on account of such services for the Related Company. The Policies will govern Executive's employment by Asterias and any Related Companies for which Executive is asked to provide Services. In addition, Executive covenants and agrees that Executive will faithfully adhere to and fulfill such additional policies as may established from time to time by the board of directors of any Related Company for which Executive performs services, to the extent that such policies and procedures differ from or are in addition to the Policies adopted by Asterias.

(c) **No Conflicting Obligations.** Executive represents and warrants to Asterias and each Related Company that Executive is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with Executive's obligations under this Agreement or that would prohibit Executive, contractually or otherwise, from performing Executive's duties as under this Agreement and the Policies.

(d) **No Unauthorized Use of Third Party Intellectual Property.** Executive represents and warrants to Asterias and each Related Company that Executive will not use or disclose, in connection with Executive's employment by Asterias or any Related Company, any patents, trade secrets, confidential information, or other proprietary information or intellectual property as to which any other person has any right, title or interest, except to the extent that Asterias or a Related Company holds a valid license or other written permission for such use from the owner(s) thereof. Executive represents and warrants to Asterias and each Related Company that Executive has returned all property and confidential information belonging to any prior employer.

2. Compensation

(a) **Salary.** During the term of this Agreement, Asterias shall pay to the Executive the salary shown on Exhibit A. Executive's salary shall be paid in equal semi-monthly installments, consistent with Asterias's regular salary payment practices. Executive's salary may be increased from time-to-time by Asterias, in Asterias's sole and absolute discretion, without affecting this Agreement.

(b) **Bonus.** Executive may be eligible for an annual bonus, as may be approved by the Board of Directors in its discretion, based on Executive's performance and achievement of goals or milestones set by the Board of Directors from time to time. Executive agrees that the Board of Directors of Asterias may follow the recommendations of the Compensation Committee of the board of directors of Asterias's parent company in determining whether to award a bonus or to establish performance goals or milestones. Executive also agrees that the Board of Directors and Asterias are not obligated to adopt any bonus plan, to maintain in effect any bonus plan that may now be in effect or that may be adopted during the term of Executive's employment, or to pay Executive a bonus unless a bonus is earned under the terms and conditions of any bonus plan adopted by Asterias.

(c) **Expense Reimbursements.** Asterias or a Related Company shall reimburse Executive for reasonable travel and other business expenses (but not expenses of commuting to work) incurred by Executive in the performance of Executive's duties under this Agreement, subject to the Policies and procedures in effect from time to time, and provided that Executive submits supporting vouchers.

(d) **Benefit Plans.** Executive may be eligible (to the extent Executive qualifies) to participate in certain retirement, pension, life, health, accident and disability insurance, stock option plan or other similar employee benefit plans which may be adopted by Asterias (or a Related Company) for its employees. Asterias and the Related Companies have the right, at any time and without any amendment of this Agreement, and without prior notice to or consent from Executive, to adopt, amend, change, or terminate any such benefit plans that may now be in effect or that may be adopted in the future, in each case without any further financial obligation to Executive. Any benefits to which Executive may be entitled under any benefit plan shall be governed by the terms and conditions of the applicable benefit plan, and any related plan documents, as in effect from time to time. If Executive receives any grant of stock options or restricted stock under any stock option plan or stock purchase plan of Asterias or any Related Company, the terms and conditions of the stock options or restricted stock, and Executive's rights with respect to the stock options or restricted stock, shall be governed by (i) the terms of the applicable stock option or stock purchase plan, as the same may be amended from time to time, and (ii) the terms and conditions of any stock option agreement or stock purchase agreement and related agreements that Executive may sign or be required to sign with respect to the stock options or restricted stock.

(e) **Vacation; Sick Leave.** Executive shall be entitled to the number of days of vacation and sick leave (without reduction in compensation) during each calendar year shown on Exhibit A or as may be provided by the Policies. Executive's vacation shall be taken at such time as is consistent with the needs and Policies of Asterias and its Related Companies. All vacation days and sick leave days shall accrue annually based upon days of service. Executive's right to leave from work due to illness is subject to the Policies and the provisions of this Agreement governing termination due to disability, sickness or illness. The Policies governing the disposition of unused vacation days and sick leave days remaining at the end of Asterias's fiscal year shall govern whether unused vacation days or sick leave days will be paid, lost, or carried over into subsequent fiscal years.

3. Competitive Activities. During the term of Executive's employment, and for one year thereafter, Executive shall not, for Executive or any third party, directly or indirectly employ, solicit for employment or recommend for employment any person employed by Asterias or any Related Company. During the term of Executive's employment, Executive shall not, directly or indirectly as an employee, contractor, officer, director, member, partner, agent, or equity owner, engage in any activity or business that competes or could reasonably be expected to compete with the business of Asterias or any Related Company. Executive acknowledges that there is a substantial likelihood that the activities described in this Section would (a) involve the unauthorized use or disclosure of Asterias's or a Related Company's Confidential Information and that use or disclosure would be extremely difficult to detect, and (b) result in substantial competitive harm to the business of Asterias or a Related Company. Executive has accepted the limitations of this Section as a reasonably practicable and unrestrictive means of preventing such use or disclosure of Confidential Information and preventing such competitive harm.

4. Inventions/Intellectual Property/Confidential Information

(a) As used in this Agreement, "Intellectual Property" means any and all inventions, discoveries, formulas, improvements, writings, designs, or other intellectual property. Any and all Intellectual Property relating to or in any way pertaining to or connected with the systems, products, apparatus, or methods employed, manufactured, constructed, or researched by Asterias, or any Related Company, which Executive may conceive or make while performing services for Asterias or a Related Company shall be the sole and exclusive property of Asterias or the applicable Related Company. Executive hereby irrevocably assigns and transfers to Asterias, or a Related Company, all rights, title and interest in and to all Intellectual Property that Executive may now or in the future have under patent, copyright, trade secret, trademark or other law, in perpetuity or for the longest period otherwise permitted by law, without the necessity of further consideration. Asterias and the Related Companies will be entitled to obtain and hold in their own name all copyrights, patents, trade secrets, trademarks and other similar registrations with respect to such Intellectual Property.

(b) **Moral Rights.** To the extent allowed by law, the rights to Intellectual Property assigned by Executive to Asterias or any Related Company includes all rights of paternity, integrity, disclosure and withdrawal, and any other rights that may be known as or referred to as "moral rights," "artist's rights," "droit moral," or the like (collectively "Moral Rights"). To the extent Executive retains any such Moral Rights under applicable law, Executive hereby ratifies and consents to any action that may be taken with respect to such Moral Rights by or authorized by Asterias or a Related Company and agrees not to assert any Moral Rights with respect thereto. Executive shall confirm in writing any such ratifications, consents, and agreements from time to time as requested by Asterias or Related Company.

(c) **Execution of Documents; Power of Attorney.** Executive agrees to execute and sign any and all applications, assignments, or other instruments which Asterias or a Related Company may deem necessary in order to enable Asterias or a Related Company, at its expense, to apply for, prosecute, and obtain patents of the United States or foreign countries for the Intellectual Property, or in order to assign or convey to, perfect, maintain or vest in Asterias or a Related Company the sole and exclusive right, title, and interest in and to the Intellectual Property. If Asterias or a Related Company is unable after reasonable efforts to secure Executive's signature, cooperation or assistance in accordance with the preceding sentence, whether because of Executive's incapacity or any other reason whatsoever, Executive hereby designates and appoints Asterias or any Related Company or its designee as Executive's agent and attorney-in-fact, to act on Executive's behalf, to execute and file documents and to do all other lawfully permitted acts necessary or desirable to perfect, maintain or otherwise protect Asterias's or a Related Company's rights in the Intellectual Property. Executive acknowledges and agrees that such appointment is coupled with an interest and is irrevocable.

(d) **Disclosure of Intellectual Property.** Executive agrees to disclose promptly to Asterias or a Related Company all Intellectual Property which Executive may create or conceive solely, jointly, or commonly with others. This paragraph is applicable whether or not the Intellectual Property was made under the circumstances described in paragraph (a) of this Section. Executive agrees to make such disclosures understanding that they will be received in confidence and that, among other things, they are for the purpose of determining whether or not rights to the related Intellectual Property is the property of Asterias or a Related Company.

(e) **Limitations.** The obligations provided for by this Section 4, except for the requirements as to disclosure in paragraph 4(d), do not apply to any rights Executive may have acquired in connection with Intellectual Property for which no equipment, supplies, facility, or trade secret information of Asterias or a Related Company was used and which was developed entirely on the Executive's own time and (i) which at the time of conception or reduction to practice does not relate directly or indirectly to the business of Asterias or a Related Company, or to the actual or demonstrable anticipated research or development activities or plans of Asterias or a Related Company, or (ii) which does not result from any work performed by Executive for Asterias or a Related Company. All Intellectual Property that (1) results from the use of equipment, supplies, facilities, or trade secret information of Asterias or a Related Company; (2) relates, at the time of conception or reduction to practice of the invention, to the business of Asterias or a Related Company, or actual or demonstrably anticipated research or development of Asterias or a Related Company; or (3) results from any work performed by Executive for Asterias or a Related Company shall be assigned and is hereby assigned to Asterias or the applicable Related Company. The parties understand and agree that this limitation is intended to be consistent with California Labor Code, Section 2870, a copy of which is attached as Exhibit A. If Executive wishes to clarify that something created by Executive prior to Executive's employment by Asterias or a Related Company that relates to the actual or proposed business of Asterias or a Related Company is not within the scope of this Agreement, Executive has listed it on Exhibit B in a manner that does not violate any third party rights.

(f) **Confidential and Proprietary Information.** During Executive's employment, Executive will have access to trade secrets and confidential information of Asterias and one or more Related Companies. Confidential Information means all information and ideas, in any form, relating in any manner to matters such as: products; formulas; technology and know-how; inventions; clinical trial plans and data; business plans; marketing plans; the identity, expertise, and compensation of employees and contractors; systems, procedures, and manuals; customers; suppliers; joint venture partners; research collaborators; licensees; and financial information. Confidential Information also shall include any information of any kind, whether belonging to Asterias, a Related Company, or any third party, that Asterias or a Related Company has agreed to keep secret or confidential under the terms of any agreement with any third party. Confidential Information does not include: (i) information that is or becomes publicly known through lawful means other than unauthorized disclosure by Executive; (ii) information that was rightfully in Executive's possession prior to Executive's employment with Asterias and was not assigned to Asterias or a Related Company or was not disclosed to Executive in Executive's capacity as a director or other fiduciary of Asterias or a Related Company; or (iii) information disclosed to Executive, after the termination of Executive's employment by Asterias, without a confidential restriction by a third party who rightfully possesses the information and did not obtain it, either directly or indirectly, from Asterias or a Related Company, and who is not subject to an obligation to keep such information confidential for the benefit of Asterias, a Related Company, or any third party with whom Asterias or a Related Company has a contractual relationship. Executive understands and agrees that all Confidential Information shall be kept confidential by Executive both during and after Executive's employment by Asterias or any Related Company. Executive further agrees that Executive will not, without the prior written approval by Asterias or a Related Company, disclose any Confidential Information, or use any Confidential Information in any way, either during the term of Executive's employment or at any time thereafter, except as required by Asterias or a Related Company in the course of Executive's employment.

5. Termination of Employment. Employee understands and agrees that Employee's employment has no specific term. This Agreement, and the employment relationship, are "at will" and may be terminated by Employee or by Asterias (and the employment of Employee by any Related Company may be terminated by the Related Company) with or without cause at any time by notice given in writing. Except as otherwise agreed in writing or as otherwise provided in this Agreement, upon termination of Employee's employment, Asterias and the Related Companies shall have no further obligation to Employee by way of compensation or otherwise as expressly provided in this Agreement or in any separate employment agreement that might then exist between Employee and Asterias or any Related Company.

(a) Payments Due Upon Termination of Employment. Upon termination of Employee's employment with Asterias and all Related Companies at any time and for any reason, Employee will be entitled to receive only the severance benefits set forth below, but Employee will not be entitled to any other compensation, award, or damages with respect to Employee's employment or termination of employment.

(i) Termination for Cause, Death, Disability, or Resignation. In the event that the employment of Employee is terminated for Cause, or is terminated as a result of death, Disability, or resignation without "Good Reason" as defined in this Agreement, Employee will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment. Employee will not be entitled to any cash severance benefits or vesting of any stock options or other equity or cash awards.

(ii) Termination Without Cause and Resignation for Good Reason. In the event that the employment of Employee is terminated by Asterias without "Cause" as defined in this Agreement or Employee resigns for "Good Reason," as defined in this Agreement otherwise than within twelve (12) months following a "Change in Control" as defined in this Agreement, Employee shall receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment, and as severance compensation salary continuation at Employee's then-current base salary for twelve (12) months. The salary continuation described in this paragraph shall begin as soon as practicable after the effective date of Employee's separation agreement, no later than 60 days after the date of Employee's termination of employment, subject to such payroll deductions and withholdings as are required by law. This paragraph shall not apply to (x) termination of Employee's employment by a Related Company if Employee remains employed by Asterias or another Related Company, or (y) termination of Employee's employment by Asterias if Employee remains employed by a Related Company.

(iii) Change of Control. In the event Asterias (or any successor in interest to Asterias that has assumed Asterias' obligation under this Agreement) terminates Employee's employment without "Cause" or Employee resigns for "Good Reason" within twelve (12) months following a Change in Control, Employee will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Employee's employment, and as severance compensation (A) an amount equal to twelve (12) months of Employee's base salary, which shall be paid in a lump sum no later than 60 days after the date of Employee's termination of employment, subject to such payroll deductions and withholdings as are required by law, (B) bonus for the year in which Executive's employment terminated based on actual performance and payable (at the discretion of the Company, in cash or in shares of common stock of the Company or its parent company) when annual bonus payments are payable to other members of senior management and pro-rated to reflect the portion of the year during which the Executive performed services, (C) accelerated vesting of 100% of Employee's then unvested stock options and any restricted stock, and (D) payment, for a period of six (6) months, of any health insurance benefits that Employee was receiving at the time of termination of Employee's employment, under an Asterias employee health insurance plan subject to COBRA.

(b) Release. Any other provision of this Agreement notwithstanding, paragraphs (a)(ii) and (a)(iii) of this Section shall not apply unless Employee (i) has executed a separation agreement including a general release of all claims against Asterias or its successor in interest (in a form prescribed by Asterias or its successor in interest) and (ii) has returned all property in Employee's possession belonging Asterias or its successor in interest.

(c) Definitions. For purposes of this Section, the following definitions shall apply:

(i) "Affiliated Group" means (A) a Person and one or more other Persons in control of, controlled by, or under common control with such Person; and (B) two or more Persons who, by written agreement among them, act in concert to acquire Voting Securities entitling them to elect a majority of the directors of Asterias.

(ii) "Cause" means: (A) the repeated failure to properly perform Employee's job responsibilities after written receipt being notified of such failure to perform, as determined reasonably and in good faith by the Board of Directors; (B) commission of any act of fraud, gross misconduct or dishonesty with respect to Asterias or any Related Company; (C) conviction of, or plea of guilty or "no contest" to, any felony, or a crime involving moral turpitude; (D) breach of any provision of this Agreement or any provision of any proprietary information and inventions agreement with Asterias or any Related Company; (E) failure to follow the lawful directions of the Board of Directors of Asterias or any Related Company; (F) chronic alcohol or drug abuse; (G) obtaining, in connection with any transaction in which Asterias, any Related Company, or any of Asterias' affiliates is a party, a material undisclosed financial benefit for Employee or for any member of Employee's immediate family or for any corporation, partnership, limited liability company, or trust in which Employee or any member of Employee's immediate family owns a material financial interest; or (H) harassing or discriminating against, or participating or assisting in the harassment of or discrimination against, any employee of Asterias (or a Related Company or an affiliate of Asterias) based upon gender, race, religion, ethnicity, or nationality.

(iii) "Change of Control" means (A) the acquisition of Voting Securities of Asterias by a Person or an Affiliated Group entitling the holder thereof to elect a majority of the directors of Asterias; provided, that an increase in the amount of Voting Securities held by a Person or Affiliated Group who on the date of this Agreement beneficially owned (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended, and the regulations thereunder) more than 30% of the Voting Securities shall not constitute a Change of Control unless such Person or Affiliated Group acquires 80% or more of the Voting Securities; and provided, further, that an acquisition of Voting Securities by one or more Persons acting as an underwriter in connection with a sale or distribution of such Voting Securities shall not constitute a Change of Control under this clause (A); (B) the sale of all or substantially all of the assets of Asterias; (C) a merger or consolidation of Asterias with or into another corporation or entity (irrespective of whether Asterias is the surviving corporation in such merger or consolidation) in which the stockholders of Asterias immediately before such merger or consolidation do not own, in substantially the same percentages, Voting Securities of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity) entitling them, in the aggregate (and without regard to whether they constitute an Affiliated Group) to elect a majority of the directors or persons holding similar powers of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity); or (D) a change in the composition of the Board occurring within a twelve (12) month period, as a result of which the incumbent directors cease to constitute at least a majority of the Board.

(iv) "Disability" shall mean Employee's inability to perform the essential functions of Employee's job responsibilities for a period of one hundred eighty (180) days in the aggregate in any twelve (12) month period.

(v) "Good Reason" means (A) a diminution in Employee's base salary; (B) a material change in geographic location at which Employee must perform services (a change in location of Asterias office at which Employee will primarily work will be considered material only if it increases Employee's current average one-way commute time by more than twenty five percent (25%)); (C) any material failure of the successors to Asterias after a Change of Control to perform, or causing Asterias not to perform, Asterias' obligations under this Agreement; (D) any action or inaction of Asterias that constitutes a material breach of the terms of this Agreement; or (E) any other material adverse change in Employee's duties, authorities, responsibilities, or reporting structure, provided, however, that Good Reason shall not be deemed to have occurred unless (A) Employee shall first have provided written notice of said Good Reason to Asterias within thirty (30) days of the occurrence of the event(s) giving rise to Good Reason, reasonably explaining such events in said written notice, and (B) Asterias shall have failed to cure said Good Reason within thirty (30) days of its receipt of Employee's written notice, and (C) Employee shall have provided written notice of termination within thirty (30) days of the expiration of Asterias' 30-day cure period.

(vi) "Person" means any natural person or any corporation, partnership, limited liability Asterias, trust, unincorporated business association, or other entity.

(vii) "Voting Securities" means shares of capital stock or other equity securities entitling the holder thereof to regularly vote for the election of directors (or for person performing a similar function if the issuer is not a corporation), but does not include the power to vote upon the happening of some condition or event which has not yet occurred.

6. Turnover of Property and Documents on Termination. Executive agrees that on or before termination of Executive's employment, Executive will return to Asterias and all Related Companies all equipment and other property belonging to Asterias and the Related Companies, and all originals and copies of Confidential Information (in any and all media and formats, and including any document or other item containing Confidential Information) in Executive's possession or control, and all of the following (in any and all media and formats, and whether or not constituting or containing Confidential Information) in Executive's possession or control: (a) lists and sources of customers; (b) proposals or drafts of proposals for any research grant, research or development project or program, marketing plan, licensing arrangement, or other arrangement with any third party; (c) reports, job or laboratory notes, specifications, and drawings pertaining to the research, development, products, patents, and technology of Asterias and any Related Companies; (d) any and all Intellectual Property developed by Executive during the course of employment; and (e) the Manual and memoranda related to the Policies.

7. **Arbitration.** Except for injunctive proceedings against unauthorized disclosure of Confidential Information, any and all claims or controversies between Asterias or any Related Company and Executive, including but not limited to (a) those involving the construction or application of any of the terms, provisions, or conditions of this Agreement or the Policies; (b) all contract or tort claims of any kind; and (c) any claim based on any federal, state, or local law, statute, regulation, or ordinance, including claims for unlawful discrimination or harassment, shall be settled by arbitration in accordance with the then current Employment Dispute Resolution Rules of the American Arbitration Association. Judgment on the award rendered by the arbitrator(s) may be entered by any court having jurisdiction over the Company and Executive. The location of the arbitration shall be San Francisco, California. Unless Asterias or a Related Company and Executive mutually agree otherwise, the arbitrator shall be a retired judge selected from a panel provided by the American Arbitration Association, or the Judicial Arbitration and Mediation Service (JAMS). Asterias, or a Related Company if the Related Company is a party to the arbitration proceeding, shall pay the arbitrator's fees and costs. Executive shall pay for Executive's own costs and attorneys' fees, if any. Asterias and any Related Company that is a party to an arbitration proceeding shall pay for its own costs and attorneys' fees, if any. However, if any party prevails on a statutory claim which affords the prevailing party attorneys' fees, the arbitrator may award reasonable attorneys' fees and costs to the prevailing party.

EXECUTIVE UNDERSTANDS AND AGREES THAT THIS AGREEMENT TO ARBITRATE CONSTITUTES A WAIVER OF EXECUTIVES'S RIGHT TO A TRIAL BY JURY OF ANY MATTERS COVERED BY THIS AGREEMENT TO ARBITRATE.

8. **Severability.** In the event that any of the provisions of this Agreement or the Policies shall be held to be invalid or unenforceable in whole or in part, those provisions to the extent enforceable and all other provisions shall nevertheless continue to be valid and enforceable as though the invalid or unenforceable parts had not been included in this Agreement or the Policies. In the event that any provision relating to a time period of restriction shall be declared by a court of competent jurisdiction to exceed the maximum time period such court deems reasonable and enforceable, then the time period of restriction deemed reasonable and enforceable by the court shall become and shall thereafter be the maximum time period.

9. **Agreement Read and Understood.** Executive acknowledges that Executive has carefully read the terms of this Agreement, that Executive has had an opportunity to consult with an attorney or other representative of Executive's own choosing regarding this Agreement, that Executive understands the terms of this Agreement, and that Executive is entering this agreement of Executive's own free will.

10. Complete Agreement, Modification. This Agreement is the complete agreement between Executive and Asterias on the subjects contained in this Agreement. This Agreement supersedes and replaces all previous correspondence, promises, representations, and agreements, if any, either written or oral with respect to Executive's employment by Asterias or any Related Company and any matter covered by this Agreement. No provision of this Agreement may be modified, amended, or waived except by a written document signed both by Asterias and Executive.

11. Governing Law. This Agreement shall be construed and enforced according to the laws of the State of California.

12. Assignability. This Agreement, and the rights and obligations of Executive and Asterias under this Agreement, may not be assigned by Executive. Asterias may assign any of its rights and obligations under this Agreement to any successor or surviving corporation, limited liability company, or other entity resulting from a merger, consolidation, sale of assets, sale of stock, sale of membership interests, or other reorganization, upon condition that the assignee shall assume, either expressly or by operation of law, all of Asterias's obligations under this Agreement.

13. Survival. This Section 13 and the covenants and agreements contained in Sections 4, 6 and 7 of this Agreement shall survive termination of this Agreement and Executive's employment.

14. Notices. Any notices or other communication required or permitted to be given under this Agreement shall be in writing and shall be mailed by certified mail, return receipt requested, or sent by next business day air courier service, or personally delivered to the party to whom it is to be given at the address of such party set forth on the signature page of this Agreement (or to such other address as the party shall have furnished in writing in accordance with the provisions of this Section 14).

IN WITNESS WHEREOF, Executive and Asterias have executed this Agreement on the day and year first above written.

EXECUTIVE:

/s/ Edward Wirth, III
(Signature)

Edward Wirth, III
(Please Print Name)

ASTERIAS:

Asterias Biotherapeutics, Inc.

s/ Michael Mulroy
(Signature)

By: Michael Mulroy
Title: Chief Executive Officer

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT ("Agreement") is made as of November 7, 2018 by and between Asterias Biotherapeutics, Inc. ("Asterias"), a Delaware corporation, and Ryan Chavez ("Executive"), and shall be effective and replace that certain employment agreement dated July 18, 2016 by and between Asterias and Executive at the time that is immediately prior to the consummation of the proposed transaction between Asterias and BioTime, Inc.

1. Engagement; Position and Duties.

(a) Asterias agrees to employ Executive in the position described on Exhibit A (which Exhibit A is a part of this Agreement) effective as of the date of this Agreement. Executive shall perform the duties and functions described on Exhibit A and such other duties as the executive(s) to whom Executive reports or the Board of Directors of Asterias may from time to time determine. Executive shall devote Executive's best efforts, skills, and abilities, on a full-time basis, exclusively to the business of Asterias and its Related Companies pursuant to, and in accordance with, business policies and procedures, as fixed from time to time by the Board of Directors (the "Policies"). Executive covenants and agrees that Executive will faithfully adhere to and fulfill the Policies, including any changes to the Policies that may be made in the future. Executive may be provided with a copy of Asterias's employee manual (the "Manual") which contains the Policies. Asterias may change its Policies from time to time, in which case Executive will be notified of the changes in writing by a memorandum, a letter, or an update or revision of Asterias's employee manual.

(b) **No Conflicting Obligations.** Executive represents and warrants to Asterias and each Related Company that Executive is under no obligations or commitments, whether contractual or otherwise, that are inconsistent with Executive's obligations under this Agreement or that would prohibit Executive, contractually or otherwise, from performing Executive's duties as under this Agreement and the Policies.

(c) **No Unauthorized Use of Third Party Intellectual Property.** Executive represents and warrants to Asterias and each Related Company that Executive will not use or disclose, in connection with Executive's employment by Asterias or any Related Company, any patents, trade secrets, confidential information, or other proprietary information or intellectual property as to which any other person has any right, title or interest, except to the extent that Asterias or a Related Company holds a valid license or other written permission for such use from the owner(s) thereof. Executive represents and warrants to Asterias and each Related Company that Executive has returned all property and confidential information belonging to any prior employer.

2. Compensation

(a) **Salary.** During the term of this Agreement, Asterias shall pay to the Executive the salary shown on Exhibit A. Executive's salary shall be paid in equal semi-monthly installments, consistent with Asterias's regular salary payment practices. Executive's salary may be increased from time-to-time by Asterias, in Asterias's sole and absolute discretion, without affecting this Agreement.

(b) **Bonus.** Executive shall be eligible to earn an annual cash incentive bonus award determined by the Board in respect of each fiscal year during Executive's employment (the "Annual Bonus"), with a target bonus equal to no less than forty percent (40%) of Base Salary (the "Target Bonus") for achievement of the specified performance goals at target levels for the applicable calendar year. The actual Annual Bonus payable shall be based upon the level of achievement of objectively determinable Company and individual performance goals for the applicable calendar year, as determined by the Board in consultation with Executive. Such performance goals shall be determined and memorialized in writing no later than January 31 of each calendar year.

(c) **Expense Reimbursements.** Asterias or a Related Company shall reimburse Executive for reasonable travel and other business expenses (but not expenses of commuting to work) incurred by Executive in the performance of Executive's duties under this Agreement, subject to the Policies and procedures in effect from time to time, and provided that Executive submits supporting vouchers.

(d) **Benefit Plans.** Executive may be eligible (to the extent Executive qualifies) to participate in certain retirement, pension, life, health, accident and disability insurance, stock option plan or other similar employee benefit plans which may be adopted by Asterias (or a Related Company) for its employees. Asterias and the Related Companies have the right, at any time and without any amendment of this Agreement, and without prior notice to or consent from Executive, to adopt, amend, change, or terminate any such benefit plans that may now be in effect or that may be adopted in the future, in each case without any further financial obligation to Executive. Any benefits to which Executive may be entitled under any benefit plan shall be governed by the terms and conditions of the applicable benefit plan, and any related plan documents, as in effect from time to time. If Executive receives any grant of stock options or restricted under any stock option plan or stock purchase plan of Asterias or any Related Company, the terms and conditions of the stock options or restricted stock, and Executive's rights with respect to the stock options or restricted stock, shall be governed by (i) the terms of the applicable stock option or stock purchase plan, as the same may be amended from time to time, and (ii) the terms and conditions of any stock option agreement or stock purchase agreement and related agreements that Executive may sign or be required to sign with respect to the stock options or restricted stock.

(e) **Vacation; Sick Leave.** Executive shall be entitled to the number of days of vacation and sick leave (without reduction in compensation) during each calendar year shown on Exhibit A or as may be provided by the Policies. Executive's vacation shall be taken at such time as is consistent with the needs and Policies of Asterias and its Related Companies. All vacation days and sick leave days shall accrue annually based upon days of service. Executive's right to leave from work due to illness is subject to the Policies and the provisions of this Agreement governing termination due to disability, sickness or illness. The Policies governing the disposition of unused vacation days and sick leave days remaining at the end of Asterias's fiscal year shall govern whether unused vacation days or sick leave days will be paid, lost, or carried over into subsequent fiscal years.

3. **Competitive Activities.** During the term of Executive's employment, and for one year thereafter, Executive shall not, for Executive or any third party, directly or indirectly employ, solicit for employment or recommend for employment any person employed by Asterias or any Related Company. During the term of Executive's employment, Executive shall not, directly or indirectly as an employee, contractor, officer, director, member, partner, agent, or equity owner, engage in any activity or business that competes or could reasonably be expected to compete with the business of Asterias or any Related Company, except to the extent such activities by Executive are approved by the Board of Directors of Asterias. Executive acknowledges that there is a substantial likelihood that the activities described in this Section would (a) involve the unauthorized use or disclosure of Asterias's or a Related Company's Confidential Information and that use or disclosure would be extremely difficult to detect, and (b) result in substantial competitive harm to the business of Asterias or a Related Company. Executive has accepted the limitations of this Section as a reasonably practicable and unrestrictive means of preventing such use or disclosure of Confidential Information and preventing such competitive harm.

4. Inventions/Intellectual Property/Confidential Information

(a) As used in this Agreement, “Intellectual Property” means any and all inventions, discoveries, formulas, improvements, writings, designs, or other intellectual property. Any and all Intellectual Property relating to or in any way pertaining to or connected with the systems, products, apparatus, or methods employed, manufactured, constructed, or researched by Asterias, or any Related Company, which Executive may conceive or make while performing services for Asterias or a Related Company shall be the sole and exclusive property of Asterias or the applicable Related Company. Executive hereby irrevocably assigns and transfers to Asterias, or a Related Company, all rights, title and interest in and to all Intellectual Property that Executive may now or in the future have under patent, copyright, trade secret, trademark or other law, in perpetuity or for the longest period otherwise permitted by law, without the necessity of further consideration. Asterias and the Related Companies will be entitled to obtain and hold in their own name all copyrights, patents, trade secrets, trademarks and other similar registrations with respect to such Intellectual Property.

(b) **Moral Rights.** To the extent allowed by law, the rights to Intellectual Property assigned by Executive to Asterias or any Related Company includes all rights of paternity, integrity, disclosure and withdrawal, and any other rights that may be known as or referred to as “moral rights,” “artist’s rights,” “droit moral,” or the like (collectively “Moral Rights”). To the extent Executive retains any such Moral Rights under applicable law, Executive hereby ratifies and consents to any action that may be taken with respect to such Moral Rights by or authorized by Asterias or a Related Company and agrees not to assert any Moral Rights with respect thereto. Executive shall confirm in writing any such ratifications, consents, and agreements from time to time as requested by Asterias or Related Company.

(c) **Execution of Documents; Power of Attorney.** Executive agrees to execute and sign any and all applications, assignments, or other instruments which Asterias or a Related Company may deem necessary in order to enable Asterias or a Related Company, at its expense, to apply for, prosecute, and obtain patents of the United States or foreign countries for the Intellectual Property, or in order to assign or convey to, perfect, maintain or vest in Asterias or a Related Company the sole and exclusive right, title, and interest in and to the Intellectual Property. If Asterias or a Related Company is unable after reasonable efforts to secure Executive’s signature, cooperation or assistance in accordance with the preceding sentence, whether because of Executive’s incapacity or any other reason whatsoever, Executive hereby designates and appoints Asterias or any Related Company or its designee as Executive’s agent and attorney-in-fact, to act on Executive’s behalf, to execute and file documents and to do all other lawfully permitted acts necessary or desirable to perfect, maintain or otherwise protect Asterias’s or a Related Company’s rights in the Intellectual Property. Executive acknowledges and agrees that such appointment is coupled with an interest and is irrevocable.

(d) **Disclosure of Intellectual Property.** Executive agrees to disclose promptly to Asterias or a Related Company all Intellectual Property which Executive may create or conceive solely, jointly, or commonly with others. This paragraph is applicable whether or not the Intellectual Property was made under the circumstances described in paragraph (a) of this Section. Executive agrees to make such disclosures understanding that they will be received in confidence and that, among other things, they are for the purpose of determining whether or not rights to the related Intellectual Property is the property of Asterias or a Related Company.

(e) **Limitations.** The obligations provided for by this Section 4, except for the requirements as to disclosure in paragraph 4(d), do not apply to any rights Executive may have acquired in connection with Intellectual Property for which no equipment, supplies, facility, or trade secret information of Asterias or a Related Company was used and which was developed entirely on the Executive's own time and (i) which at the time of conception or reduction to practice does not relate directly or indirectly to the business of Asterias or a Related Company, or to the actual or demonstrable anticipated research or development activities or plans of Asterias or a Related Company, or (ii) which does not result from any work performed by Executive for Asterias or a Related Company. All Intellectual Property that (1) results from the use of equipment, supplies, facilities, or trade secret information of Asterias or a Related Company; (2) relates, at the time of conception or reduction to practice of the invention, to the business of Asterias or a Related Company, or actual or demonstrably anticipated research or development of Asterias or a Related Company; or (3) results from any work performed by Executive for Asterias or a Related Company shall be assigned and is hereby assigned to Asterias or the applicable Related Company. The parties understand and agree that this limitation is intended to be consistent with California Labor Code, Section 2870, a copy of which is attached as Exhibit A. If Executive wishes to clarify that something created by Executive prior to Executive's employment by Asterias or a Related Company that relates to the actual or proposed business of Asterias or a Related Company is not within the scope of this Agreement, Executive has listed it on Exhibit B in a manner that does not violate any third party rights.

(f) **Confidential and Proprietary Information.** During Executive's employment, Executive will have access to trade secrets and confidential information of Asterias and one or more Related Companies. Confidential Information means all information and ideas, in any form, relating in any manner to matters such as: products; formulas; technology and know-how; inventions; clinical trial plans and data; business plans; marketing plans; the identity, expertise, and compensation of employees and contractors; systems, procedures, and manuals; customers; suppliers; joint venture partners; research collaborators; licensees; and financial information. Confidential Information also shall include any information of any kind, whether belonging to Asterias, a Related Company, or any third party, that Asterias or a Related Company has agreed to keep secret or confidential under the terms of any agreement with any third party. Confidential Information does not include: (i) information that is or becomes publicly known through lawful means other than unauthorized disclosure by Executive; (ii) information that was rightfully in Executive's possession prior to Executive's employment with Asterias and was not assigned to Asterias or a Related Company or was not disclosed to Executive in Executive's capacity as a director or other fiduciary of Asterias or a Related Company; or (iii) information disclosed to Executive, after the termination of Executive's employment by Asterias, without a confidential restriction by a third party who rightfully possesses the information and did not obtain it, either directly or indirectly, from Asterias or a Related Company, and who is not subject to an obligation to keep such information confidential for the benefit of Asterias, a Related Company, or any third party with whom Asterias or a Related Company has a contractual relationship. Executive understands and agrees that all Confidential Information shall be kept confidential by Executive both during and after Executive's employment by Asterias or any Related Company. Executive further agrees that Executive will not, without the prior written approval by Asterias or a Related Company, disclose any Confidential Information, or use any Confidential Information in any way, either during the term of Executive's employment or at any time thereafter, except as required by Asterias or a Related Company in the course of Executive's employment.

5. Termination of Employment. Executive understands and agrees that Executive's employment has no specific term. This Agreement, and the employment relationship, are "at will" and may be terminated by Executive or by Asterias (and the employment of Executive by any Related Company may be terminated by the Related Company) with or without cause at any time by notice given in writing. Except as otherwise agreed in writing or as otherwise provided in this Agreement, upon termination of Executive's employment, Asterias and the Related Companies shall have no further obligation to Executive by way of compensation or otherwise as expressly provided in this Agreement or in any separate employment agreement that might then exist between Executive and Asterias or any Related Company.

(a) Payments Due Upon Termination of Employment. Upon termination of Executive's employment with Asterias and all Related Companies at any time and for any reason, Executive will be entitled to receive only the severance benefits set forth below, but Executive will not be entitled to any other compensation, award, or damages with respect to Executive's employment or termination of employment.

(i) Termination for Cause, Death, Disability, or Resignation. In the event that the employment of Executive is terminated for Cause, or is terminated as a result of death, Disability, or resignation without "Good Reason" as defined in this Agreement, Executive will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Executive's employment. Executive will not be entitled to any cash severance benefits or vesting of any stock options or other equity or cash awards.

(ii) Termination Without Cause and Resignation for Good Reason. In the event that the employment of Executive is terminated by Asterias without "Cause" as defined in this Agreement or Executive resigns for "Good Reason," as defined in this Agreement otherwise than within twelve (12) months following a "Change in Control" as defined in this Agreement, Executive shall receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Executive's employment, and as severance compensation (A) salary continuation at Executive's then-current base salary for twelve (12) months, and (B) accelerated vesting of 50% of the then unvested stock options and restricted stock granted to Executive. The salary continuation described in clause (A) of this paragraph shall begin as soon as practicable after the effective date of Executive's separation agreement, no later than 60 days after the date of Executive's termination of employment, subject to such payroll deductions and withholdings as are required by law. This paragraph shall not apply to (x) termination of Executive's employment by a Related Company if Executive remains employed by Asterias or another Related Company, or (y) termination of Executive's employment by Asterias if Executive remains employed by a Related Company.

(iii) Change of Control. In the event Asterias (or any successor in interest to Asterias that has assumed Asterias' obligation under this Agreement) terminates Executive's employment without "Cause" or Executive resigns for "Good Reason" within twelve (12) months following a Change in Control, Executive will be entitled to receive payment for all accrued but unpaid salary, accrued but unpaid bonus, if any, and vacation accrued as of the date of termination of Executive's employment, and as severance compensation (A) an amount equal to 100% of Executive's base salary, which shall be paid in a lump sum no later than 60 days after the date of Executive's termination of employment, subject to such payroll deductions and withholdings as are required by law, (B) bonus for the year in which Executive's employment terminated based on actual performance and payable (at the discretion of the Company, in cash or in shares of common stock of the Company or its parent company) when annual bonus payments are payable to other members of senior management and pro-rated to reflect the portion of the year during which the Executive performed services, (C) accelerated vesting of 100% of Executive's then unvested stock options and any restricted stock, and (D) payment, for a period of six (6) months, of any health insurance benefits that Executive was receiving at the time of termination of Executive's employment, under an Asterias employee health insurance plan subject to COBRA.

(b) Release. Any other provision of this Agreement notwithstanding, paragraphs (a)(ii) and (a)(iii) of this Section shall not apply unless Executive (i) has executed a separation agreement including a general release of all claims against Asterias or its successor in interest (in a form prescribed by Asterias or its successor in interest) and (ii) has returned all property in Executive's possession belonging Asterias or its successor in interest

(c) Definitions. For purposes of this Section, the following definitions shall apply:

(i) "Affiliated Group" means (A) a Person and one or more other Persons in control of, controlled by, or under common control with such Person; and (B) two or more Persons who, by written agreement among them, act in concert to acquire Voting Securities entitling them to elect a majority of the directors of Asterias.

(ii) "Cause" means: (A) the repeated failure to properly perform Employee's job responsibilities after written receipt being notified of such failure to perform, as determined reasonably and in good faith by the Board of Directors; (B) commission of any act of fraud, gross misconduct or dishonesty with respect to Asterias or any Related Company; (C) conviction of, or plea of guilty or "no contest" to, any felony, or a crime involving moral turpitude; (D) breach of any provision of this Agreement or any provision of any proprietary information and inventions agreement with Asterias or any Related Company; (E) failure to follow the lawful directions of the Board of Directors of Asterias or any Related Company; (F) chronic alcohol or drug abuse; (G) obtaining, in connection with any transaction in which Asterias, any Related Company, or any of Asterias' affiliates is a party, a material undisclosed financial benefit for Employee or for any member of Employee's immediate family or for any corporation, partnership, limited liability company, or trust in which Employee or any member of Employee's immediate family owns a material financial interest; or (H) harassing or discriminating against, or participating or assisting in the harassment of or discrimination against, any employee of Asterias (or a Related Company or an affiliate of Asterias) based upon gender, race, religion, ethnicity, or nationality.

(iii) "Change of Control" means (A) the acquisition of Voting Securities of Asterias by a Person or an Affiliated Group entitling the holder thereof to elect a majority of the directors of Asterias; provided, that an increase in the amount of Voting Securities held by a Person or Affiliated Group who on the date of this Agreement beneficially owned (as defined in Section 13(d) of the Securities Exchange Act of 1934, as amended, and the regulations thereunder) more than 30% of the Voting Securities shall not constitute a Change of Control unless such Person or Affiliated Group acquires 80% or more of the Voting Securities; and provided, further, that an acquisition of Voting Securities by one or more Persons acting as an underwriter in connection with a sale or distribution of such Voting Securities shall not constitute a Change of Control under this clause (A); (B) the sale of all or substantially all of the assets of Asterias; (C) a merger or consolidation of Asterias with or into another corporation or entity (irrespective of whether Asterias is the surviving corporation in such merger or consolidation) in which the stockholders of Asterias immediately before such merger or consolidation do not own, in substantially the same percentages, Voting Securities of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity) entitling them, in the aggregate (and without regard to whether they constitute an Affiliated Group) to elect a majority of the directors or persons holding similar powers of the surviving corporation or entity (or the ultimate parent of the surviving corporation or entity); or (D) a change in the composition of the Board occurring within a twelve (12) month period, as a result of which the incumbent directors cease to constitute at least a majority of the Board.

(iv) "Disability" shall mean Employee's inability to perform the essential functions of Employee's job responsibilities for a period of one hundred eighty (180) days in the aggregate in any twelve (12) month period.

(v) "Good Reason" means (A) a diminution in Employee's base salary; (B) a material change in geographic location at which Employee must perform services (a change in location of Asterias office at which Employee will primarily work will be considered material only if it increases Employee's current average one-way commute time by more than twenty five percent (25%)); (C) any material failure of the successors to Asterias after a Change of Control to perform, or causing Asterias not to perform, Asterias' obligations under this Agreement; (D) any action or inaction of Asterias that constitutes a material breach of the terms of this Agreement; or (E) any other material adverse change in Employee's duties, authorities, responsibilities, or reporting structure, provided, however, that Good Reason shall not be deemed to have occurred unless (A) Employee shall first have provided written notice of said Good Reason to Asterias within thirty (30) days of the occurrence of the event(s) giving rise to Good Reason, reasonably explaining such events in said written notice, and (B) Asterias shall have failed to cure said Good Reason within thirty (30) days of its receipt of Employee's written notice, and (C) Employee shall have provided written notice of termination within thirty (30) days of the expiration of Asterias' 30-day cure period.

(vi) "Person" means any natural person or any corporation, partnership, limited liability Asterias, trust, unincorporated business association, or other entity.

(vii) "Voting Securities" means shares of capital stock or other equity securities entitling the holder thereof to regularly vote for the election of directors (or for person performing a similar function if the issuer is not a corporation), but does not include the power to vote upon the happening of some condition or event which has not yet occurred.

6. Turnover of Property and Documents on Termination. Executive agrees that on or before termination of Executive's employment, Executive will return to Asterias and all Related Companies all equipment and other property belonging to Asterias and the Related Companies, and all originals and copies of Confidential Information (in any and all media and formats, and including any document or other item containing Confidential Information) in Executive's possession or control, and all of the following (in any and all media and formats, and whether or not constituting or containing Confidential Information) in Executive's possession or control: (a) lists and sources of customers; (b) proposals or drafts of proposals for any research grant, research or development project or program, marketing plan, licensing arrangement, or other arrangement with any third party; (c) reports, job or laboratory notes, specifications, and drawings pertaining to the research, development, products, patents, and technology of Asterias and any Related Companies; (d) any and all Intellectual Property developed by Executive during the course of employment; and (e) the Manual and memoranda related to the Policies.

7. Arbitration. Except for injunctive proceedings against unauthorized disclosure of Confidential Information, any and all claims or controversies between Asterias or any Related Company and Executive, including but not limited to (a) those involving the construction or application of any of the terms, provisions, or conditions of this Agreement or the Policies; (b) all contract or tort claims of any kind; and (c) any claim based on any federal, state, or local law, statute, regulation, or ordinance, including claims for unlawful discrimination or harassment, shall be settled by arbitration in accordance with the then current Employment Dispute Resolution Rules of the American Arbitration Association. Judgment on the award rendered by the arbitrator(s) may be entered by any court having jurisdiction over the Company and Executive. The location of the arbitration shall be San Francisco, California. Unless Asterias or a Related Company and Executive mutually agree otherwise, the arbitrator shall be a retired judge selected from a panel provided by the American Arbitration Association, or the Judicial Arbitration and Mediation Service (JAMS). Asterias, or a Related Company if the Related Company is a party to the arbitration proceeding, shall pay the arbitrator's fees and costs. Executive shall pay for Executive's own costs and attorneys' fees, if any. Asterias and any Related Company that is a party to an arbitration proceeding shall pay for its own costs and attorneys' fees, if any. However, if any party prevails on a statutory claim which affords the prevailing party attorneys' fees, the arbitrator may award reasonable attorneys' fees and costs to the prevailing party.

EXECUTIVE UNDERSTANDS AND AGREES THAT THIS AGREEMENT TO ARBITRATE CONSTITUTES A WAIVER OF EXECUTIVE'S RIGHT TO A TRIAL BY JURY OF ANY MATTERS COVERED BY THIS AGREEMENT TO ARBITRATE.

8. Severability. In the event that any of the provisions of this Agreement or the Policies shall be held to be invalid or unenforceable in whole or in part, those provisions to the extent enforceable and all other provisions shall nevertheless continue to be valid and enforceable as though the invalid or unenforceable parts had not been included in this Agreement or the Policies. In the event that any provision relating to a time period of restriction shall be declared by a court of competent jurisdiction to exceed the maximum time period such court deems reasonable and enforceable, then the time period of restriction deemed reasonable and enforceable by the court shall become and shall thereafter be the maximum time period.

9. Agreement Read and Understood. Executive acknowledges that Executive has carefully read the terms of this Agreement, that Executive has had an opportunity to consult with an attorney or other representative of Executive's own choosing regarding this Agreement, that Executive understands the terms of this Agreement, and that Executive is entering this agreement of Executive's own free will.

10. Complete Agreement, Modification. This Agreement is the complete agreement between Executive and Asterias on the subjects contained in this Agreement. This Agreement supersedes and replaces all previous correspondence, promises, representations, and agreements, if any, either written or oral with respect to Executive's employment by Asterias or any Related Company and any matter covered by this Agreement. No provision of this Agreement may be modified, amended, or waived except by a written document signed both by Asterias and Executive.

11. Governing Law. This Agreement shall be construed and enforced according to the laws of the State of California.

12. Assignability. This Agreement, and the rights and obligations of Executive and Asterias under this Agreement, may not be assigned by Executive. Asterias may assign any of its rights and obligations under this Agreement to any successor or surviving corporation, limited liability company, or other entity resulting from a merger, consolidation, sale of assets, sale of stock, sale of membership interests, or other reorganization, upon condition that the assignee shall assume, either expressly or by operation of law, all of Asterias's obligations under this Agreement.

13. Survival. This Section 13 and the covenants and agreements contained in Sections 4, 6, and 7 of this Agreement shall survive termination of this Agreement and Executive's employment.

14. Notices. Any notices or other communication required or permitted to be given under this Agreement shall be in writing and shall be mailed by certified mail, return receipt requested, or sent by next business day air courier service, or personally delivered to the party to whom it is to be given at the address of such party set forth on the signature page of this Agreement (or to such other address as the party shall have furnished in writing in accordance with the provisions of this Section 14).

IN WITNESS WHEREOF, Executive and Asterias have executed this Agreement on the day and year first above written.

EXECUTIVE:

/s/ Ryan Chavez
(Signature)

Ryan Chavez
(Please Print Name)

ASTERIAS:

Asterias Biotherapeutics, Inc.

s/ Michael Mulroy
(Signature)

By: Michael Mulroy
Title: Chief Executive Officer



BIOTIME AND ASTERIAS BIOTHERAPEUTICS ENTER INTO DEFINITIVE MERGER AGREEMENT TO CREATE LEADING CELL THERAPY COMPANY

BioTime Acquires Two Clinical-Stage Cell Therapy Product Candidates Addressing Significant Unmet Needs in Spinal Cord Injury and Immunology

Asterias Stockholders to Receive 0.71 Shares of BioTime for Each Share of Asterias Biotherapeutics

ALAMEDA, CA and FREMONT, CA – November 8, 2018 - BioTime, Inc. (NYSE American and TASE: BTX), and Asterias Biotherapeutics, Inc. (“Asterias”) (NYSE American: AST), today announced that they have entered into a definitive merger agreement whereby BioTime will acquire all of the remaining outstanding common stock of Asterias that are not currently owned by BioTime. Asterias stockholders will receive 0.71 shares of BioTime common shares for every share of Asterias common stock and will own approximately 16.2% of the combined company. Subject to customary closing conditions, including approval by the respective shareholders of BioTime and Asterias, the transaction is expected to be completed in the first quarter of 2019.

“Our vision is to build BioTime into a premier cell therapy company and this acquisition can support that transformation as it not only diversifies our pipeline with two additional clinical-stage assets addressing high unmet medical needs, but also adds partnerships with notable institutions such as the California Institute for Regenerative Medicine and Cancer Research UK,” stated Brian M. Culley, Chief Executive Officer of BioTime. “We believe this merger is an exciting opportunity for BioTime’s shareholders to benefit from the potential future value of a more differentiated pipeline as well as the opportunity to impact disease areas that are in desperate need of innovative therapeutic approaches.”

“This transaction can create substantial value for our stockholders, employees and our clinical programs,” stated Michael Mulroy, Chief Executive Officer of Asterias. “The stock merger structure provides Asterias stockholders the ability to continue their investment in our clinical programs in spinal cord injury and non-small cell lung cancer as part of a larger, more diversified company with greater resources.”

Asterias’ Pipeline

OPC1– Innovative Phase 2 Program for the Treatment of Severe Spinal Cord Injury

- OPC1 is a cellular therapy utilizing oligodendrocyte progenitor cells (OPCs), which in preclinical testing, has demonstrated potentially reparative functions that address the complex pathologies observed in demyelination disorders, such as spinal cord injury and multiple neurodegenerative diseases, including multiple sclerosis and white matter stroke. The potential reparative functions of OPC1 include the production of neurotrophic factors, the stimulation of vascularization, and the induction of remyelination of denuded axons, all of which are critical for survival, regrowth, and conduction of nerve impulses through axons at the injury site.
- Asterias is currently completing a Phase 1/2a clinical trial (the “SCiStar Study”) for severe spinal cord injury where there currently are no approved therapies. The results from the SCiStar Study have been promising:
 - **Safety Profile:** Results-to-date for the SCiStar Study have shown no evidence of adverse changes in any of the subjects treated with OPC1. To date, there have been no serious adverse events (SAEs) related to the OPC1 cells.
 - **Cell Engraftment:** Over 95% of subjects in the SCiStar Study have magnetic resonance imaging (MRI) scans consistent with the formation of a tissue matrix at the injury site, which is encouraging evidence that OPC1 cells have engrafted at the injury site and helped to prevent cavitation.
 - **Motor Function Recovery:** Many of the patients in the SCiStar Study have shown promising upper extremity motor recovery in their arms, hands and fingers.
- An independent data review meeting was held recently to discuss the latest results from the SCiStar Study and positive feedback was received from the outside medical and scientific experts on the panel.
- A meeting with the FDA under OPC1’s RMAT designation is scheduled for later this year to discuss the trial design of the next OPC1 study.
- A final update on the SCiStar Study results is expected in the first quarter of 2019.
- The SCiStar Study has been partially funded by a \$14.3 million grant from the California Institute for Regenerative Medicine (CIRM) and there is the potential to obtain additional non-dilutive funding in 2019 to partially offset the cost of OPC1’s next phase of clinical development.

VAC2 – Phase 1 Program for the Treatment of Non-Small Cell Lung Cancer (NSCLC) Partnered with Cancer Research UK

- VAC2 is a non-patient-specific, or “allogeneic,” cancer immunotherapy candidate. VAC2 cells are engineered to express a protein widely expressed in tumor cells but rarely found in normal cells. The VAC2 antigen presenting dendritic cells instruct the immune system to generate responses against tumor cells.
- VAC2 currently is being investigated in a Phase 1 study for the treatment of NSCLC and is sponsored and conducted by Cancer Research UK.
 - The safety data from the first three subjects has been reviewed by the study’s Safety Review Committee which found VAC2 to be safe and well-tolerated in those subjects.
 - The study currently is enrolling subjects in the advanced disease cohort of the study and immune response and survival data are expected during 2019 and 2020. The study design also includes a cohort of less advanced patients where tumors have been resected.
- VAC2 is potentially complementary and synergistic with other immune therapies such as immune checkpoint inhibitors.
- In addition to being investigated in NSCLC, a leading cause of cancer deaths, VAC2 is a platform technology that has the potential to be applied to other solid and liquid tumors and to deliver additional or different antigens depending on the cancer type.

About the Proposed Merger

Under the terms of the merger agreement, Asterias stockholders will receive 0.71 common share of BioTime for each share of common stock of Asterias they own upon closing of the merger. The merger agreement, the merger and the other transactions contemplated in the merger agreement have been approved by the board of directors of Asterias (by unanimous vote of the disinterested members of the Asterias board of directors, acting upon the recommendation of a special committee comprised of only disinterested and independent members of the board of directors of Asterias). The merger agreement, the merger, the issuance of the BioTime shares in the merger and the other transactions contemplated in the merger agreement have been approved by the board of directors of BioTime (by unanimous vote of the disinterested members of the BioTime board of directors acting upon the unanimous recommendation of a special committee comprised of only disinterested and independent directors of BioTime). The merger is expected to close during the first quarter of 2019, subject to approval of the merger by the BioTime and Asterias stockholders, and other customary closing conditions.

The combined company will be led by Brian M. Culley, President and Chief Executive Officer of BioTime. It is expected that, following closing of the transaction, BioTime's Board of Directors will consist of nine members, with Don Bailey, Chairman of Asterias' Board of Directors, joining the BioTime Board of Directors and Mr. Mulroy, Asterias' Chief Executive Officer, remaining on the BioTime Board.

Pursuant to the terms of a "go-shop" provision in the merger agreement, between the date of the merger agreement and December 3, 2018, Asterias and its representatives may solicit, discuss or negotiate alternative proposals from third parties for the acquisition of Asterias. Following the expiration of this go-shop period, Asterias will become subject to customary "no shop" restrictions on its and its representatives' ability to solicit, discuss or negotiate alternative acquisition proposals from third parties, subject to exceptions for acquisition proposals that the Asterias board of directors and the Asterias special committee has determined constitutes or is reasonably expected to constitute a Superior Proposal (as defined in the merger agreement), and further subject to compliance with certain conditions.

BioTime's financial advisor in the transaction is Maxim Group LLC. Raymond James is acting as financial advisor to Asterias. Cooley LLP is serving as legal counsel to BioTime and Dentons LLP is serving as legal counsel to Asterias.

About BioTime, Inc.

BioTime is a clinical-stage biotechnology company focused on the development and commercialization of novel therapies for the treatment of degenerative diseases. BioTime's pipeline is based on two platform technologies which encompass cell replacement and cell/drug delivery. BioTime's lead cell replacement product candidate is OpRegen®, a retinal pigment epithelium transplant therapy in Phase 2 development for the treatment of dry age-related macular degeneration, the leading cause of blindness in the developed world. BioTime's lead cell delivery clinical program is Renevia®, an investigational medical device being developed as an alternative for whole adipose tissue transfer procedures. BioTime also has significant equity holdings in two publicly traded companies, Asterias Biotherapeutics, Inc. (NYSE American: AST) and OncoCyte Corporation (NYSE American: OCX), and a private company, AgeX Therapeutics, Inc.

BioTime common stock is traded on the NYSE American and TASE under the symbol BTX. For more information, please visit www.biotime.com or connect with the company on [Twitter](#), [LinkedIn](#), [Facebook](#), [YouTube](#), and [Google+](#). To receive ongoing BioTime corporate communications, please click on the following link to join the Company's email alert list: <http://news.biotime.com>.

About Asterias Biotherapeutics, Inc.

Asterias Biotherapeutics, Inc. is a biotechnology company dedicated to developing cell-based therapeutics to treat neurological conditions associated with demyelination and cellular immunotherapies to treat cancer. Asterias is presently focused on advancing two clinical-stage programs which have the potential to address areas of high unmet medical need in the fields of neurology and oncology. OPC1 (oligodendrocyte progenitor cells) is currently in a Phase 1/2a dose escalation clinical trial in spinal cord injury. VAC2 (antigen-presenting allogeneic dendritic cells) is an allogeneic cancer immunotherapy. The Company's research partner, Cancer Research UK, has commenced a first-in-human clinical trial of VAC2 in non-small cell lung cancer. Additional information about Asterias can be found at www.asteriasbiotherapeutics.com.

Additional Information and Where to Find It

This communication is being made in respect of the proposed business combination involving BioTime, Inc. and Asterias Biotherapeutics, Inc. In connection with the proposed transaction, BioTime and Asterias plan to file documents with the U.S. Securities and Exchange Commission (the “SEC”), including the filing by BioTime of a Registration Statement on Form S-4 containing a Joint Proxy Statement/Prospectus and each of BioTime and Asterias plan to file with the SEC other documents regarding the proposed transaction. **INVESTORS AND SECURITY HOLDERS OF BIOTIME AND ASTERIAS ARE URGED TO CAREFULLY READ THE JOINT PROXY STATEMENT/PROSPECTUS (WHEN AVAILABLE) AND OTHER DOCUMENTS FILED WITH THE SEC BY BIOTIME AND ASTERIAS BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION.** Investors and security holders may obtain free copies of these documents (when they are available) and other documents filed with the SEC at the SEC’s web site at www.sec.gov and by contacting BioTime Investor Relations at (510) 871-4188 or Asterias Investor Relations at (510) 456-3892. Investors and security holders may obtain free copies of the documents filed with the SEC on BioTime’s website at www.biotimeinc.com or Asterias’ website at www.asteriasbiotherapeutics.com or the SEC’s website at www.sec.gov.

BioTime, Asterias and their respective directors and executive officers may be deemed participants in the solicitation of proxies with respect to the proposed transaction. Information regarding the interests of these directors and executive officers in the proposed transaction will be included in the Joint Proxy Statement/Prospectus described above. Additional information regarding the directors and executive officers of BioTime is also included in BioTime’s proxy statement for its 2018 Annual Meeting of Shareholders, which was filed with the SEC on March 29, 2018, and additional information regarding the directors and executive officers of Asterias is also included in Asterias’ proxy statement for its 2018 Annual Meeting of Stockholders, which was filed with the SEC on April 30, 2018, respectively.

No Offer or Solicitation

This document does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Forward-Looking Statements

Certain statements in this communication, including statements relating to the Merger Agreement, the Merger and the other transactions contemplated by the Merger Agreement and the combined company’s future financial condition performance and operating results, strategy and plans, including the design, status, funding and timing of the clinical trials and further development and potential of the product candidates are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995 giving BioTime’s and Asterias’ expectations or predictions of future financial or business performance or conditions. These forward-looking statements are subject to numerous assumptions, risks and uncertainties which change over time. Forward-looking statements speak only as of the date they are made and we assume no duty to update forward-looking statements. In addition to factors previously disclosed in BioTime’s and Asterias’ reports filed with the SEC and those identified elsewhere in this communication, the following factors, among others, could cause actual results to differ materially from forward-looking statements and historical performance: the ability to meet closing conditions to the Merger, including requisite approval by BioTime’s and Asterias’ stockholders, on a timely basis or at all; delay in closing the Merger; the ultimate outcome and results of integrating the operations of BioTime and Asterias and the ultimate ability to realize synergies and other benefits; business disruption following the Merger; the availability and access, in general, of funds to fund operations and necessary capital expenditures. More information on potential factors that could affect our results is included from time to time in the SEC filings and reports of BioTime and Asterias, including the risks identified under the sections captioned “Risk Factors” in BioTime’s quarterly report on Form 10-Q filed with the SEC on November 8 and Asterias’ annual report on Form 10-K for the year ended December 31, 2017 filed with the SEC on March 15, 2018, and Asterias’ quarterly report on Form 10-Q for the quarter ended September 30, 2018, which Asterias expects to file on November 9, 2018.

BioTime Inc. IR

Ioana C. Hone

ir@biotimeinc.com

(510) 871-4188

Solebury Trout IR

Gitanjali Jain Ogawa

Gogawa@troutgroup.com

(646) 378-2949

Asterias Biotherapeutics IR

Investor Relations

(510) 456-3892

InvestorRelations@asteriasbio.com

EVC Group LLC

Michael Polyviou

mpolyviou@evcgroup.com

732-232-6914

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