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

Form 6-K

Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
under the Securities Exchange Act of 1934

For the month of: November 2017 (Report No. 4)

Commission file number: 001-35932

**ARCTURUS THERAPEUTICS LTD.**  
(Translation of registrant's name into English)

10628 Science Center Drive, Suite 200  
San Diego, California 92121  
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F  Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulations S-T Rule 101(b)(1): \_\_\_\_\_

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulations S-T Rule 101(b)(7): \_\_\_\_\_

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### ***Business Combination with Arcturus Therapeutics, Inc.***

On November 15, 2017, Arcturus Therapeutics Ltd. (formerly known as Alcobra Ltd.) (the “Registrant”) completed its business combination with what was then known as “Arcturus Therapeutics, Inc.” (“Private Arcturus”) in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated as of September 27, 2017, by and among the Registrant, Aleph MergerSub, Inc. (“Merger Sub”), and Private Arcturus (the “Merger Agreement”), pursuant to which Merger Sub merged with and into Private Arcturus, with Private Arcturus surviving as a wholly owned subsidiary of the Registrant (the “Merger”). In connection with, and prior to the completion of, the Merger, the Registrant effected a 7-for-1 reverse stock split of the Registrant’s Ordinary Shares (the “Reverse Share Split”). The transactions contemplated by the Merger Agreement (including the Merger and the Reverse Stock Split) were approved by the Registrant’s shareholders at the extraordinary general meeting of shareholders held on November 12, 2017.

In connection with the Merger, the Registrant changed its name to “Arcturus Therapeutics Ltd.” and the business conducted by the Registrant became primarily the business conducted by Private Arcturus, which is a preclinical RNA medicines company focused on developing RNA technologies and novel RNA therapeutics for rare, infectious, fibrotic, and respiratory diseases with significant unmet medical needs.

Immediately prior to and in connection with the Merger, each outstanding share of Private Arcturus’s capital stock (other than common stock), whether in the form of preferred stock, warrants and convertible notes, was converted into one share of Private Arcturus’s common stock at ratios determined in accordance with Private Arcturus’s certificate of incorporation then in effect. Under the terms of the Merger Agreement, at the effective time of the Merger, the Registrant issued Ordinary Shares to Private Arcturus stockholders, at an exchange ratio of 0.293 Ordinary Shares (after taking into account the Reverse Share Split) per share of Private Arcturus common stock outstanding immediately prior to the Merger. The exchange ratio was determined through arms’-length negotiations between the Registrant and Private Arcturus. An aggregate of approximately 6,631,712 Ordinary Shares were issued to the Private Arcturus stockholders in the Merger. The Registrant also assumed all of the stock options issued and outstanding under Private Arcturus’s 2013 Equity Incentive Plan with such stock options henceforth representing the right to purchase a number of Ordinary Shares equal to 0.293 multiplied by the number of shares of Private Arcturus’s common stock previously represented by such stock options (after taking into account the Reverse Share Split).

Immediately after the Merger, there were approximately 10,568,901 Ordinary Shares outstanding. Immediately after the Merger, the former Private Arcturus stockholders, warrant holders and note holders owned approximately 63.2% of the fully-diluted Ordinary Shares, with the Registrant’s shareholders immediately prior to the Merger, whose Ordinary Shares remain outstanding after the Merger, owning approximately 36.8% of the fully-diluted Ordinary Shares.

The Ordinary Shares of Alcobra Ltd. listed on The Nasdaq Global Market, previously trading through the close of business on November 14, 2017 under the ticker symbol “ADHD,” commenced trading on The Nasdaq Global Market, under the ticker symbol “ARCT,” on November 16, 2017. The Ordinary Shares have a new CUSIP number, M1492T 105.

The foregoing description of the Merger and the Merger Agreement is not complete and is subject to and qualified in its entirety by reference to the Merger Agreement, a copy of which is attached as Exhibit 99.2 to the Report of Foreign Private Issuer on Form 6-K furnished to the Securities and Exchange Commission on September 28, 2017, and which is incorporated herein by reference.

On November 16, 2017, the Registrant issued a press release announcing the completion of the Merger. A copy of the press release is attached as Exhibit 99.1 to this Report of Foreign Private Issuer on Form 6-K and is incorporated herein by reference.

### ***Sale of ADAIR Assets***

Prior to the completion of the Merger, Alcobra signed an asset purchase agreement for the sale of its Abuse-Deterrent Amphetamine Immediate-Release (ADAIR) development assets to an investor group. Subject to the terms and conditions of the asset purchase agreement and the consummation of the sale, the investor group will invest \$3 million in an OTC listed company that will own the ADAIR assets and continue its development. Arcturus Therapeutics Ltd will own 30% of the OTC listed company’s shares and be entitled to one board representative.

This Form 6-K is incorporated by reference into the Registration Statements on Form F-3 (File No. 333- 209960) and Form S-8 (File No. 333-194875, File No. 333-202394, File No. 333-209947 and File No. 333-217556) of the Registrant, filed with the SEC, to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

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**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.

Dated: November 16, 2017

**Arcturus Therapeutics Ltd.**

By: /s/ Joseph Payne

Name: Joseph Payne

Title: President and Chief Executive Officer

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**EXHIBIT INDEX**

Exhibit  
No.

Description

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99.1	Press release issued by the Registrant on November 16, 2017.
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**Arcturus Therapeutics Announces Completion of Merger with Alcobra Ltd.  
and Commences Trading on the Nasdaq Global Market**

- *Combined Company Commences Trading on the Nasdaq Global Market on November 16, 2017 under the Ticker Symbol “ARCT”*
- *Approximately \$50.1 Million in Net Cash Following Closing of the Merger*
- *Ten (10) Pipeline Programs, Six (6) of Which Are Externally Funded by Pharmaceutical and Strategic Partners*
- *Arcturus Recently Signed New Strategic Collaborations with Johnson & Johnson Innovation and Synthetic Genomics, Inc.*

**San Diego, California, November 16, 2017** – Arcturus Therapeutics Ltd. (Nasdaq: ARCT), a leading RNA medicines company, announced today the completion of its previously announced merger with Alcobra Ltd. (Nasdaq: ADHD), effective as of November 15, 2017. The combined company has net cash of approximately \$50.1 million, following the merger, for use in funding its research and development activities focused on novel RNA medicines in therapeutic areas including rare liver diseases, infectious diseases, cystic fibrosis, nonalcoholic steatohepatitis (NASH) and replicon RNA vaccines.

Pursuant to the merger, the holders of shares of Arcturus Therapeutics common stock outstanding immediately prior to the merger received 0.293 shares of Alcobra ordinary shares in exchange for each share of Arcturus common stock in the merger. The exchange ratio reflects a 7-for-1 reverse share split effected by Alcobra prior to the completion of the merger. Following completion of the merger, the combined company has approximately 10,568,901 ordinary shares outstanding.

Following completion of the merger, Alcobra changed its name to Arcturus Therapeutics Ltd. The combined company will commence trading today on the Nasdaq Global Market under the ticker symbol “ARCT.”

“The evolution of Arcturus Therapeutics continues as we embark on a new chapter for the company as a publicly-traded entity with confidence and optimism,” said Joseph Payne, President and Chief Executive Officer of Arcturus. “We are now better positioned to accelerate the growth of the company and advance our exciting pipeline of RNA medicines.”

“As we focus on the advancement of our internal rare disease programs, we continue to pursue strategic partnerships that address significant human health challenges using our enabling platform technologies,” continued Mr. Payne. “Since announcing the merger in September, we have successfully secured new partnerships with Johnson & Johnson Innovation to develop and commercialize infectious disease medicines and with Synthetic Genomics to develop next-generation vaccines.”

Prior to the completion of the merger, Alcobra signed an asset purchase agreement for the sale of its Abuse-Deterrent Amphetamine Immediate-Release (ADAIR) development program to an investor group. Additional details pertaining to this transaction are set forth in a 6-K filed with the Securities and Exchange Commission on November 16, 2017.

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The combined company is headquartered in San Diego, California, and led by the leadership of Arcturus, including Joseph Payne, as President and Chief Executive Officer, Pad Chivukula, PhD, as Chief Scientific Officer and Chief Operating Officer, and Stuart Collinson, PhD, serving as Executive Chairman. The board of directors of the combined company includes Joseph Payne, MSc, Pad Chivukula, PhD, Craig Willett, MACC, Stuart Collinson, PhD, Daniel Geffken, MBA, Orli Tori, MSc, and David Shapiro, MD.

Ladenburg Thalmann & Co. Inc., acted as exclusive financial advisor and Zysman, Aharoni, Gayer and Sullivan & Worcester LLP (ZAG/S&W), New York and Tel Aviv offices, acted as legal advisors to Alcobra. Cooley LLP and Meitar Liquornik Geva Leshem Tal acted as legal advisors to Arcturus. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. is serving as legal advisor to Ladenburg Thalmann & Co. Inc.

#### ***About Arcturus Therapeutics Ltd.***

Founded in 2013 and based in San Diego, Arcturus Therapeutics Ltd. is an RNA medicines company with enabling technologies – UNA Oligomer chemistry and LUNAR™ lipid-mediated delivery. Arcturus’s versatile RNA therapeutics platforms can be applied toward multiple types of RNA medicines including small interfering RNA, messenger RNA, replicon RNA, antisense RNA, microRNA and gene editing therapeutics. The company owns LUNAR lipid-mediated delivery and Unlocked Nucleomonomer Agent (UNA) technology including UNA Oligomers, which are covered by its extensive patent portfolio (120 patents and patent applications, issued in the U.S., Europe, Japan, China and other countries). Arcturus’s proprietary UNA technology can be used to target individual genes in the human genome, as well as viral genes, and other species for therapeutic purposes. The company’s commitment to the development of novel RNA therapeutics has led to partnerships with Janssen Pharmaceuticals, Inc., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, Ultragenyx Pharmaceutical, Inc., Takeda Pharmaceutical Company Limited, Synthetic Genomics Inc., and Cystic Fibrosis Foundation Therapeutics Inc. For more information, visit [www.ArcturusRx.com](http://www.ArcturusRx.com), the content of which is not incorporated herein by reference.

#### ***Forward-looking Statements***

This press release contains “forward-looking statements” that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this press release regarding strategy, future operations, collaborations, future financial position, prospects, plans and objectives of management are forward-looking statements. Examples of such statements include, but are not limited to, statements relating to the combined company’s continued listing on the Nasdaq Global Market after closing of the proposed merger; expectations regarding the capitalization, resources and ownership structure of the combined company; leadership of the combined company; the adequacy of the combined company’s capital to support its future operations and its ability to successfully initiate and complete clinical trials; the nature, strategy and focus of the combined company; the development and commercial potential and potential benefits of any product candidates of the combined company; and the entry into or modification of collaborative arrangements. The combined company may not actually achieve the plans, carry out the intentions or meet the expectations or projections disclosed in the forward-looking statements and you should not place undue reliance on these forward-looking statements. Such statements are based on management’s current expectations and involve risks and uncertainties. Actual results and performance could differ materially from those projected in the forward-looking statements as a result of many factors, including, without limitation, risks and uncertainties associated with the ability to project future cash utilization and reserves needed for contingent future liabilities and business operations and the availability of sufficient resources of the combined company to meet its business objectives and operational requirements.

The forward-looking statements contained or implied in this press release are subject to other risks and uncertainties, including those discussed under the heading “Risk Factors” in Alcobra’s Annual Report on Form 20-F for the fiscal year ended December 31, 2016, filed with the Securities and Exchange Commission (SEC) and in subsequent filings with the SEC. Except as otherwise required by law, Arcturus and Alcobra each disclaim any intention or obligation to update or revise any forward-looking statements, which speak only as of the date they were made, whether as a result of new information, future events or circumstances or otherwise.

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