

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

FORM S-8

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ARCTURUS THERAPEUTICS HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of
Incorporation)

32-0595345
(I.R.S. Employer
Identification Number)

10628 Science Center Drive, Suite 250
San Diego, California 92121
(Address, including zip code, of registrant's principal executive offices)

2020 Employee Stock Purchase Plan
(Full title of the plan)

Joseph E. Payne
Chief Executive Officer
Arcturus Therapeutics Holdings Inc.
10628 Science Center Drive, Suite 250
San Diego, California 92121
(858) 900-2660
(Name and address, and telephone number, including area code, of agent for service)

Copies to:

Dentons US LLP
1221 Avenue of the Americas
New York, New York 10020
Jeffrey A. Baumel, Esq.
Ilan Katz, Esq.

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.001 per share reserved for issuance pursuant to the 2020 Employee Stock Purchase Plan (the "Plan")	600,000	\$52.73 (2)	\$31,638,000	\$4,107
Total	600,000	\$52.73 (2)	\$31,638,000	\$4,107

(1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.

(2) Estimated in accordance with Rule 457(h) solely for the purpose of calculating the registration fee on the basis of the average of the high and low prices of the Registrant's common stock as reported on the Nasdaq Stock Market on August 3, 2020.



PART I

INFORMATION REQUIRED IN THE PROSPECTUS

The documents containing the information specified by Part I, Items 1 and 2, of Form S-8 have been or will be delivered to participants in the plans covered by this Registration Statement, as specified in Rule 428(b)(1) promulgated by the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act") and the instructions to Form S-8. In accordance with the rules and regulations of the Commission and the instructions to Form S-8, such documents are not being filed with the Commission either as part of the Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act. These documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

Item 3. Incorporation of Documents by Reference.

The Registrant hereby incorporates by reference into this Registration Statement the following documents previously filed with the Commission:

1. The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, as filed with the SEC on March 16, 2020;
2. The Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, as filed with the SEC on May 8, 2020;
3. The Registrant's Current Reports on Form 8-K, as filed with the SEC on March 4, 2020, March 27, 2020, April 17, 2020, April 21, 2020, May 21, 2020, June 9, 2020, July 24, 2020 and July 29, 2020 (in each case, except for information contained therein which is furnished rather than filed); and
4. The description of the Registrant's common stock set forth in the registration statement on Form 8-A registering the Registrant's common stock under Section 12 of the Exchange Act, as filed with the SEC on May 17, 2013, including any amendments or reports filed for purposes of updating such description, including the Form 8-K12B filed on June 14, 2019.

Furthermore, all reports and other documents subsequently filed by us with the SEC pursuant to Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be a part of this Registration Statement from the date of filing of such reports and documents; provided, however, that documents or information deemed to have been furnished and not filed in accordance with the rules of the Commission should not be deemed incorporated by reference in this Registration Statement. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this Registration Statement modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable

Item 6. Indemnification of Directors and Officers.

The Registrant's certificate of incorporation and bylaws contain provisions that eliminate, to the fullest extent under applicable law, the personal liability of the Registrant's directors and executive officers for monetary damages. The Registrant's bylaws provide that the Registrant must indemnify its directors, officers, employees and agents to the fullest extent permitted by law.

Sections 145 and 102(b)(7) of the General Corporation Law of the State of Delaware provide that a corporation may indemnify any person made a party to an action by reason of the fact that he or she was a director, executive officer, employee or agent of the corporation or is or was serving at the request of a corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of an action by or in right of the corporation, no indemnification may generally be made in respect of any claim as to which such person is adjudged to be liable to the corporation.

The Registrant entered into indemnification agreements with its directors and executive officers, in addition to the indemnification provided for in its certificate of incorporation and bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant maintains insurance on behalf of each person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

See also the undertakings set out in response to Item 9 herein.

Item 7. Exemption from Registration Claimed.

Not Applicable.

Item 8. Exhibits.

See the Exhibit Index below for a list of exhibits filed as part of this Registration Statement, which Exhibit Index is incorporated herein by reference.

Item 9. Undertakings.

A. The undersigned Registrant hereby undertakes:

1. To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (A)(1)(i) and (A)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

2. That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

B. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

C. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

INDEX TO EXHIBITS

Exhibit No.	Description
4.1	Certificate of Incorporation of Arcturus Therapeutics Holdings Inc. (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-3 (File No. 333-238139), filed with the SEC on May 8, 2020)
4.2	Bylaws of Arcturus Therapeutics Holdings Inc. (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-3 (File No. 333-238139), filed with the SEC on May 8, 2020)
4.3*	2020 Employee Stock Purchase Plan
5.1*	Opinion of Dentons US LLP
23.1*	Consent of Independent Registered Public Accounting Firm
23.3*	Consent of Dentons US LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included on the signature page to this registration statement)

* Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement on Form S-8 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on August 4, 2020 .

ARCTURUS THERAPEUTICS HOLDINGS INC.

By: /s/ Joseph E. Payne
Name: Joseph E. Payne
Title: Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Arcturus Therapeutics Holdings Inc., hereby severally constitute and appoint Joseph E. Payne and Dr. Padmanabh Chivukula, and each of them individually, our true and lawful attorney to sign for us and in our names in the capacities indicated below any and all amendments or supplements, including any post-effective amendments, to this Registration Statement on Form S-8 and to file the same, with exhibits thereto and other documents in connection therewith, with the SEC, granting unto said attorney full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming our signatures to said amendments to this Registration Statement signed by our said attorney and all else that said attorney may lawfully do and cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement on Form S-8 has been signed below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Joseph E. Payne</u> Joseph E. Payne	President, Chief Executive Officer and Director (<i>principal executive officer</i>)	August 4, 2020
<u>/s/ Dr. Padmanabh Chivukula</u> Dr. Padmanabh Chivukula	Chief Scientific Officer, Chief Operating Officer and Secretary	August 4, 2020
<u>/s/ Dr. Peter Farrell</u> Dr. Peter Farrell	Chairman of the Board	August 4, 2020
<u>/s/ Andy Sassine</u> Andy Sassine	Director, Chief Financial Officer (<i>principal financial officer</i>)	August 4, 2020
<u>/s/ Dr. Magda Marquet</u> Dr. Magda Marquet	Director	August 4, 2020
<u>/s/ James Barlow</u> James Barlow	Director	August 4, 2020
<u>/s/ Dr. Edward Holmes</u> Dr. Edward Holmes	Director	August 4, 2020
<u>/s/ Karah Parschauer</u> Karah Parschauer	Director	August 4, 2020
<u>/s/ Keith C. Kummerfeld</u> Keith C. Kummerfeld	Vice President of Finance and Corporate Controller (<i>principal accounting officer</i>)	August 4, 2020

**ARCTURUS THERAPEUTICS HOLDINGS INC.
2020 EMPLOYEE STOCK PURCHASE PLAN**

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**ARCTURUS THERAPEUTICS HOLDINGS INC.
2020 EMPLOYEE STOCK PURCHASE PLAN**

**Article 1.
Purpose and Effective Date**

1.1 Effective Date. The Board of Directors of Arcturus Therapeutics Holdings Inc., a Delaware corporation (the “*Company*”), adopted the 2020 Employee Stock Purchase Plan (the “*Plan*”) effective as of June 5, 2020 (the “*Effective Date*”).

1.2 Purpose. The purpose of the Plan is to provide eligible employees of the Company or any Participating Subsidiary with an opportunity to purchase common stock of the Company through accumulated payroll deductions. It is the intention of the Company to have the Plan qualify as an “Employee Stock Purchase Plan” under Section 423 of the Internal Revenue Code of 1986, as amended. The provisions of the Plan, accordingly, shall be construed so as to extend and limit participation in a manner consistent with the requirements of that section of the Code.

**Article 2.
Definitions**

Whenever used in the Plan, the following terms shall have the meanings set forth below:

2.1 “Account” means a recordkeeping account maintained for a Participant to which payroll deductions are credited in accordance with Article 8 of the Plan.

2.2 “Administrator” means the Board or committee authorized to administer the Plan under Section 3.1.

2.3 “Accumulation Period” means a period determined by the Administrator that is no longer than twenty-seven (27) months; provided that unless otherwise determined by the Administrator, each Accumulation Period shall consist of one year terms commencing on July 1 of the applicable year or such other date specified from time to time by the Administrator. The Administrator may modify or suspend Accumulation Periods at any time and from time to time.

2.4 “Base Earnings” means regular salary and wages payable by the Company or a Participating Subsidiary to an Eligible Employee, prior to deductions for employee contributions to any employee benefit plans or arrangements, and excluding bonuses and other incentive pay, but including commissions. The Administrator, in its discretion, may establish a different definition of Compensation for any future Accumulation Period(s) prior to the commencement of such Accumulation Period.

2.5 “Board” means the Board of Directors of the Company.

2.6 “Code” means the Internal Revenue Code of 1986, as amended from time to time. References to a particular section of the Code include references to regulations and rulings thereunder and to successor provisions.

2.7 “Cut-Off Date” means the date established by the Administrator from time to time by which enrollment forms must be received with respect to an Accumulation Period.

2.8 “Effective Date” means July 1, 2020.

2.9 “Eligible Employee” means an Employee who is eligible to participate in the Plan in accordance with Article 5.

2.10 “Employee” means any common law employees of the Company or a Participating Subsidiary. “Employee” shall not include any individual classified by the Company or a Participating Subsidiary as either an independent contractor or an individual who provides services to the Company or Participating Subsidiary through another entity shall not be eligible to participate in this Plan during the period that the individual is so classified, even if such individual is later retroactively reclassified as an employee during all or any part of such period pursuant to applicable law or otherwise.

2.11 “Enrollment Date” means the first Trading Day of an Accumulation Period beginning on or after the Effective Date.

2.12 “Exchange Act” means the Securities Exchange Act of 1934, as amended from time to time. References to a particular section of the Exchange Act include references to successor provisions.

2.13 “Fair Market Value” of a Share means the closing sales price of a Share reported on an established stock exchange which is the principal exchange upon which the Shares are traded on the applicable date. Unless the Administrator determines otherwise, if the Shares are traded over the counter at the time a determination of its Fair Market Value is required to be made hereunder, Fair Market Value shall be deemed to be equal to the arithmetic mean between the reported high and low or closing bid and asked prices of a Share on the applicable date, or if no such trades were made that day then the most recent date on which Shares were publicly traded. In the event Shares are not publicly traded at the time a determination of their value is required to be made hereunder, the determination of their Fair Market Value shall be made by the Administrator in such manner as it deems appropriate provided such manner is consistent with Treasury Regulation Section 1.409A-1(b)(5)(iv)(B).

2.14 “Participant” means an Eligible Employee who has enrolled in the Plan pursuant to Article 6. A Participant shall remain a Participant until the applicable date set forth in Article 10.

2.15 “Participating Subsidiary” means a Subsidiary Corporation, which has adopted the Plan as a Participating Subsidiary by action of its board of directors and which has been designated by the Administrator in accordance with Section 3.3 as covered by the Plan.

2.16 “Plan” means the Arcturus Therapeutics Holdings Inc. 2020 Employee Stock Purchase Plan, as set forth herein and as amended from time to time.

2.17 “Purchase Date” means the specific Trading Day during an Accumulation Period on which Shares are purchased under the Plan in accordance with Article 9. For each Accumulation Period, the Purchase Date shall be the last Trading Day occurring in such Accumulation Period. The Administrator may, in its discretion, designate a different Purchase Date with respect to any Accumulation Period.

2.18 “Securities Act” means the Securities Act of 1933, as amended from time to time. References to a particular section of the Securities Act include references to successor provisions.

2.19 “Share” means a share of common stock of the Company, and such other securities of the Company, as may be substituted or resubstituted for Shares pursuant to Section 4.2 hereof.

2.20 “Subsidiary Corporation” means any corporation in an unbroken chain of corporations beginning with the Company if, as of the applicable Enrollment Date, each of the corporations other than the last corporation in the chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in the chain.

2.21 “Trading Day” means a day the national exchange on which the Shares are listed for trading or, if not so listed, a day NASDAQ is open for trading.

Article 3. Administration

3.1 Administrator.

(a) The Plan shall be administered by the Board, or committee (“**Committee**”) appointed by the Board, which may be the Board's Compensation Committee. The Committee shall consist of at least one Board member, but may additionally consist of individuals who are not members of the Board. The Committee shall serve at the pleasure of the Board. If the Board does not so appoint a Committee, the Board shall administer the Plan. Any references herein to “Administrator” are, except as the context requires otherwise, references to the Board or the Committee, as applicable.

(b) This Article 3 relating to the administration of the Plan may be amended by the Administrator from time to time as may be desirable to satisfy any requirements of or under the federal securities and/or other applicable laws, rules or regulations of the United States or any applicable stock exchange, or to obtain any exemption under such laws, rules or regulations.

3.2 Powers of the Committee.

(a) If appointed under Section 3.1, the Administrator may select one of its members as chairman and may appoint a secretary. The Administrator shall make such rules and regulations for the conduct of its business as it shall deem advisable; provided, however, that all determinations of the Administrator shall be made by a majority of its members.

(b) The Administrator shall have the power, in addition to the powers set forth elsewhere in the Plan, and subject to and within the limits of the express provisions of the Plan, to construe and interpret the Plan and options granted under it; to establish, amend and revoke rules and regulations for administration of the Plan; to determine all questions of policy and expediency that may arise in the administration of the Plan; to allocate and delegate such of its powers as it deems desirable to facilitate the administration and operation of the Plan; and, generally, to exercise such powers and perform such acts as it deems necessary or expedient to promote the best interests of the Company. The Administrator's determinations as to the interpretation and operation of this Plan shall be final and conclusive.

3.3 Designation of Participating Subsidiaries. The Administrator may designate from time to time which Subsidiary Corporations of the Company shall be Participating Subsidiaries.

Article 4. Number of Shares

4.1 Number of Shares Issuable Under the Plan. Subject to adjustment as provided in Section 4.2, the maximum number of Shares hereby reserved for delivery under the Plan shall be 600,000 Shares. If any option granted under the Plan shall for any reason terminate without having been exercised, the Shares not purchased under such option shall again become available for the Plan.

4.2 Adjustments in Authorized Shares; Liquidation or Dissolution. In the event of any reorganization, recapitalization, stock split, reverse stock split, stock dividend, combination of shares, merger, consolidation, acquisition of property or shares, separation, asset spin-off, stock rights offering, liquidation or other similar change in the capital structure of the Company, the Administrator shall make such adjustment, if any, as it deems appropriate in the number, kind and purchase price of the Shares available for purchase under the Plan. In the event that, at a time when options are outstanding hereunder, there occurs a dissolution or liquidation of the Company, each option to purchase Shares shall terminate, but the Participant holding such option shall have the right to exercise his or her option prior to such termination of the option upon the dissolution or liquidation. The Company reserves the right to reduce the number of Shares which Employees may purchase pursuant to their enrollment in the Plan.

Article 5. Eligibility Requirements

5.1 Eligibility. Except as provided in Section 5.2, each individual who is an Employee of the Company or a Participating Subsidiary on the applicable Cut-Off Date shall become eligible to participate in the Plan in accordance with Article 6 as of the first Enrollment Date following the date the individual becomes an Employee of the Company or a Participating Subsidiary, provided that the individual remains an Eligible Employee on the first day of the Accumulation Period associated with such Enrollment Date. Participation in the Plan is entirely voluntary.

5.2 Ineligible Employees.

(a) Employees meeting any of the following restrictions are not eligible to participate in the Plan:

(i) Employees of the Company or a Subsidiary Corporation who are members of a collective bargaining unit whose benefits were the subject of good faith collective bargaining are excluded from participation in the Plan.

(ii) Employees whose customary employment is 20 hours or less per week.

(iii) Employees whose customary employment is for not more than 5 months in any calendar year.

(iv) Employees of a Participating Subsidiary who are citizens or residents of a foreign jurisdiction (a “**Foreign Employee**”) if (i) the grant of an option under the Plan to such Foreign Employee is prohibited under the laws of such foreign jurisdiction or (ii) compliance the laws of such foreign jurisdiction would cause the Plan to violate the requirements of Section 423 of the Code.

(v) Section 16 Officers may be restricted in their ability to acquire or sell Shares of common stock in order to comply with Section 16 of the Securities Exchange Act of 1934, as amended, in accordance with rules and procedures adopted by the Administrator.

(vi) Employees of any Subsidiary Corporation that is not a Participating Subsidiary.

(b) The Plan is intended to conform to the extent necessary with all provisions of the Securities Act and the Exchange Act and any and all regulations and rules promulgated by the Securities and Exchange Commission thereunder. Notwithstanding anything herein to the contrary, the Plan shall be administered, and the options shall be granted and may be exercised, only in such a manner as to conform to such laws, rules and regulations. To the extent permitted by applicable law, the Plan and the options granted hereunder shall be deemed amended to the extent necessary to conform to such laws, rules and regulations.

Article 6. Enrollment

6.1 Enrollment. Any Eligible Employee may consent to enrollment in the Plan for an Accumulation Period by completing and signing an enrollment form (which authorizes payroll deductions during such Accumulation Period in accordance with Section 8.1) and submitting such enrollment form to the Company or the Participating Subsidiary on or before the Cut-Off Date specified by the Administrator. Payroll deductions pursuant to the enrollment form shall be effective as of the first payroll period with a pay day after the Enrollment Date for the Accumulation Period to which the enrollment form relates, and shall continue in effect until the earliest of:

(a) the end of the last payroll period with a payday in the Accumulation Period;

(b) the date during the Accumulation Period as of which the Employee elects to cease his or her enrollment in accordance with Section 8.4; and

(c) the date during the Accumulation Period as of which the Employee withdraws from the Plan or has a termination of employment in accordance with Article 10.

Article 7. Grant of Options on Enrollment

7.1 Option Grants. The automatic enrollment by an Eligible Employee in the Plan as of an Enrollment Date will constitute the grant as of such Enrollment Date by the Company to such Participant of an option to purchase Shares from the Company pursuant to the Plan.

7.2 Option Term. An option granted to a Participant pursuant to this Plan shall expire, if not terminated earlier for any reason, on the earliest to occur of: (a) the end of the Purchase Date with respect to the Accumulation Period in which such option was granted; (b) the completion of the purchase of Shares under the option under Article 9; or (c) the date on which participation of such Participant in the Plan terminates for any reason.

7.3 Restrictions on Option Grants.

(a) Any provisions of the Plan to the contrary notwithstanding, no Employee shall be granted an option under the Plan (i) to the extent that, immediately after the grant, such Employee (or any other person whose stock would be attributed to such Employee pursuant to Section 424(d) of the Code) would own capital stock of the Company and/or hold outstanding options to purchase such stock possessing five percent (5%) or more of the total combined voting power or value of all classes of the capital stock of the Company or of any Subsidiary Corporation, or (ii) to the extent that his or her rights to purchase stock under all employee stock purchase plans of the Company and its Subsidiary Corporations accrues at a rate which exceeds Twenty-Five Thousand Dollars (\$25,000) worth of stock (determined at the Fair Market Value of the Shares at the time such option is granted) for each calendar year in which such option is outstanding at any time.

(b) No more than 25,000 Shares may be purchased by any Participant on the Purchase Date with respect to any Accumulation Period; provided, however, that the Administrator may specify with respect to any Accumulation Period: (i) a lower maximum aggregate number of Shares that may be purchased by any Participant on the Purchase Date, and/or (ii) a maximum number of Shares that may be purchased by all Participants on the Purchase Date.

Article 8. Payroll Deductions

8.1 Payroll Deduction Elections. An Eligible Employee who files an enrollment form pursuant to Article 8 shall elect and authorize in such form to have deductions made from his or her Base Earnings on each payday he or she receives a paycheck during the Accumulation Period to which the enrollment form relates, and he or she shall designate on such form the percentage (in whole percentages) of Base Earnings to be deducted each payday during such Accumulation Period. The minimum an Employee may elect and authorize to have deducted is 1% of his or her Base Earnings paid per pay period in such Accumulation Period, and the maximum is 15% of his or her Base Earnings paid per pay period in such Accumulation Period (or such larger or smaller percentage as the Administrator may designate from time to time).

8.2 Duration of Payroll Deductions. Deductions from a Participant's Base Earnings shall commence upon the first payday on or after the commencement of the Accumulation Period, and shall continue until the date on which such authorization ceases to be effective in accordance with Article 6. The amount of each deduction made for a Participant shall be credited to the Participant's Account.

8.3 Unfunded Status of Payroll Deductions. Prior to the time a Participant's payroll deduction is used to purchase Shares as provided in Article 9 below, such amounts are considered general assets of the Company or Participating Subsidiary (as applicable) and, as such, are subject to the claims of the Company's or Participating Subsidiary's creditors in the event of insolvency or bankruptcy. The Company or Participating Subsidiary may use such funds for any corporate purpose, and the Company will not be obligated to segregate such funds from the Company's or Participating Subsidiary's general corporate funds and/or deposit such funds with an independent third party.

8.4 Cancellation of Payroll Deduction Election. As of the last day of any month during an Accumulation Period, a Participant may elect to cease (but not to increase or decrease) payroll deductions made on his or her behalf for the remainder of such Accumulation Period by filing the applicable election with the Company or Participating Subsidiary in such form and manner and at such time as may be permitted by the Administrator. A Participant who has ceased payroll deductions may have the amount which was credited to his or her Account prior to such cessation applied to the purchase of Shares as of the Purchase Date in accordance with Section 9.1 and receive the balance of the Account with respect to which the enrollment is ceased, if any, in cash. A Participant who has ceased payroll deductions may also voluntarily withdraw from the Plan pursuant to Section 10.1. Any Participant who ceases payroll deductions for an Accumulation Period may re-enroll in the Plan on the next subsequent Enrollment Date following the cessation in accordance with the provisions of Article 6. A Participant who ceases to be employed by the Company or any Participating Subsidiary will cease to be a Participant in accordance with Section 10.2.

8.5 No Additional Contributions Permitted. A Participant may not make any separate or additional contributions to his Account under the Plan. Neither the Company nor any Participating Subsidiary shall make separate or additional contributions to any Participant's Account under the Plan.

Article 9. Purchase of Shares

9.1 Exercise of Options. Subject to Section 9.2, any option held by the Participant which was granted under this Plan and which remains outstanding as of a Purchase Date shall be deemed to have been exercised on such Purchase Date for the purchase of the number of whole Shares which the funds accumulated in his or her Account as of the Purchase Date will purchase at the applicable purchase price. Unless otherwise determined by the Committee, any payroll deductions which are not sufficient to purchase a whole Share shall be retained in a Participant's account for the subsequent Accumulation Period. Any other amounts in a Participant's Account after a Purchase Date shall be returned to the Participant.

No Shares will be purchased on behalf of any Participant who fails to file an enrollment form authorizing payroll deductions for an Accumulation Period.

9.2 Effect of Withdrawal from the Plan. A Participant who holds an outstanding option as of a Purchase Date shall not be deemed to have exercised such option if the Participant elected not to exercise the option by withdrawing from the Plan in accordance with Section 10.1.

9.3 Option Exercise Price. The purchase price for each Share purchased under any option shall not be less than 85% of the lesser of (a) the Fair Market Value of a Share on the Purchase Date or (b) the Fair Market Value of a Share on the first Trading Day of the Accumulation Period. Notwithstanding the preceding, the Administrator may establish a different purchase price for each Share purchased under any option provided that such purchase price is determined at least thirty (30) days prior to the beginning of the Accumulation Period for which it is applicable and is not less than the exercise price described in the preceding sentence.

9.4 Restrictions on Option Exercise. If the total number of Shares for which an option is exercised on any Purchase Date in accordance with this Article 9, when aggregated with all Shares previously granted under this Plan, exceeds the maximum number of Shares reserved in Section 4.1 or pursuant to any aggregate limit imposed by the Committee pursuant to Section 7.3(b)(ii), the Administrator shall make a pro rata allocation of the Shares available for delivery and distribution in as nearly a uniform manner as shall be practicable and as it shall determine to be equitable, and the balance of the cash amount credited to the Account of each Participant under the Plan shall be returned to him or her as promptly as administratively practical.

Article 10.

Withdrawal From the Plan; Termination of Employment; Leave of Absence; Death

10.1 Withdrawal from the Plan. A Participant may withdraw from the Plan in full (but not in part) during any Accumulation Period by delivering a notice of withdrawal to the Company (in a manner prescribed by the Administrator) at any time prior to the first day of the calendar last month immediately preceding the Purchase Date for such Accumulation Period, or at such shorter time in advance of the Purchase Date as the Administrator may permit. If notice of withdrawal is timely received, all funds then accumulated in the Participant's Account shall not be used to purchase Shares, but shall instead be distributed to the Participant as soon as administratively practical, and the Participant's payroll deductions shall cease as soon as administratively practical. An Employee who has withdrawn during an Accumulation Period may not return funds to the Company or a Participating Subsidiary during the same Accumulation Period and require the Company or Participating Subsidiary to apply those funds to the purchase of Shares, nor may such Participant's payroll deductions continue, in accordance with Article 6. Any Eligible Employee who has withdrawn from the Plan may, however, re-enroll in the Plan on the next subsequent Enrollment Date following withdrawal in accordance with the provisions of Article 6.

10.2 Termination of Employment. Participation in the Plan terminates immediately when a Participant ceases to be employed by the Company or any Participating Subsidiary for any reason whatsoever, including but not limited to termination of employment, whether voluntary or involuntary, or on account of disability, or retirement, but not including death, or if the Participating Subsidiary employing the Participant ceases for any reason to be a Participating Subsidiary. Participation in the Plan also terminates immediately when a Participant ceases to be an Eligible Employee under Article 5 or withdraws from the Plan. Upon termination of participation such terminated Participant's outstanding options shall thereupon terminate. As soon as administratively practicable after termination of participation, the Company shall pay to the Participant or legal representative all amounts accumulated in the Participant's Account and held by the Company at the time of termination of participation, and any Participating Subsidiary shall pay to the Participant or legal representative all amounts accumulated in the Participant's Account and held by the Participating Subsidiary at the time of termination of participation.

10.3 Leave of Absence. If a Participant takes an unpaid leave of absence without terminating employment, such Participant will be deemed to have discontinued contributions to the Plan in accordance with Section 8.3, but will remain a Participant in the Plan through the balance of the Accumulation Period in which his or her leave of absence begins, so long as such leave of absence does not exceed ninety (90) days. If a Participant takes an unpaid leave of absence without terminating employment, such Participant will be deemed to have withdrawn from the Plan in accordance with Section 10.1 on the ninety-first (91st) day of such leave of absence.

10.4 Death. As soon as administratively feasible after the death of a Participant, amounts accumulated in his or her Account shall be paid in cash to the beneficiary or beneficiaries designated by the Participant on a beneficiary designation form approved by the Administrator, but if the Participant does not make an effective beneficiary designation then such amounts shall be paid in cash to the Participant's spouse if the Participant has a spouse, or, if the Participant does not have a spouse, to the executor, administrator or other legal representative of the Participant's estate. Such payment shall relieve the Company and the Participating Subsidiary of further liability with respect to the Plan on account of the deceased Participant. If more than one beneficiary is designated, each beneficiary shall receive an equal portion of the Account unless the Participant has given express contrary instructions. None of the Participant's beneficiary, spouse, executor, administrator or other legal representative of the Participant's estate shall, prior to the death of the Participant by whom he has been designated, acquire any interest in the amounts credited to the Participant's Account under the Plan.

Article 11. Miscellaneous

11.1 Interest. Interest or earnings will not be paid on any Employee Accounts.

11.2 Restrictions on Transfer. The rights of a Participant under the Plan shall not be assignable or transferable by such Participant. Any such attempt at assignment, transfer, pledge or other disposition shall be without effect, except that the Company may treat such act as an election to withdraw from the Plan in accordance with Section 10.1.

11.3 Administrative Assistance. If the Administrator in its discretion so elects, it may retain a brokerage firm, bank, other financial institution or other appropriate agent to assist in the purchase of Shares, delivery of reports or other administrative aspects of the Plan. If the Administrator so elects, each Participant shall (unless prohibited by applicable law) be deemed upon enrollment in the Plan to have authorized the establishment of an account on his or her behalf at such institution. Shares purchased by a Participant under the Plan shall be held in the account in the Participant's name, or if the Participant so indicates in the enrollment form, in the Participant's name together with the name of one or more other persons in joint tenancy with right of survivorship or in tenancy by the entireties or as spousal community property, or in such forms of trust as may be approved by the Administrator, to the extent permitted by law.

11.4 Costs. All costs and expenses incurred in administering the Plan shall be paid by the Company or Participating Subsidiaries, including any brokerage fees on the purchased Shares; excepting that any stamp duties, transfer taxes, fees to issue stock certificates, and any brokerage fees on the sale price applicable to participation in the Plan after the initial purchase of the Shares on the Purchase Date shall be charged to the Account or brokerage account of such Participant.

11.5 Applicable Law. The Plan shall be governed by the substantive laws (excluding the conflict of laws rules) of the State of Delaware.

11.6 Amendment and Termination.

(a) The Board or the Board's Compensation Committee may amend, alter or terminate the Plan at any time. Notwithstanding any provision hereunder to the contrary, no amendment which would amend or modify the Plan in a manner requiring stockholder approval under any securities exchange on which the Shares are traded shall be effective unless, within one year after it is adopted, it is approved by the holders of a majority of the voting power of the Company's outstanding shares. The provisions of this Section 11.6 are in addition to, and not in lieu of, the authority of the Administrator to amend or modify the Plan under other provisions of the Plan.

(b) If the Plan is terminated, the Administrator may elect to terminate all outstanding options either prior to their expiration or upon completion of the purchase of Shares on the next Purchase Date, or may elect to permit options to expire in accordance with the terms of this Plan (and participation to continue through such expiration dates). If the options are terminated prior to expiration, all funds accumulated in Participants' Accounts as of the date the options are terminated shall be returned to the Participants as soon as administratively feasible.

11.7 No Right of Employment. Neither the grant nor the exercise of any rights to purchase Shares under this Plan nor anything in this Plan shall impose upon the Company or Participating Subsidiary any obligation to employ or continue to employ any employee. The right of the Company or Participating Subsidiary to terminate any employee shall not be diminished or affected because any rights to purchase Shares have been granted to such employee.

11.8 Requirements of Law. The making of payroll deductions and the delivery of Shares under the Plan shall be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required. Notwithstanding any provision of the Plan, Participants shall not be entitled to receive benefits under the Plan, and the Company (and any Subsidiary Corporation) shall not be obligated to deliver any Shares or deliver benefits to a Participant, if such delivery would constitute a violation by the Participant or the Company or any of its Subsidiary Corporations of any applicable law or regulation.

11.9 Gender. When used herein, masculine terms shall be deemed to include the feminine, except when the context indicates to the contrary.

11.10 Military Service. The Plan shall be administered in accordance with Section 14(u) of the Internal Revenue Code and the Uniformed Services Employment and Reemployment Rights Act of 1994.

11.11 Code Section 409A. Purchase rights granted hereunder are intended to be exempt from the application of Code Section 409A as a statutory option described in Section 423 of the Code and any ambiguities shall be construed and interpreted in accordance with such intent.

11.12 Stockholder Approval. All options granted on or after the Effective Date and prior to the date the Company's stockholders approve the Plan are expressly conditioned upon and subject to approval of the Plan by the Company's stockholders.

August 4, 2020

Arcturus Therapeutics Holdings Inc.
10628 Science Center Drive, Suite 250
San Diego, CA 92121

Re: Arcturus Therapeutics Holdings Inc. Registration Statement on Form S-8

Ladies and Gentlemen:

In our capacity as counsel to Arcturus Therapeutics Holdings Inc., a Delaware corporation (the “Company”), we have been asked to render this opinion in connection with a registration statement on Form S-8 (the “Registration Statement”), being filed contemporaneously herewith by the Company with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the “Act”), covering an aggregate of 600,000 shares (the “Shares”) of common stock, par value \$0.001 per share, of the Company issuable pursuant to the terms of the Company’s 2020 Employee Stock Purchase Plan (the “Plan”).

In connection with rendering this opinion, we have examined (i) the Company’s Certificate of Incorporation, (ii) the Company’s By-Laws, (iii) the Plan, (iv) the Registration Statement, (v) corporate proceedings of the Company relating to the Plan, and (vi) such other instruments and documents as we have deemed relevant under the circumstances.

In making the aforesaid examinations, we have assumed the genuineness of all signatures, the authority of the persons who executed such documents, the authenticity of all documents submitted to us as originals, the conformity to the original documents of all documents submitted to us as copies, and the due execution and delivery of all documents by any persons or entities where due execution and delivery by such persons or entities is a prerequisite to the effectiveness of such documents. As to various factual matters that are material to this opinion, we have relied upon certificates of public officials and certificates, resolutions, documents, statements and other information of the Company or its representatives. In addition, for purposes of this opinion, we have assumed that a sufficient number of authorized but unissued shares of the Company’s common stock, par value \$0.001 per share, will be available for issuance when the Shares are issued. We have not independently verified or investigated, nor do we assume any responsibility for, the factual accuracy or completeness of such factual statements. We have also assumed that the corporate records furnished to us by the Company include all corporate proceedings taken by the Company to date.

Based upon the foregoing and subject to the assumptions and qualifications set forth herein, we are of the opinion that the Shares have been duly and validly authorized and, when issued and paid for in accordance with the terms of the Plan, will be duly and validly issued, fully paid and non-assessable.

The foregoing opinion is limited to the laws of the United States of America and Delaware corporate law (which includes the Delaware General Corporation Law and applicable provisions of the Delaware constitution, as well as reported judicial opinions interpreting same), as now in effect and that, in the exercise of reasonable professional judgment, are normally considered in transactions such as the issuance of the Shares, and the foregoing opinion does not purport to express any opinion on the laws of any other jurisdiction. This opinion is provided for use solely in connection with the sale of the Shares, and except for its use in connection with such sale, may not be furnished to, quoted from or relied upon by any other person, firm, or corporation without our express written consent. No opinion may be implied or inferred beyond the opinion expressly stated in the paragraph immediately above. The opinion expressed herein is as of the date hereof, and we undertake no obligation to advise you of any changes in applicable law or any other matters that may come to our attention after the date hereof that may affect our opinions expressed herein.

We hereby consent to the use of our opinion as an exhibit to the Registration Statement. In giving such consent, we do not hereby admit that we come within the category of persons whose consent is required under Section 7 of the Act, or the rules and regulations of the Securities and Exchange Commission thereunder.

Very truly yours

/s/ Dentons US LLP
Dentons US LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Arcturus Therapeutics Holdings Inc. 2020 Employee Stock Purchase Plan of our reports dated March 16, 2020, with respect to the consolidated financial statements of Arcturus Therapeutics Holdings Inc. and its Subsidiaries and the effectiveness of internal control over financial reporting of Arcturus Therapeutics Holdings Inc. and its Subsidiaries included in its Annual Report (Form 10-K) for the year ended December 31, 2019, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Diego, California
August 4, 2020