

Pursuant to Rule 425 under the Securities Act of 1933
and deemed filed pursuant to Rule 14a-12 of the
Securities Exchange Act of 1934

Subject Corporation:
Asterias Biotherapeutics, Inc.
Commission File No.: 001-36646

November 8, 2018

Dear Asterias Employees:

I am writing to share some important and exciting news about our company. Today we announced that Asterias has entered into an agreement to merge with BioTime to create a leading cell therapy company with clinical programs in dry age-related macular degeneration (dry-AMD), spinal cord injury and immuno-oncology. In addition to the broader pipeline, the combined company will have a stronger financial profile and is expected to have greater access to capital than either Asterias or BioTime would have on their own. In short, this transaction would create a combined company that can be better positioned to advance its important clinical programs that seek to provide therapeutic benefit in areas of high unmet medical need.

Upon the closing of the transaction, which we expect to occur sometime in the first quarter of 2019, it is anticipated that our activities here in Fremont as well as in the U.K. will be led by Ed Wirth, reporting to the BioTime CEO, Brian Culley. Additionally, I will remain on the BioTime Board of Directors, and it is anticipated that I will head a new committee of the BioTime Board to work with Brian in connection with post-closing integration activities and other efforts to continue BioTime's strategy of streamlining its corporate structure and operations. Additionally, I will be joined on the BioTime Board by our own Board Chairman Don Bailey.

Under the terms of the merger agreement, Asterias stockholders other than BioTime itself will receive 0.71 BioTime shares for each share of Asterias common stock they own, as a result of which our non-BioTime stockholders will own approximately 16.2% of the combined company's shares. A copy of the press release issued this morning is attached. The transaction is subject to specified closing conditions, including approval of the transaction by our stockholders as well as the shareholders of BioTime.

BioTime is a clinical-stage biotechnology company targeting degenerative diseases. Its lead cell replacement clinical program is OpRegen®, a retinal pigment epithelium cell replacement therapy, is in a Phase I/IIa, multicenter trial for the treatment of late-stage, dry age-related macular degeneration (dry-AMD). There are currently no FDA-approved therapies for dry-AMD, which accounts for approximately 90% of all age-related macular degeneration cases, and is the leading cause of blindness in people over the age of 60. Over the past 12 months, BioTime has taken several steps to reorganize and simplify its operations in a manner that has made its transaction with Asterias more achievable, including taking full control of its operations in Israel, divesting its early-stage research programs through the formation and sale / distribution of AgeX Therapeutics, and simplifying its executive leadership by moving to a single CEO structure.

I've gotten to know BioTime's new Chief Executive Officer and I'm impressed with his depth of experience in the biopharma space and specifically with clinical stage companies. Since receiving his Masters Degree in Molecular, Cellular & Developmental Biology from The University of California, Santa Barbara in 1996, Brian has worked in a variety of roles in the industry, including both bench scientist and chief executive officer. During this time he has been involved in multiple endeavors including capital raising and corporate development. Brian is an excellent leader, he believes in the future of cell therapy, and I look forward to continuing to work with him as a member of the combined company's board of directors. This is an exciting time for us, and I am highly confident about the future of our programs.

We are very excited about the potential for the combined organization. Together, we expect to be a larger, more diversified company with enhanced process development, manufacturing, clinical development and financial capabilities that we expect will allow us to continue to advance our clinical programs. The combined company is expected to have better access to capital given BioTime's membership in the Russell 2000 index and the fact that its shares trade on both the NYSE American and the TASE exchange in Israel. As of September 30, 2018, BioTime had \$21 million in cash (\$31 million after including the additional \$11 million it received last week from its AgeX Therapeutics transaction). As you may be aware, BioTime recently sold a portion of its shares of AgeX, one of its subsidiaries holding certain pre-clinical assets, for a total of \$43 million.

In terms of next steps, pending approval of the transaction we are assembling a team comprised of people from both companies that will develop plans to integrate Asterias and BioTime following the closing of the transaction. Given the complementary operations of both companies, we expect this integration and transition to be relatively straightforward. However, I understand that this is a major and unexpected announcement, and that it will create questions for many of you. We will do our best to answer your questions. Our ability to proceed with any integration efforts is limited until the closing of the transaction so both parties will continue business in the ordinary course. This means that it's important that we all continue to focus on our business and execute in the same outstanding manner as we have to this point.

We are committed to keeping you informed as we move through this process, and we will hold a series of meetings with Asterias employees to provide details as they emerge and to answer questions. Although a few of you met Brian when he visited our facility last month, we expect he'll be in Fremont again as soon as he returns from a pre-scheduled trip to Israel and the UK next week.

Finally, today's announcement may lead to questions or contacts from a variety of outside parties. As all Asterias employees are already well aware, of course, if you receive any inquiries from the media or investment community, please forward them to Ryan Chavez, Chief Financial Officer and General Counsel, at rchavez@asteriasbio.com.

Thanks to your dedication and talent, we have made tremendous strides in advancing our CMC efforts and clinical programs since the Company commenced operations in 2013. Your individual contributions and teamwork have made us the company we are today, and we look forward to the talented people of the combined organization continuing to work to advance our programs as part of a larger company with greater access to capital. I hope that all of you will share my enthusiasm for this compelling combination.

Sincerely,

/s/Michael Mulroy

Michael Mulroy
President and CEO

Important Information

Additional Information and Where to Find It

This communication is being made in respect of the proposed business combination involving BioTime and Asterias. In connection with the proposed transaction, BioTime and Asterias 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 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.

Participants in the Solicitation

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.

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' stockholders and shareholders, 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 and Asterias' annual report on Form 10-K 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.
