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

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**POST-EFFECTIVE AMENDMENT NO. 3  
TO  
FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933**

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**Apellis Pharmaceuticals, Inc.**

(Exact Name of Registrant as Specified in Its Charter)

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**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**27-1537290**  
(I.R.S. Employer  
Identification Number)

**6400 Westwind Way, Suite A  
Crestwood, KY 40014  
(502) 241-4114**

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

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**Cedric Francois, M.D., Ph.D.  
President and Chief Executive Officer  
Apellis Pharmaceuticals, Inc.  
6400 Westwind Way, Suite A  
Crestwood, KY 40014  
(502) 241-4114**

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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*Copies to:*

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Boston, Massachusetts 02109  
Telephone: (617) 526-6333**

**David O. Watson, Esq.  
General Counsel  
Apellis Pharmaceuticals, Inc.  
6400 Westwind Way, Suite A  
Crestwood, KY 40014  
Telephone: (502) 241-4114  
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**Approximate date of commencement of proposed sale to the public:** From time to time after this registration statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input 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 each class of securities to be registered	Amount to be Registered	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
<b>Primary Offering:</b>				
Debt Securities	(1)	(1)	(1)	(1)
Common Stock, par value \$0.0001 per share	(1)	(1)	(1)	(1)
Preferred Stock, par value \$0.0001 per share	(1)	(1)	(1)	(1)
Units	(1)	(1)	(1)	(1)
Warrants	(1)	(1)	(1)	(1)
Subtotal	(1)	(1)	\$300,000,000(2)	\$36,360.00(5)
<b>Secondary Offering:</b>				
Common Stock, par value \$0.0001 per share	12,256,035(3)	\$14.75(4)	\$180,776,516(4)	\$21,910.11(5)
Total			\$480,776,516	\$58,270.11(5)

(1) Pursuant to Form S-3 General Instruction II.D, this information is not required to be included with respect to the primary offering. With respect to the primary offering, an indeterminate amount of the securities of each identified class is being registered as may from time to time be offered hereunder at indeterminate prices,

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along with an indeterminate number of securities that may be issued upon exercise, settlement, exchange or conversion of securities offered or sold hereunder, as shall have an aggregate initial offering price not to exceed \$300,000,000, including shares of common stock with an aggregate offering price of \$150,000,000 previously registered under this registration statement on December 28, 2018. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or pursuant to anti-dilution provisions of any of the securities. Separate consideration may or may not be received for securities that are issuable upon conversion, exercise or exchange of other securities.

- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.
- (3) With respect to the secondary offering, pursuant to Rule 416 under the Securities Act, this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or pursuant to anti-dilution provisions of any of the securities.
- (4) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based on the average high and low prices per share of common stock as reported on the Nasdaq Global Select Market on February 25, 2019. The registration fee for these securities was paid on February 26, 2019.
- (5) The registration fee has been paid previously. A registration fee of \$18,180 was previously paid in connection with the registration of shares of common stock having an aggregate offering price of \$150,000,000 that were initially registered on this registration statement on December 28, 2018 and a registration fee of \$40,090.11 was previously paid in connection with the registration of securities that were registered on a post-effective amendment to this registration statement on February 26, 2019.

**The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission acting pursuant to said Section 8(a), may determine.**

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## EXPLANATORY NOTE

Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 (Commission File No. 333-229091) (the “Registration Statement”) of Apellis Pharmaceuticals, Inc. (the “Registrant”) was filed because the Registrant expected that it would no longer be a well-known seasoned issuer (as such term is defined in Rule 405 of the Securities Act) when it filed its Annual Report on Form 10-K for the fiscal year ended December 31, 2018. Post-Effective Amendment No. 1 added disclosure to the Registration Statement required for a registrant other than a well-known seasoned issuer and made certain other amendments set forth therein. Post-Effective Amendment No. 2 was filed using EDGAR submission type POS AM to convert the Registration Statement to the proper EDGAR submission type for a non-automatic shelf registration statement and make certain other amendments. This Post-Effective Amendment is being filed to reflect the amendment and restatement of the equity distribution agreement referenced in to the equity distribution agreement prospectus and make certain other amendments.

This registration statement contains two prospectuses:

- a base prospectus which covers the offering, issuance and sale by us of up to \$300,000,000 of the securities identified above, as well as the offering and sale of up to 12,256,035 shares of our common stock by the selling stockholders, in each case from time to time in one or more offerings; and
- an equity distribution agreement prospectus that covers the offering, issuance and sale by us of up to a maximum aggregate offering price of \$150,000,000 of our common stock that may be issued and sold from time to time under an amended and restated equity distribution agreement with Citigroup Global Markets Inc. and Jefferies LLC.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus other than the shares under the equity distribution agreement will be specified in a prospectus supplement to the base prospectus. The specific terms of the securities to be issued and sold under the equity distribution agreement are specified in the equity distribution agreement prospectus that immediately follows the base prospectus. The \$150,000,000 of our common stock that may be offered, issued and sold under the equity distribution agreement prospectus is included in the \$300,000,000 of securities that may be offered, issued and sold by us under the base prospectus.

**The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.**

Subject to completion, dated October 4, 2019

PROSPECTUS

# Apellis

## Apellis Pharmaceuticals, Inc.

**\$300,000,000**  
of  
**DEBT SECURITIES**  
**COMMON STOCK**  
**PREFERRED STOCK**  
**UNITS**  
**WARRANTS**  
Offered by the Company  
and  
**12,256,035 Shares of Common Stock**  
Offered by Selling Stockholders

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We may offer and sell up to \$300,000,000 in the aggregate of securities from time to time in one or more offerings. This prospectus may also be used to offer up to 12,256,035 shares of our common stock for the accounts of persons other than us, which we refer to in this prospectus as “selling stockholders.” This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained or incorporated by reference in this document. You should read this prospectus and any applicable prospectus supplement before you invest.

We and the selling stockholders may offer these securities in amounts, at prices and on terms determined at the time of offering. In a prospectus supplement relating to any sales by the selling stockholders, we will identify the selling stockholders and the number of shares of our common stock that the selling stockholders will be selling. We will not receive any proceeds from the sale, if any, of common stock by the selling stockholders.

The securities may be sold directly to you, through agents, or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is listed on The Nasdaq Global Select Market under the symbol “APLS.”

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Investing in these securities involves certain risks. See [“Risk Factors”](#) included on page 6 of this prospectus, in any accompanying prospectus supplement and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase these securities.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. We urge you to read the entire prospectus, any amendments or supplements, any free writing prospectuses and any documents incorporated by reference carefully before you make your investment decision.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

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The date of this prospectus is \_\_\_\_\_, 2019.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the “SEC”, under the Securities Act of 1933, as amended, or the Securities Act. Under this shelf registration process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$300,000,000. In addition, the selling stockholders may from time to time sell up to 12,256,035 shares of our common stock in one or more offerings.

This prospectus provides you with a general description of the securities we may offer. Each time we, or the selling stockholder, as applicable, sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement. You should read both this prospectus and the accompanying prospectus supplement together with the additional information described under the heading “Where You Can Find More Information” beginning on page 2 of this prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. Neither we nor the selling stockholders have authorized anyone to provide you with different information. This prospectus and any accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or such accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise indicates, references in this prospectus to “we,” “our” and “us” refer, collectively, to Apellis Pharmaceuticals, Inc., a Delaware corporation, and its subsidiaries. The Apellis logo is our trademark. The other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at <http://www.apellis.com/>. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiary and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-38276) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed.

- Annual Report on [Form 10-K](#) for the year ended December 31, 2018, including the information specifically incorporated by reference into the Annual Report on Form 10-K for the year ended December 31, 2018 from our [definitive proxy statement](#) for the 2019 Annual Meeting of Stockholders;
- Quarterly Reports on Form 10-Q for the quarterly periods ended [March 31, 2019](#) and [June 30, 2019](#);
- Current Reports on Form 8-K filed with the SEC on [February 28, 2019](#), [March 4, 2019](#), [March 7, 2019](#), [April 12, 2019](#), [June 10, 2019](#), [September 12, 2019](#) and [September 16, 2019](#); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) filed on November 3, 2017, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us using the following contact information:

Apellis Pharmaceuticals, Inc.  
6400 Westwind Way, Suite A  
Crestwood, KY 40014  
(502) 241-4114

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act. All statements, other than statements of historical facts, contained in this herein and therein, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management and expected market growth are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

These forward-looking statements include, among other things, statements about:

- our plans with respect to our ongoing and planned clinical trials for our product candidates, whether conducted by us or by any future collaborators, including the timing of these trials and of the anticipated results;
- our plans to initiate clinical trials of APL-2;
- the potential clinical benefits and attributes of APL-2 and the inhibition of C3;
- our plans to develop APL-2 for any additional indications;
- our plans to research, develop and commercialize our current and future product candidates;
- our plans to potentially seek to enter into collaborations for the development and commercialization of certain product candidates;
- the potential benefits of any future collaboration;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- the rate and degree of market acceptance and clinical utility of any products for which we receive marketing approval;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our intellectual property position and strategy;
- our ability to identify additional products or product candidates with significant commercial potential;
- our expectations related to the use of proceeds from this offering;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to our competitors and our industry; and
- the impact of government laws and regulations.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. You are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions that are referenced in the section of any accompanying prospectus supplement entitled “Risk Factors.” You should also carefully review the risk factors and cautionary statements described in the other documents we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments that we may make or enter into.

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You should read this prospectus and the information incorporated by reference herein completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

**APELLIS PHARMACEUTICALS, INC.**

We are a clinical-stage biopharmaceutical company focused on the development of novel therapeutic compounds to treat disease through the inhibition of the complement system, which is an integral component of the immune system, at the level of C3, the central protein in the complement cascade. We believe that this approach can result in broad inhibition of the principal pathways of the complement system and has the potential to effectively control a broad array of complement-dependent autoimmune and inflammatory diseases.

We have the most advanced clinical program targeting C3 with Phase 3 clinical trials of our lead product candidate, APL-2, in multiple indications. We believe that APL-2 has the potential to be a best-in-class treatment that may address the limitations of existing treatment options or provide a treatment option where there currently is none. APL-2 has already shown activity that we believe is clinically meaningful in clinical trials for four distinct medical conditions—geographic atrophy in age-related macular degeneration, paroxysmal nocturnal hemoglobinuria, cold agglutinin disease and warm antibody autoimmune hemolytic anemia, or wAIHA.

Our principal executive offices are located at 6400 Westwind Way, Suite A, Crestwood, KY 40014, and our telephone number is (502) 241-4114.

## **RISK FACTORS**

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described in this prospectus and any accompanying prospectus supplement, including the risk factors set forth in our filings with the SEC that are incorporated by reference herein, including the risk factors in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and other filings we make with the SEC from time to time before making an investment decision pursuant to this prospectus and any accompanying prospectus supplement relating to a specific offering.

Our business, financial condition and results of operations could be materially and adversely affected by any or all of these risks or by additional risks and uncertainties not presently known to us or that we currently deem immaterial that may adversely affect us in the future.

## USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include working capital and capital expenditures, research and development expenses, including clinical trial costs, general and administrative expenses, potential acquisition of, or investment in, companies, technologies, products or assets that complement our business, and repayment and refinancing of debt. We may temporarily invest the net proceeds in investment-grade, interest-bearing securities until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

We will not receive any proceeds from the sale of any shares of common stock offered and sold by the selling stockholders. Any selling stockholder may pay any underwriting discounts and commissions and expenses incurred by such selling stockholder for brokerage, accounting, tax, or legal services or any other expenses incurred by such selling stockholder in disposing of the shares. We may bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, Nasdaq Global Select Market listing fees, and fees and expenses of our counsel and our accountants.

## SELLING STOCKHOLDERS

This prospectus relates to the possible resale from time to time by certain of our existing stockholders, which we refer to in this prospectus as the “selling stockholders,” of up to 12,256,035 shares of our common stock that were issued and outstanding prior to the original date of filing of the registration statement of which this prospectus forms a part.

The selling stockholders may not sell any shares pursuant to this prospectus until we have identified the applicable selling stockholders and the shares that may be offered for resale by such selling stockholders in a subsequent prospectus supplement. However, the selling stockholders may sell or transfer all or a portion of their shares pursuant to any available exemption from the registration requirements of the Securities Act.

If any selling stockholder offers shares in any future offering, the applicable prospectus supplement will set forth the name of each such selling stockholder, the nature of any position, office or other material relationship that the selling stockholder has had with us or any of our predecessors or affiliates during the three years prior to the date of the applicable prospectus supplement, the number of our shares of common stock owned by the selling stockholder before and after the offering and the number of our shares of common stock to be offered by the selling stockholder.

We will pay all registration expenses with respect to the shares of our common stock being registered for resale by the selling stockholders, including registration fees, printing expenses, fees and disbursements of our counsel and accountants, and reasonable fees and disbursements of one counsel representing the selling stockholders. The selling stockholders will pay any underwriting or broker discounts and commissions incurred by the selling stockholders in selling their shares of common stock.

## DESCRIPTION OF DEBT SECURITIES

We may offer debt securities which may be senior or subordinated. We refer to the senior debt securities and the subordinated debt securities collectively as debt securities. The following description summarizes the general terms and provisions of the debt securities. We will describe the specific terms of the debt securities and the extent, if any, to which the general provisions summarized below apply to any series of debt securities in the prospectus supplement relating to the series and any applicable free writing prospectus that we authorize to be delivered. When we refer to “the Company,” “we,” “our,” and “us” in this section, we mean Apellis Pharmaceuticals, Inc., excluding, unless the context otherwise requires or as otherwise expressly stated, our subsidiary.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. Together, the senior indenture and the subordinated indenture are referred to as the indentures and, together, the senior trustee and the subordinated trustee are referred to as the trustees. This prospectus briefly outlines some of the provisions of the indentures. The following summary of the material provisions of the indentures is qualified in its entirety by the provisions of the indentures, including definitions of certain terms used in the indentures. Wherever we refer to particular sections or defined terms of the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information.

None of the indentures will limit the amount of debt securities that we may issue. The applicable indenture will provide that debt securities may be issued up to an aggregate principal amount authorized from time to time by us and may be payable in any currency or currency unit designated by us or in amounts determined by reference to an index.

### General

The senior debt securities will constitute our unsubordinated general obligations and will rank *pari passu* with our other unsubordinated obligations. The subordinated debt securities will constitute our subordinated general obligations and will be junior in right of payment to our senior indebtedness (including senior debt securities), as described under the heading “—Certain Terms of the Subordinated Debt Securities—Subordination.” The debt securities will be structurally subordinated to all existing and future indebtedness and other liabilities of our subsidiary unless such subsidiary expressly guarantee such debt securities.

The debt securities will be our unsecured obligations unless otherwise specified in the applicable prospectus supplement. Any secured debt or other secured obligations will be effectively senior to the debt securities to the extent of the value of the assets securing such debt or other obligations.

The applicable prospectus supplement and/or free writing prospectus will include any additional or different terms of the debt securities of any series being offered, including the following terms:

- the title and type of the debt securities;
- whether the debt securities will be senior or subordinated debt securities, and, with respect to debt securities issued under the subordinated indenture the terms on which they are subordinated;
- the aggregate principal amount of the debt securities;
- the price or prices at which we will sell the debt securities;
- the maturity date or dates of the debt securities and the right, if any, to extend such date or dates;

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- the rate or rates, if any, per year, at which the debt securities will bear interest, or the method of determining such rate or rates;
- the date or dates from which such interest will accrue, the interest payment dates on which such interest will be payable or the manner of determination of such interest payment dates and the related record dates;
- the right, if any, to extend the interest payment periods and the duration of that extension;
- the manner of paying principal and interest and the place or places where principal and interest will be payable;
- provisions for a sinking fund, purchase fund or other analogous fund, if any;
- any redemption dates, prices, obligations and restrictions on the debt securities;
- the currency, currencies or currency units in which the debt securities will be denominated and the currency, currencies or currency units in which principal and interest, if any, on the debt securities may be payable;
- any conversion or exchange features of the debt securities;
- whether and upon what terms the debt securities may be defeased;
- any events of default or covenants in addition to or in lieu of those set forth in the indenture;
- whether the debt securities will be issued in definitive or global form or in definitive form only upon satisfaction of certain conditions;
- whether the debt securities will be guaranteed as to payment or performance;
- whether the debt securities will be secured by any collateral and, if so, a general description of the collateral and the terms and provisions of such collateral, security, pledge or other related agreements;
- any material tax implications of the debt securities; and
- any other material terms of the debt securities.

When we refer to “principal” in this section with reference to the debt securities, we are also referring to “premium, if any.”

We may from time to time, without notice to or the consent of the holders of any series of debt securities, create and issue further debt securities of any such series ranking equally with the debt securities of such series in all respects (or in all respects other than (1) the payment of interest accruing prior to the issue date of such further debt securities or (2) the first payment of interest following the issue date of such further debt securities). Such further debt securities may be consolidated and form a single series with the debt securities of such series and have the same terms as to status, redemption or otherwise as the debt securities of such series.

You may present debt securities for exchange and you may present debt securities for transfer in the manner, at the places and subject to the restrictions set forth in the debt securities and the applicable prospectus supplement.

We will provide you those services without charge, although you may have to pay any tax or other governmental charge payable in connection with any exchange or transfer, as set forth in the indenture.

Debt securities may bear interest at a fixed rate or a floating rate. Debt securities bearing no interest or interest at a rate that at the time of issuance is below the prevailing market rate (original issue discount securities)

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may be sold at a discount below their stated principal amount. U.S. federal income tax considerations applicable to any such discounted debt securities or to certain debt securities issued at par which are treated as having been issued at a discount for U.S. federal income tax purposes will be described in the applicable prospectus supplement.

We may issue debt securities with the principal amount payable on any principal payment date, or the amount of interest payable on any interest payment date, to be determined by reference to one or more currency exchange rates, securities or baskets of securities, commodity prices or indices. You may receive a payment of principal on any principal payment date, or a payment of interest on any interest payment date, that is greater than or less than the amount of principal or interest otherwise payable on such dates, depending on the value on such dates of the applicable currency, security or basket of securities, commodity or index. Information as to the methods for determining the amount of principal or interest payable on any date, the currencies, securities or baskets of securities, commodities or indices to which the amount payable on such date is linked and certain related tax considerations will be set forth in the applicable prospectus supplement.

### **Certain Terms of the Senior Debt Securities**

#### ***Covenants***

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any financial or restrictive covenants, including covenants restricting either us or our subsidiary from incurring, issuing, assuming or guaranteeing any indebtedness secured by a lien on our or our subsidiary's property or capital stock, or restricting either us or our subsidiary from entering into sale and leaseback transactions.

#### ***Consolidation, Merger and Sale of Assets***

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to any person, in either case, unless:

- the successor entity, if any, is a U.S. corporation, limited liability company, partnership or trust (subject to certain exceptions provided for in the senior indenture);
- the successor entity assumes our obligations on the senior debt securities and under the senior indenture;
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- certain other conditions are met, including the delivery to the senior trustee of an officer's certificate and an opinion of counsel, each stating that the consolidation, merger, conveyance, transfer or lease and if a supplemental indenture is required in connection with such transaction, such supplemental indenture, comply with the senior indenture and all conditions precedent provided for in the senior indenture relating to such transaction have been complied with.

The restrictions described in the bullets above do not apply (1) to our consolidation with or merging into one of our affiliates, if our board of directors determines in good faith that the purpose of the consolidation or merger is principally to change our state of incorporation or our form of organization to another form or (2) if we merge with or into single direct or indirect wholly owned subsidiary of ours.

The surviving business entity will succeed to, and be substituted for, us under the senior indenture and the senior debt securities and, except in the case of a lease, we shall be released from all obligations under the senior indenture and the senior debt securities.

### ***No Protection in the Event of a Change in Control***

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any provisions that may afford holders of the senior debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

### ***Events of Default***

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the following are events of default under the senior indenture for any series of senior debt securities:

- failure to pay interest on any senior debt securities of such series when due and payable, if that default continues for a period of 90 days (or such other period as may be specified for such series);
- failure to pay principal on the senior debt securities of such series when due and payable whether at maturity, upon redemption, by declaration or otherwise (and, if specified for such series, the continuance of such failure for a specified period);
- default in the performance of or breach of any of our covenants or agreements in the senior indenture applicable to senior debt securities of such series, other than a covenant breach which is specifically dealt with elsewhere in the senior indenture, and that default or breach continues for a period of 90 days after we receive written notice from the trustee or from the holders of 25% or more in aggregate principal amount of the senior debt securities of such series;
- certain events of bankruptcy or insolvency, whether or not voluntary; and
- any other event of default provided for in such series of senior debt securities as may be specified in the applicable prospectus supplement.

The default by us under any other debt, including any other series of debt securities, is not a default under the senior indenture.

If an event of default other than an event of default specified in the fourth bullet point above occurs with respect to a series of senior debt securities and is continuing under the senior indenture, then, and in each such case, either the trustee or the holders of not less than 25% in aggregate principal amount of such series then outstanding under the senior indenture (each such series voting as a separate class) by written notice to us and to the trustee, if such notice is given by the holders, may, and the trustee at the request of such holders shall, declare the principal amount of and accrued interest on such series of senior debt securities to be immediately due and payable, and upon this declaration, the same shall become immediately due and payable.

If an event of default specified in the fourth bullet point above occurs with respect to us and is continuing, the entire principal amount of and accrued interest, if any, on each series of senior debt securities then outstanding shall become immediately due and payable.

Unless otherwise specified in the prospectus supplement relating to a series of senior debt securities originally issued at a discount, the amount due upon acceleration shall include only the original issue price of the senior debt securities, the amount of original issue discount accrued to the date of acceleration and accrued interest, if any.

Upon certain conditions, declarations of acceleration may be rescinded and annulled and past defaults may be waived by the holders of a majority in aggregate principal amount of all the senior debt securities of such series affected by the default, each series voting as a separate class. Furthermore, subject to various provisions in the senior indenture, the holders of a majority in aggregate principal amount of a series of senior debt securities, by notice to the trustee, may waive an existing default or event of default with respect to such senior debt securities and its consequences, except a default in the payment of principal of or interest on such senior debt securities or in respect of a covenant or provision of the senior indenture which cannot be modified or amended.

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without the consent of the holders of each such senior debt security. Upon any such waiver, such default shall cease to exist, and any event of default with respect to such senior debt securities shall be deemed to have been cured, for every purpose of the senior indenture; but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto.

The holders of a majority in aggregate principal amount of a series of senior debt securities may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to such senior debt securities. However, the trustee may refuse to follow any direction that conflicts with law or the senior indenture, that may involve the trustee in personal liability or that the trustee determines in good faith may be unduly prejudicial to the rights of holders of such series of senior debt securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from holders of such series of senior debt securities. A holder may not pursue any remedy with respect to the senior indenture or any series of senior debt securities unless:

- the holder gives the trustee written notice of a continuing event of default;
- the holders of at least 25% in aggregate principal amount of such series of senior debt securities make a written request to the trustee to pursue the remedy in respect of such event of default;
- the requesting holder or holders offer the trustee indemnity satisfactory to the trustee against any costs, liability or expense;
- the trustee does not comply with the request within 60 days after receipt of the request and the offer of indemnity; and
- during such 60-day period, the holders of a majority in aggregate principal amount of such series of senior debt securities do not give the trustee a direction that is inconsistent with the request.

These limitations, however, do not apply to the right of any holder of a senior debt security to receive payment of the principal of and interest, if any, on such senior debt security in accordance with the terms of such debt security, or to bring suit for the enforcement of any such payment in accordance with the terms of such debt security, on or after the due date for the senior debt securities, which right shall not be impaired or affected without the consent of the holder.

The senior indenture requires certain of our officers to certify, on or before a fixed date in each year in which any senior debt security is outstanding, as to their knowledge of our compliance with all covenants, agreements and conditions under the senior indenture.

### ***Satisfaction and Discharge***

We can satisfy and discharge our obligations to holders of any series of debt securities if:

- we pay or cause to be paid, as and when due and payable, the principal of and any interest on all senior debt securities of such series outstanding under the senior indenture;
- we deliver to the senior trustee for cancellation all senior debt securities of such series theretofore authenticated under the senior indenture; or
- all senior debt securities of such series have become due and payable or will become due and payable within one year (or are to be called for redemption within one year) and we deposit in trust a combination of cash and U.S. government or U.S. government agency obligations (or in the case of senior debt securities denominated in a foreign currency, foreign government securities or foreign government agency securities) that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.

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and if, in any such case, we also pay or cause to be paid all other sums payable under the senior indenture, as and when the same shall be due and payable and we deliver to the senior trustee an officer's certificate and an opinion of counsel, each stating that these conditions have been satisfied.

Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us. Purchasers of the debt securities should consult their own advisers with respect to the tax consequences to them of such deposit and discharge, including the applicability and effect of tax laws other than the U.S. federal income tax law.

### ***Defeasance***

Unless the applicable prospectus supplement provides otherwise, the following discussion of legal defeasance and discharge and covenant defeasance will apply to any series of debt securities issued under the indentures.

### ***Legal Defeasance***

We can legally release ourselves from any payment or other obligations on the debt securities of any series (called "legal defeasance") if certain conditions are met, including the following:

- We deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.
- There is a change in current U.S. federal income tax law or an IRS ruling that lets us make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due. Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us.
- We deliver to the trustee a legal opinion of our counsel confirming the tax law change or ruling described above.

If we accomplish legal defeasance, as described above, you would have to rely solely on the trust deposit for repayment of the debt securities. You could not look to us for repayment in the event of any shortfall.

### ***Covenant Defeasance***

Without any change of current U.S. federal tax law, we can make the same type of deposit described above and be released from some of the covenants in the debt securities (called "covenant defeasance"). In that event, you would lose the protection of those covenants but would gain the protection of having money and securities set aside in trust to repay the debt securities. In order to achieve covenant defeasance, we must do the following (among other things):

- We must deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the same series a combination of cash and U.S. government or U.S. government agency obligations that will generate enough cash to make interest, principal and any other payments on the debt securities of that series on their various due dates.
- We must deliver to the trustee a legal opinion of our counsel confirming that under current U.S. federal income tax law we may make the above deposit without causing you to be taxed on the debt securities

any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due.

If we accomplish covenant defeasance, you could still look to us for repayment of the debt securities if there were a shortfall in the trust deposit. In fact, if one of the events of default occurred (such as our bankruptcy) and the debt securities become immediately due and payable, there may be such a shortfall. Depending on the events causing the default, you may not be able to obtain payment of the shortfall.

### ***Modification and Waiver***

We and the trustee may amend or supplement the senior indenture or the senior debt securities without the consent of any holder:

- to convey, transfer, assign, mortgage or pledge any assets as security for the senior debt securities of one or more series;
- to evidence the succession of a corporation, limited liability company, partnership or trust to us, and the assumption by such successor of our covenants, agreements and obligations under the senior indenture or to otherwise comply with the covenant relating to mergers, consolidations and sales of assets;
- to comply with the requirements of the SEC in order to effect or maintain the qualification of the senior indenture under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default;
- to cure any ambiguity, defect or inconsistency in the senior indenture or in any supplemental indenture or to conform the senior indenture or the senior debt securities to the description of senior debt securities of such series set forth in this prospectus or any applicable prospectus supplement;
- to provide for or add guarantors with respect to the senior debt securities of any series;
- to establish the form or forms or terms of the senior debt securities as permitted by the senior indenture;
- to evidence and provide for the acceptance of appointment under the senior indenture by a successor trustee, or to make such changes as shall be necessary to provide for or facilitate the administration of the trusts in the senior indenture by more than one trustee;
- to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms, purposes of issue, authentication and delivery of any series of senior debt securities;
- to make any change to the senior debt securities of any series so long as no senior debt securities of such series are outstanding; or
- to make any change that does not adversely affect the rights of any holder in any material respect.

Other amendments and modifications of the senior indenture or the senior debt securities issued may be made, and our compliance with any provision of the senior indenture with respect to any series of senior debt securities may be waived, with the consent of the holders of a majority of the aggregate principal amount of the outstanding senior debt securities of all series affected by the amendment or modification (voting together as a single class); provided, however, that each affected holder must consent to any modification, amendment or waiver that:

- extends the final maturity of any senior debt securities of such series;
- reduces the principal amount of any senior debt securities of such series;

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- reduces the rate or extends the time of payment of interest on any senior debt securities of such series;
- reduces the amount payable upon the redemption of any senior debt securities of such series;
- changes the currency of payment of principal of or interest on any senior debt securities of such series;
- reduces the principal amount of original issue discount securities payable upon acceleration of maturity or the amount provable in bankruptcy;
- waives an uncured default in the payment of principal of or interest on the senior debt securities (except in the case of a rescission of acceleration as described above);
- changes the provisions relating to the waiver of past defaults or changes or impairs the right of holders to receive payment or to institute suit for the enforcement of any payment or conversion of any senior debt securities of such series on or after the due date therefor;
- modifies any of the provisions of these restrictions on amendments and modifications, except to increase any required percentage or to provide that certain other provisions cannot be modified or waived without the consent of the holder of each senior debt security of such series affected by the modification; or
- reduces the above-stated percentage of outstanding senior debt securities of such series whose holders must consent to a supplemental indenture or modifies, amends or waives certain provisions of or defaults under the senior indenture.

It shall not be necessary for the holders to approve the particular form of any proposed amendment, supplement or waiver, but it shall be sufficient if the holders' consent approves the substance thereof. After an amendment, supplement or waiver of the senior indenture in accordance with the provisions described in this section becomes effective, the trustee must give to the holders affected thereby certain notice briefly describing the amendment, supplement or waiver. Any failure by the trustee to give such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amendment, supplemental indenture or waiver.

### ***No Personal Liability of Incorporators, Stockholders, Officers, Directors***

The senior indenture provides that no recourse shall be had under any obligation, covenant or agreement of ours in the senior indenture or any supplemental indenture, or in any of the senior debt securities or because of the creation of any indebtedness represented thereby, against any of our incorporators, stockholders, officers or directors, past, present or future, or of any predecessor or successor entity thereof under any law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. Each holder, by accepting the senior debt securities, waives and releases all such liability.

### ***Concerning the Trustee***

The senior indenture provides that, except during the continuance of an event of default, the trustee will not be liable except for the performance of such duties as are specifically set forth in the senior indenture. If an event of default has occurred and is continuing, the trustee will exercise such rights and powers vested in it under the senior indenture and will use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

The senior indenture and the provisions of the Trust Indenture Act incorporated by reference therein contain limitations on the rights of the trustee thereunder, should it become a creditor of ours or our subsidiary, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claims, as security or otherwise. The trustee is permitted to engage in other transactions, provided that if it acquires any conflicting interest (as defined in the Trust Indenture Act), it must eliminate such conflict or resign.

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We may have normal banking relationships with the senior trustee in the ordinary course of business.

### ***Unclaimed Funds***

All funds deposited with the trustee or any paying agent for the payment of principal, premium, interest or additional amounts in respect of the senior debt securities that remain unclaimed for two years after the date upon which such principal, premium, interest or additional amounts became due and payable will be repaid to us. Thereafter, any right of any holder of senior debt securities to such funds shall be enforceable only against us, and the trustee and paying agents will have no liability therefor.

### ***Governing Law***

The senior indenture and the senior debt securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

### ***Certain Terms of the Subordinated Debt Securities***

Other than the terms of the subordinated indenture and subordinated debt securities relating to subordination or otherwise as described in the prospectus supplement relating to a particular series of subordinated debt securities, the terms of the subordinated indenture and subordinated debt securities are identical in all material respects to the terms of the senior indenture and senior debt securities.

Additional or different subordination terms may be specified in the prospectus supplement applicable to a particular series.

### ***Subordination***

The indebtedness evidenced by the subordinated debt securities is subordinate to the prior payment in full of all of our senior indebtedness, as defined in the subordinated indenture. During the continuance beyond any applicable grace period of any default in the payment of principal, premium, interest or any other payment due on any of our senior indebtedness, we may not make any payment of principal or interest on the subordinated debt securities (except for certain sinking fund payments). In addition, upon any payment or distribution of our assets upon any dissolution, winding-up, liquidation or reorganization, the payment of the principal of and interest on the subordinated debt securities will be subordinated to the extent provided in the subordinated indenture in right of payment to the prior payment in full of all our senior indebtedness. Because of this subordination, if we dissolve or otherwise liquidate, holders of our subordinated debt securities may receive less, ratably, than holders of our senior indebtedness. The subordination provisions do not prevent the occurrence of an event of default under the subordinated indenture.

The term “senior indebtedness” of a person means with respect to such person the principal of, premium, if any, interest on, and any other payment due pursuant to any of the following, whether outstanding on the date of the subordinated indenture or incurred by that person in the future:

- all of the indebtedness of that person for money borrowed;
- all of the indebtedness of that person evidenced by notes, debentures, bonds or other securities sold by that person for money;
- all of the lease obligations that are capitalized on the books of that person in accordance with generally accepted accounting principles;
- all indebtedness of others of the kinds described in the first two bullet points above and all lease obligations of others of the kind described in the third bullet point above that the person, in any manner, assumes or guarantees or that the person in effect guarantees through an agreement to purchase, whether that agreement is contingent or otherwise; and

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- all renewals, extensions or refundings of indebtedness of the kinds described in the first, second or fourth bullet point above and all renewals or extensions of leases of the kinds described in the third or fourth bullet point above;

unless, in the case of any particular indebtedness, renewal, extension or refunding, the instrument creating or evidencing it or the assumption or guarantee relating to it expressly provides that such indebtedness, renewal, extension or refunding is not superior in right of payment to the subordinated debt securities. Our senior debt securities constitute senior indebtedness for purposes of the subordinated debt indenture.

## DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not complete. This description is based upon, and is qualified by reference to, our restated certificate of incorporation and our amended and restated bylaws, each as amended from time to time, and by applicable provisions of Delaware corporate law. You should read our restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 200,000,000 shares of common stock, par value \$0.0001 per share, and 10,000,000 shares of preferred stock, par value \$0.0001 per share. As of August 31, 2019, 63,808,485 shares of common stock were outstanding and no shares of preferred stock were outstanding.

### Common Stock

*Voting Rights.* Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter, except as otherwise disclosed below.

*Dividends.* Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

*Liquidation and Dissolution.* In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock.

*Other Rights.* Holders of common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

*Transfer Agent and Registrar.* The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

*Listing on The Nasdaq Global Select Market.* Our common stock is listed on The Nasdaq Global Select Market under the symbol "APLS."

### Preferred Stock

Under the terms of our restated certificate of incorporation, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

A series of our preferred stock could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors will make any determination to issue preferred shares based upon its judgment as to the best interests of our stockholders. Our directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquirer may be able to change the composition of our board of directors, including a tender offer or other transaction that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of the stock.

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The preferred stock has the terms described below unless otherwise provided in the prospectus supplement relating to a particular series of preferred stock. You should read the prospectus supplement relating to the particular series of preferred stock being offered for specific terms, including:

- the designation and stated value per share of the preferred stock and the number of shares offered;
- the amount of liquidation preference per share;
- the price at which the preferred stock will be issued;
- the dividend rate, or method of calculation of dividends, the dates on which dividends will be payable, whether dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will commence to accumulate;
- any redemption or sinking fund provisions;
- if other than the currency of the United States, the currency or currencies including composite currencies in which the preferred stock is denominated and/or in which payments will or may be payable;
- any conversion provisions; and
- any other rights, preferences, privileges, limitations and restrictions on the preferred stock.

The preferred stock will, when issued, be fully paid and non-assessable. Unless otherwise specified in the prospectus supplement, each series of preferred stock will rank equally as to dividends and liquidation rights in all respects with each other series of preferred stock. The rights of holders of shares of each series of preferred stock will be subordinate to those of our general creditors.

*Rank.* Unless otherwise specified in the prospectus supplement, the preferred stock will, with respect to dividend rights and rights upon our liquidation, dissolution or winding up of our affairs, rank:

- senior to our common stock and to all equity securities ranking junior to such preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs;
- on a parity with all equity securities issued by us, the terms of which specifically provide that such equity securities rank on a parity with the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs; and
- junior to all equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs.

The term “equity securities” does not include convertible debt securities.

*Dividends.* Holders of the preferred stock of each series will be entitled to receive, when, as and if declared by our board of directors, cash dividends at such rates and on such dates described in the prospectus supplement. Different series of preferred stock may be entitled to dividends at different rates or based on different methods of calculation. The dividend rate may be fixed or variable or both. Dividends will be payable to the holders of record as they appear on our stock books on record dates fixed by our board of directors, as specified in the applicable prospectus supplement.

Dividends on any series of preferred stock may be cumulative or noncumulative, as described in the applicable prospectus supplement. If our board of directors does not declare a dividend payable on a dividend payment date on any series of noncumulative preferred stock, then the holders of that noncumulative preferred stock will have no right to receive a dividend for that dividend payment date, and we will have no obligation to pay the dividend accrued for that period, whether or not dividends on that series are declared payable on any future dividend payment dates. Dividends on any series of cumulative preferred stock will accrue from the date we initially issue shares of such series or such other date specified in the applicable prospectus supplement.

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No dividends may be declared or paid or funds set apart for the payment of any dividends on any parity securities unless full dividends have been paid or set apart for payment on the preferred stock. If full dividends are not paid, the preferred stock will share dividends pro rata with the parity securities.

No dividends may be declared or paid or funds set apart for the payment of dividends on any junior securities unless full dividends for all dividend periods terminating on or prior to the date of the declaration or payment will have been paid or declared and a sum sufficient for the payment set apart for payment on the preferred stock.

*Liquidation Preference.* Upon any voluntary or involuntary liquidation, dissolution or winding up of our affairs, then, before we make any distribution or payment to the holders of any common stock or any other class or series of our capital stock ranking junior to the preferred stock in the distribution of assets upon any liquidation, dissolution or winding up of our affairs, the holders of each series of preferred stock shall be entitled to receive out of assets legally available for distribution to stockholders, liquidating distributions in the amount of the liquidation preference per share set forth in the prospectus supplement, plus any accrued and unpaid dividends thereon. Such dividends will not include any accumulation in respect of unpaid noncumulative dividends for prior dividend periods. Unless otherwise specified in the prospectus supplement, after payment of the full amount of their liquidating distributions, the holders of preferred stock will have no right or claim to any of our remaining assets. Upon any such voluntary or involuntary liquidation, dissolution or winding up, if our available assets are insufficient to pay the amount of the liquidating distributions on all outstanding preferred stock and the corresponding amounts payable on all other classes or series of our capital stock ranking on parity with the preferred stock and all other such classes or series of shares of capital stock ranking on parity with the preferred stock in the distribution of assets, then the holders of the preferred stock and all other such classes or series of capital stock will share ratably in any such distribution of assets in proportion to the full liquidating distributions to which they would otherwise be entitled.

Upon any such liquidation, dissolution or winding up and if we have made liquidating distributions in full to all holders of preferred stock, we will distribute our remaining assets among the holders of any other classes or series of capital stock ranking junior to the preferred stock according to their respective rights and preferences and, in each case, according to their respective number of shares. For such purposes, our consolidation or merger with or into any other corporation, trust or entity, or the sale, lease or conveyance of all or substantially all of our property or assets will not be deemed to constitute a liquidation, dissolution or winding up of our affairs.

*Redemption.* If so provided in the applicable prospectus supplement, the preferred stock will be subject to mandatory redemption or redemption at our option, as a whole or in part, in each case upon the terms, at the times and at the redemption prices set forth in such prospectus supplement.

The prospectus supplement relating to a series of preferred stock that is subject to mandatory redemption will specify the number of shares of preferred stock that shall be redeemed by us in each year commencing after a date to be specified, at a redemption price per share to be specified, together with an amount equal to all accrued and unpaid dividends thereon to the date of redemption. Unless the shares have a cumulative dividend, such accrued dividends will not include any accumulation in respect of unpaid dividends for prior dividend periods. We may pay the redemption price in cash or other property, as specified in the applicable prospectus supplement. If the redemption price for preferred stock of any series is payable only from the net proceeds of the issuance of shares of our capital stock, the terms of such preferred stock may provide that, if no such shares of our capital stock shall have been issued or to the extent the net proceeds from any issuance are insufficient to pay in full the aggregate redemption price then due, such preferred stock shall automatically and mandatorily be converted into the applicable shares of our capital stock pursuant to conversion provisions specified in the applicable prospectus supplement. Notwithstanding the foregoing, we will not redeem any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on the preferred stock for all past dividend periods and the then current dividend period; or

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- if such series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends for the then current dividend period.

In addition, we will not acquire any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on all outstanding shares of such series of preferred stock for all past dividend periods and the then current dividend period; or
- if that series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends on the preferred stock of such series for the then current dividend period.

However, at any time we may purchase or acquire preferred stock of that series (1) pursuant to a purchase or exchange offer made on the same terms to holders of all outstanding preferred stock of such series or (2) by conversion into or exchange for shares of our capital stock ranking junior to the preferred stock of such series as to dividends and upon liquidation.

If fewer than all of the outstanding shares of preferred stock of any series are to be redeemed, we will determine the number of shares that may be redeemed pro rata from the holders of record of such shares in proportion to the number of such shares held or for which redemption is requested by such holder or by any other equitable manner that we determine. Such determination will reflect adjustments to avoid redemption of fractional shares.

Unless otherwise specified in the prospectus supplement, we will mail notice of redemption at least 30 days but not more than 60 days before the redemption date to each holder of record of preferred stock to be redeemed at the address shown on our stock transfer books. Each notice shall state:

- the redemption date;
- the number of shares and series of preferred stock to be redeemed;
- the redemption price;
- the place or places where certificates for such preferred stock are to be surrendered for payment of the redemption price;
- that dividends on the shares to be redeemed will cease to accrue on such redemption date;
- the date on which the holder's conversion rights, if any, as to such shares shall terminate; and
- the specific number of shares to be redeemed from each such holder if fewer than all the shares of any series are to be redeemed.

If notice of redemption has been given and we have set aside the funds necessary for such redemption in trust for the benefit of the holders of any shares called for redemption, then from and after the redemption date, dividends will cease to accrue on such shares, and all rights of the holders of such shares will terminate, except the right to receive the redemption price.

*Voting Rights.* Holders of preferred stock will not have any voting rights, except as required by law or as indicated in the applicable prospectus supplement.

Unless otherwise provided for under the terms of any series of preferred stock, no consent or vote of the holders of shares of preferred stock or any series thereof shall be required for any amendment to our restated certificate of incorporation that would increase the number of authorized shares of preferred stock or the number of authorized shares of any series thereof or decrease the number of authorized shares of preferred stock or the

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number of authorized shares of any series thereof (but not below the number of authorized shares of preferred stock or such series, as the case may be, then outstanding).

*Conversion Rights.* The terms and conditions, if any, upon which any series of preferred stock is convertible into our common stock will be set forth in the applicable prospectus supplement relating thereto. Such terms will include the number of shares of common stock into which the shares of preferred stock are convertible, the conversion price, rate or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at our option or at the option of the holders of the preferred stock, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption.

*Transfer Agent and Registrar.* The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

### **Registration Rights**

Our investors' rights agreement provides specified holders of shares of our common stock, including some of our directors and 5% stockholders and their respective affiliates and entities affiliated with our officers and directors, the right to require us to register such shares under the Securities Act under specified circumstances as described below. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act.

#### ***Demand Registration Rights***

Subject to specified limitations set forth in the investors' rights agreement, at any time the holders of a majority of then outstanding registrable securities, as defined in the investors' rights agreement, acting together, may demand in writing that we register their registrable securities under the Securities Act so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$5.0 million. We are not obligated to file a registration statement pursuant to this demand provision on more than two occasions, subject to specified exceptions.

In addition, at any time after we become eligible to file a registration statement on Form S-3 under the Securities Act, subject to specified limitations, the holders of at least 30% of the registrable securities then outstanding may demand in writing that we register on Form S-3 registrable shares held by them so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$1.0 million.

#### ***Incidental Registration Rights***

If we propose to file a registration statement to register any of our securities under the Securities Act, either for our own account or for the account of any of our stockholders that are not holders of registrable shares, solely for cash and on a form that would also permit the registration of registrable shares, the holders of our registrable shares are entitled to notice of registration and, subject to specified exceptions, we will be required to register the registrable shares then held by them that they request that we register.

#### ***Expenses***

Pursuant to the investors' rights agreement, we are required to pay all registration expenses, including registration fees, printing expenses, fees and disbursements of our counsel and accountants and reasonable fees and disbursements of one counsel representing the selling stockholders, other than any underwriting discounts and commissions, related to any demand or incidental registration. The investors' rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling

stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

#### **Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws**

Delaware law contains, our restated certificate of incorporation and our amended and restated bylaws contain, provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

#### ***Staggered Board; Removal of Directors***

Our restated certificate of incorporation and amended and restated bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause and only by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of the Company.

#### ***Stockholder Action by Written Consent; Special Meetings***

Our restated certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our restated certificate of incorporation and amended and restated bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our chief executive officer or our board of directors.

#### ***Advance Notice Requirements for Stockholder Proposals***

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting may consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

#### ***Delaware Business Combination Statute***

We are subject to Section 203 of the General Corporation Law of the State of Delaware. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

***Amendment of Certificate of Incorporation and Bylaws***

The General Corporation Law of the State of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our amended and restated bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our restated certificate of incorporation described above under "—Staggered Board; Removal of Directors" and "—Stockholder Action by Written Consent; Special Meetings."

***Exclusive Forum Selection***

Our restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of the Company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to the Company or our stockholders, (3) any action asserting a claim against the Company arising pursuant to any provision of the General Corporation Law of the State of Delaware or our restated certificate of incorporation or amended and restated bylaws, or (4) any action asserting a claim against the Company governed by the internal affairs doctrine. Although our restated certificate of incorporation contains the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

## DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other securities that may be offered under this prospectus, in any combination. The following, together with the additional information we may include in the applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms summarized below will apply generally to any units we may offer, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately at any time, or at any time before a specified date.

Any applicable prospectus supplement will describe:

- the material terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any material provisions relating to the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any material provisions of the governing unit agreement that differ from those described above.

## DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock, preferred stock or debt securities. We may offer warrants separately or together with one or more additional warrants, common stock, preferred stock or debt securities, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the accompanying prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the preferred stock with which the warrants are issued and, the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related preferred stock, common stock or debt security will be separately transferable;
- the number of shares of common stock or preferred stock purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of, and other provisions for changes to or adjustment in the exercise price of, the warrants, if any;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

## FORMS OF SECURITIES

Each debt security, warrant and unit will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Unless the applicable prospectus supplement provides otherwise, certificated securities will be issued in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, warrants or units represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

### Global Securities

We may issue the debt securities, warrants and units in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a global security may not be transferred except as a whole by and among the depositary for the global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in global securities.

So long as the depositary, or its nominee, is the registered owner of a global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the global security for all purposes under the applicable indenture, warrant or unit agreement. Except as described below, owners of beneficial interests in a global security will not be entitled to have the securities represented by the global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture, warrant or unit agreement. Accordingly, each person owning a beneficial interest in a global security must rely on the procedures of the depositary for that global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, warrant or unit agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture, warrant or unit

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agreement, the depositary for the global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, and interest payments on debt securities, and any payments to holders with respect to warrants or units, represented by a global security registered in the name of a depositary or its nominee will be made to the depositary or its nominee, as the case may be, as the registered owner of the global security. None of us, or any trustee, warrant agent, unit agent or any other agent of ours, or any agent of any trustee, warrant agent or unit agent will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depositary for any of the securities represented by a global security, upon receipt of any payment to holders of principal, premium, interest or other distribution of underlying securities or other property on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that global security as shown on the records of the depositary. We also expect that payments by participants to owners of beneficial interests in a global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in "street name," and will be the responsibility of those participants.

If the depositary for any of the securities represented by a global security is at any time unwilling or unable to continue as depositary or ceases to be a clearing agency registered under the Exchange Act, and a successor depositary registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the global security that had been held by the depositary. Any securities issued in definitive form in exchange for a global security will be registered in the name or names that the depositary gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depositary's instructions will be based upon directions received by the depositary from participants with respect to ownership of beneficial interests in the global security that had been held by the depositary.

## PLAN OF DISTRIBUTION

### Securities Offered by Us

We may sell securities:

- to or through underwriters;
- to or through brokers or dealers;
- through agents;
- directly to one or more purchasers in negotiated sales or competitively bid transactions;
- through a block trade in which the broker or dealer engaged to handle the block trade will attempt to sell the securities as agent, but may position and resell a portion of the block as principal to facilitate the transaction; or
- through a combination of any of these methods of sale.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price and the proceeds we will receive from the sale of the securities;
- any discounts and commissions to be allowed or re-allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or re-allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

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If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Remarketing firms, agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallocate in connection with the offering, creating a short position for their own accounts. In addition, to cover overallocations or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise or the securities are sold by us to an underwriter in a firm commitment underwritten offering. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the

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second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

### **Common Stock Offered by the Selling Stockholders**

The shares of common stock covered by this prospectus for offering and sale by the selling stockholders may be offered and sold from time to time by the selling stockholders. The term “selling stockholders” includes transferees, pledgees, or donees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge, partnership distribution or other non-sale related transfer. The selling stockholders will act independently of us in making decisions with respect to the timing, manner, and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price, or in negotiated transactions. We will not receive any proceeds from the sale of shares of common stock by the selling stockholders. The selling stockholders may sell their shares by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- over-the-counter distributions in accordance with the rules of the Nasdaq Global Select Market;
- privately negotiated transactions;
- options transactions;
- combinations of any of such methods; and
- any other method permitted by applicable law.

In addition, any shares that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the shares or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the common stock in the course of hedging the positions they assume with the selling stockholders. The selling stockholders may also sell the common stock short and redeliver the shares to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions that require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling stockholders may also pledge shares to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution may effect sales of the pledged shares pursuant to this prospectus (as supplemented or amended to reflect such transaction).

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In effecting sales, broker-dealers or agents engaged by the selling stockholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts, or concessions from the selling stockholders in amounts to be negotiated immediately prior to the sale.

In offering the shares covered by this prospectus, the selling stockholders and any broker-dealers who execute sales for the selling stockholders may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling stockholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the shares must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with. In addition, the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates.

We will make copies of this prospectus available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of shares is made, if required, a prospectus supplement will be distributed that will set forth the number of shares being offered and the terms of the offering, including the name of any underwriter, dealer, or agent, the purchase price paid by any underwriter, any discount, commission, and other item constituting compensation, any discount, commission, or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public.

## **LEGAL MATTERS**

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Wilmer Cutler Pickering Hale and Dorr LLP.

## **EXPERTS**

The consolidated financial statements of Apellis Pharmaceuticals, Inc. (the Company) appearing in the Company's Annual Report (Form 10-K) for the year ended December 31, 2018, and the effectiveness of Apellis Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2018, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.



**Apellis Pharmaceuticals, Inc.**

**\$300,000,000**  
**of**  
**DEBT SECURITIES**  
**COMMON STOCK**  
**PREFERRED STOCK**  
**UNITS**  
**WARRANTS**  
**Offered by the Company and**  
**12,256,035 Shares**  
**of Common Stock**  
**Offered by Selling Stockholders**

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**PROSPECTUS**

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, 2019

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**The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.**

**Subject to completion, dated October 4, 2019**

**PROSPECTUS**

**\$150,000,000**

**Apellis**

**Apellis Pharmaceuticals, Inc.**

**Common Stock**

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This prospectus relates to the offer, issuance and sale from time to time of shares of our common stock, par value \$0.0001 per share, having an aggregate offering price of up to \$150,000,000 through, at our option, Citigroup Global Markets Inc. and Jefferies LLC, our sales agents. These sales, if any, will be made pursuant to the terms of the amended and restated equity distribution agreement dated October 4, 2019, between us and the sales agents.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "APLS." The last reported sale price of our common stock on October 3, 2019 was \$23.97 per share.

Sales of our common stock, if any, under this prospectus will be made at market prices by any method that is deemed an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, or the Securities Act, including sales made directly on or through The Nasdaq Global Select Market or on any other existing trading market for our common stock. We will submit orders to only one sales agent relating to the sale of shares of our common stock under the equity distribution agreement on any given day. The sales agents are not required to sell any specific amount of securities, but will act as our sales agents using commercially reasonable efforts consistent with their normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of The Nasdaq Stock Market, LLC. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Citigroup Global Markets Inc. and Jefferies LLC will be entitled to a commission of up to 3.0% of the gross sales price per share sold by such sales agent under the equity distribution agreement. See "Plan of Distribution" beginning on page SA-16 for additional information regarding the compensation to be paid to the sales agents. In connection with the sale of the shares of common stock on our behalf, the sales agents will be deemed to be "underwriters" within the meaning of the Securities Act, and the compensation of the sales agents will be deemed to be underwriting commissions or discounts.

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**Investing in these securities involves certain risks. See "[Risk Factors](#)" on page SA-7 of this prospectus and in the documents incorporated by reference in this prospectus for a discussion of the factors you should carefully consider before deciding to purchase our common stock.**

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**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

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**Citigroup**

**Jefferies**

, 2019

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the “SEC” or the “Commission,” utilizing a “shelf” registration process. Under this shelf registration process, we may from time to time offer shares of our common stock having an aggregate offering price of up to \$150,000,000 under this prospectus at prices and on terms to be determined by market conditions at the time of offering.

Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus and all of the information contained in the documents incorporated by reference in this prospectus, as well as the additional information described under the headings “Where You Can Find More Information” and “Incorporation by Reference.” These documents contain important information that you should consider when making your investment decision.

To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference in this prospectus that was filed with the SEC before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreement, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

We have not, and the sales agents have not, authorized anyone to provide you with any information other than that contained or incorporated by reference in this prospectus or in any prospectus supplement or free writing prospectus that we authorize for use in connection with this offering and to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, the documents incorporated by reference and any related prospectus supplement or free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise indicates, references in this prospectus to “we,” “our” and “us” refer, collectively, to Apellis Pharmaceuticals, Inc., a Delaware corporation, and its subsidiaries. The Apellis logo is our trademark. The other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Copies of certain information filed by us with the SEC are also available on our website at <http://www.apellis.com/>. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiary and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-38276) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed.

- Annual Report on Form 10-K for the year ended December 31, 2018, including the information specifically incorporated by reference into the Annual Report on Form 10-K for the year ended December 31, 2018 from our definitive proxy statement for the 2019 Annual Meeting of Stockholders;
- Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2019 and June 30, 2019;
- Current Reports on Form 8-K filed with the SEC on February 28, 2019, March 4, 2019, March 7, 2019, April 12, 2019, June 10, 2019, September 12, 2019 and September 16, 2019; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed on November 3, 2017, including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these documents, which will be provided to you at no cost, by writing or telephoning us using the following contact information:

Apellis Pharmaceuticals, Inc.  
6400 Westwind Way, Suite A  
Crestwood, KY 40014  
(502) 241-4114

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. All statements, other than statements of historical facts, contained in this herein and therein, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management and expected market growth are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

These forward-looking statements include, among other things, statements about:

- our plans with respect to our ongoing and planned clinical trials for our product candidates, whether conducted by us or by any future collaborators, including the timing of these trials and of the anticipated results;
- our plans to initiate clinical trials of APL-2;
- the potential clinical benefits and attributes of APL-2 and the inhibition of C3;
- our plans to develop APL-2 for any additional indications;
- our plans to research, develop and commercialize our current and future product candidates;
- our plans to potentially seek to enter into collaborations for the development and commercialization of certain product candidates;
- the potential benefits of any future collaboration;
- the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;
- the rate and degree of market acceptance and clinical utility of any products for which we receive marketing approval;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our intellectual property position and strategy;
- our ability to identify additional products or product candidates with significant commercial potential;
- our expectations related to the use of proceeds from this offering;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- developments relating to our competitors and our industry; and
- the impact of government laws and regulations.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. You are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions that are referenced in the section of any accompanying prospectus supplement entitled “Risk Factors.” You should also carefully review the risk factors and cautionary statements described in the other documents we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments that we may make or enter into.

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You should read this prospectus and the information incorporated by reference herein completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

## PROSPECTUS SUMMARY

*This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus and the information under the heading “Risk Factors” in this prospectus on page 7.*

### **Apellis Pharmaceuticals, Inc.**

We are a clinical-stage biopharmaceutical company focused on the development of novel therapeutic compounds to treat disease through the inhibition of the complement system, which is an integral component of the immune system, at the level of C3, the central protein in the complement cascade. We believe that this approach can result in broad inhibition of the principal pathways of the complement system and has the potential to effectively control a broad array of complement-dependent autoimmune and inflammatory diseases.

We have the most advanced clinical program targeting C3 with Phase 3 clinical trials of our lead product candidate, APL-2, in multiple indications. We believe that APL-2 has the potential to be a best-in-class treatment that may address the limitations of existing treatment options or provide a treatment option where there currently is none. APL-2 has already shown activity that we believe is clinically meaningful in clinical trials for four distinct medical conditions—geographic atrophy in age-related macular degeneration, paroxysmal nocturnal hemoglobinuria, cold agglutinin disease and warm antibody autoimmune hemolytic anemia.

Our principal executive offices are located at 6400 Westwind Way, Suite A, Crestwood, KY 40014, and our telephone number is (502) 241-4114.

**THE OFFERING**

Common stock offered by Apellis	Shares of our common stock having an aggregate offering price of up to \$150,000,000.
Manner of offering	“At the market offering” that may be made from time to time through, at our option, either of our sales agents, Citigroup Global Markets Inc. or Jefferies LLC. See the section entitled “Plan of Distribution” on page SA-16 of this prospectus.
Use of proceeds	<p>We expect to use the net proceeds from this offering to fund clinical development of APL-2, to support the potential commercialization of APL-2, including the build-out of a commercial infrastructure and sales force, conduct research activities and for working capital and other general corporate purposes.</p> <p>We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds. See “Use of Proceeds” on page SA-9 of this prospectus.</p>
Risk factors	See “Risk Factors” beginning on page SA-7 of this prospectus and the other information included in, or incorporated by reference into, this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Nasdaq Global Select Market symbol	“APLS”

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should consider carefully the risks and uncertainties described below and under the section captioned “Risk Factors” contained in our most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and other filings we make with the SEC from time to time, which are incorporated by reference herein in their entirety, together with other information in this prospectus, the information and documents incorporated by reference in this prospectus, and in any prospectus supplement or free writing prospectus that we authorize for use in connection with this offering. If any of the following risks actually occurs, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment.*

### **Risks Related to This Offering**

***If you purchase shares of common stock in this offering, you will suffer immediate dilution of your investment.***

The shares sold in this offering, if any, will be sold from time to time at various prices. However, the expected offering price of our common stock will be substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. Assuming that an aggregate of 6,257,822 shares of our common stock are sold at a price of \$23.97 per share pursuant to this prospectus, which was the last reported sale price of our common stock on The Nasdaq Global Select Market on October 3, 2019, for aggregate gross proceeds of \$150,000,000, after deducting commissions and estimated aggregate offering expenses payable by us, you will experience immediate dilution of \$19.62 per share, representing the difference between our as adjusted net tangible book value per share after giving effect to this offering and the assumed offering price of \$23.97 per share. To the extent outstanding options or warrants are exercised or shares of our common stock are issued upon the conversion of our outstanding 3.500% convertible senior notes due 2026, you will incur further dilution. For additional information on the dilution that you will experience immediately after this offering, see the section titled “Dilution.”

***Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock.***

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock. Therefore, it is possible that we could issue and sell additional shares of our common stock in the public markets. We cannot predict the effect that future sales of our common stock would have on the market price of our common stock.

***We have broad discretion in the use of the net proceeds from this offering and may invest or spend the proceeds in ways with which you do not agree and in ways that may not yield a return on your investment.***

Although we currently intend to use the net proceeds from this offering in the manner described in the section titled “Use of Proceeds” in this prospectus, our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering. The failure by our management to apply these funds effectively could result in financial losses that could harm our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

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***We do not anticipate paying any cash dividends on our capital stock in the foreseeable future. Accordingly, stockholders must rely on capital appreciation, if any, for any return on their investment.***

We have never declared nor paid cash dividends on our capital stock. We currently plan to retain all of our future earnings, if any, to finance the operation, development and growth of our business. In addition, the terms of our development funding agreement with SFJ Pharmaceuticals Group precludes us from paying dividends, and any future debt or credit agreements may also preclude us from paying dividends. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

## USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross sales proceeds of up to \$150,000,000 from time to time, before deducting sales agent commissions and expenses. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time.

We expect to use the net proceeds from this offering to fund clinical development of APL-2, to support the potential commercialization of APL, including the build-out of a commercial infrastructure and sales force conduct research activities and for working capital and other general corporate purposes.

The amounts and timing of our actual use of the net proceeds may vary significantly depending on numerous factors, including the progress of our research and development efforts, the status of and results from clinical trials, any collaborations that we may enter into with third parties for our programs, and any unforeseen cash needs. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the timing and application of these proceeds.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in money market funds, government-insured bank deposit accounts or U.S. government securities.

## **DIVIDEND POLICY**

We have never declared nor paid cash dividends on our common stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, our development funding agreement with SFJ Pharmaceuticals Group contains restrictive covenants that prohibit us, subject to certain exceptions, from paying dividends on our common stock, and future debt securities or other financing arrangements could contain similar or more restrictive negative covenants. We do not intend to pay cash dividends in respect of our common stock in the foreseeable future.

## DILUTION

If you invest in our common stock, your ownership interest will be diluted immediately to the extent of the difference between the price per share you pay in this offering and the as adjusted tangible book value per share of our common stock after this offering.

Our historical net tangible book value as of June 30, 2019 was \$159.1 million, or \$2.50 per share of common stock. Our historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of June 30, 2019.

After giving effect to the sale of our common stock in the aggregate amount of \$150,000,000 in this offering at an assumed offering price of \$23.97 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on October 3, 2019 and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of June 30, 2019 would have been \$304.1 million, or \$4.35 per share. This represents an immediate increase of \$1.85 in as adjusted net tangible book value per share to existing stockholders and immediate dilution of \$19.62 in as adjusted net tangible book value per share to investors purchasing common stock in this offering. Dilution per share to investors purchasing common stock in this offering is determined by subtracting as adjusted net tangible book value per share after this offering from the price paid per share paid by investors purchasing common stock in this offering. The following table illustrates this calculation on a per share basis.

The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed offering price per share	\$23.97
Historical net tangible book value per share as of June 30, 2019	\$2.50
Increase in net tangible book value per share attributable to investors purchasing shares of our common stock in this offering	<u>1.85</u>
As adjusted net tangible book value per share after giving effect to this offering	<u>4.35</u>
Dilution per share to investors purchasing common stock in this offering	<u>\$19.62</u>

The as adjusted information is illustrative only and will adjust based on the actual price to the public, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus. The as adjusted information assumes that all of our common stock in the aggregate amount of \$150,000,000 is sold at the assumed offering price of \$23.97 per share, the last reported sale price of our common stock on The Nasdaq Global Select Market on October 3, 2019. The shares sold in this offering, if any, will be sold from time to time at various prices.

The table above excludes:

- 9,094,586 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2019, at a weighted-average exercise price of \$10.14 per share;
- 472,100 shares of our common stock issuable upon the exercise of stock options granted after June 30, 2019, at a weighted average exercise price of \$27.87 per share;
- 1,963,894 and 972,164 additional shares of our common stock available for future issuance, as of June 30, 2019, under our 2017 stock incentive plan and our 2017 employee stock purchase plan, respectively, as well as any automatic increases in the number of shares of common stock reserved under these plans;
- 14,064 shares of our common stock issuable upon the exercise of warrants outstanding as of June 30, 2019, at an exercise price of \$5.484 per share; and
- the shares of common stock issuable upon conversion of our outstanding \$220,000,000 aggregate principal amounts of 3.500% convertible senior notes due 2026, which were issued after June 30, 2019.

To the extent that stock options or warrants are exercised, new stock options are issued under our equity incentive plans, we issue additional shares of common stock in the future or holders convert the 3.500% convertible senior notes due 2026, there will be further dilution to investors participating in this offering.

## DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not complete. This description is based upon, and is qualified by reference to, our restated certificate of incorporation and our amended and restated bylaws, each as amended from time to time, and by applicable provisions of Delaware corporate law. You should read our restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 200,000,000 shares of common stock, par value \$0.0001 per share, and 10,000,000 shares of preferred stock, par value \$0.0001 per share. As of August 31, 2019, 63,808,485 shares of common stock were outstanding and no shares of preferred stock were outstanding.

### Common Stock

*Voting Rights.* Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Other matters shall be decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter, except as otherwise disclosed below.

*Dividends.* Holders of common stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

*Liquidation and Dissolution.* In the event of our liquidation or dissolution, the holders of common stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock.

*Other Rights.* Holders of common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

*Transfer Agent and Registrar.* The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

*Listing on The Nasdaq Global Select Market.* Our common stock is listed on The Nasdaq Global Select Market under the symbol "APLS."

### Preferred Stock

Under the terms of our restated certificate of incorporation, our board of directors is authorized to issue shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, future financings and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a majority of our outstanding voting stock. As of the date of this prospectus, we have no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

### **Registration Rights**

Our investors' rights agreement provides specified holders of shares of our common stock, including some of our directors and 5% stockholders and their respective affiliates and entities affiliated with our officers and directors, the right to require us to register such shares under the Securities Act under specified circumstances as described below. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act.

#### ***Demand Registration Rights***

Subject to specified limitations set forth in the investors' rights agreement, at any time the holders of a majority of then outstanding registrable securities, as defined in the investors' rights agreement, acting together, may demand in writing that we register their registrable securities under the Securities Act so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$5.0 million. We are not obligated to file a registration statement pursuant to this demand provision on more than two occasions, subject to specified exceptions.

In addition, at any time after we become eligible to file a registration statement on Form S-3 under the Securities Act, subject to specified limitations, the holders of at least 30% of the registrable securities then outstanding may demand in writing that we register on Form S-3 registrable shares held by them so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$1.0 million.

#### ***Incidental Registration Rights***

If we propose to file a registration statement to register any of our securities under the Securities Act, either for our own account or for the account of any of our stockholders that are not holders of registrable shares, solely for cash and on a form that would also permit the registration of registrable shares, the holders of our registrable shares are entitled to notice of registration and, subject to specified exceptions, we will be required to register the registrable shares then held by them that they request that we register.

#### ***Expenses***

Pursuant to the investors' rights agreement, we are required to pay all registration expenses, including registration fees, printing expenses, fees and disbursements of our counsel and accountants and reasonable fees and disbursements of one counsel representing the selling stockholders, other than any underwriting discounts and commissions, related to any demand or incidental registration. The investors' rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

#### **Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws**

Delaware law contains, our restated certificate of incorporation and our amended and restated bylaws contain, provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors.

#### ***Staggered Board; Removal of Directors***

Our restated certificate of incorporation and amended and restated bylaws divide our board of directors into three classes with staggered three-year terms. In addition, a director may be removed only for cause and only by

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the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in an annual election of directors. Any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office. The classification of our board of directors and the limitations on the removal of directors and filling of vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of the Company.

### ***Stockholder Action by Written Consent; Special Meetings***

Our restated certificate of incorporation provides that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of such holders and may not be effected by any consent in writing by such holders. Our restated certificate of incorporation and amended and restated bylaws also provide that, except as otherwise required by law, special meetings of our stockholders can only be called by our chairman of the board, our chief executive officer or our board of directors.

### ***Advance Notice Requirements for Stockholder Proposals***

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of persons for election to our board of directors. Stockholders at an annual meeting may consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a stockholder of record on the record date for the meeting who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities.

### ***Delaware Business Combination Statute***

We are subject to Section 203 of the General Corporation Law of the State of Delaware. Subject to certain exceptions, Section 203 prevents a publicly held Delaware corporation from engaging in a "business combination" with any "interested stockholder" for three years following the date that the person became an interested stockholder, unless the interested stockholder attained such status with the approval of our board of directors or unless the business combination is approved in a prescribed manner. A "business combination" includes, among other things, a merger or consolidation involving us and the "interested stockholder" and the sale of more than 10% of our assets. In general, an "interested stockholder" is any entity or person beneficially owning 15% or more of our outstanding voting stock and any entity or person affiliated with or controlling or controlled by such entity or person.

### ***Amendment of Certificate of Incorporation and Bylaws***

The General Corporation Law of the State of Delaware provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our amended and restated bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors. In addition, the affirmative vote of the holders of at least 75% of the votes that all of our stockholders would be entitled to cast in any annual election of directors is required to amend or repeal or to adopt any provisions inconsistent with any of the provisions of our restated certificate of incorporation described above under "—Staggered Board; Removal of Directors" and "—Stockholder Action by Written Consent; Special Meetings."

***Exclusive Forum Selection***

Our restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of the Company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to the Company or our stockholders, (3) any action asserting a claim against the Company arising pursuant to any provision of the General Corporation Law of the State of Delaware or our restated certificate of incorporation or amended and restated bylaws, or (4) any action asserting a claim against the Company governed by the internal affairs doctrine. Although our restated certificate of incorporation contains the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

## PLAN OF DISTRIBUTION

We have entered into an amended and restated equity distribution agreement with Citigroup Global Markets Inc. and Jefferies LLC, or the Sales Agents, under which we may offer and sell common stock having an aggregate offering price of up to \$150,000,000 from time to time through, at our option, Citigroup Global Markets Inc. or Jefferies LLC. The equity distribution agreement is filed as an exhibit to the Registration Statement on Form S-3 and is incorporated by reference in this prospectus. Sales of our common stock, if any, will be made at market prices by any method that is deemed to be an “at-the-market” equity offering as defined in Rule 415 under the Securities Act, including sales made directly on or through The Nasdaq Global Select Market or any other trading market for our common stock. The Sales Agents will not engage in any transactions that stabilize the price of our common stock.

We will submit orders to sell shares through only one Sales Agent on any given date. We will designate the maximum amount of common stock to be sold through a Sales Agent on a daily basis or otherwise as we and the applicable Sales Agent agree, and the minimum price per share at which such common stock may be sold. Subject to the terms and conditions of the equity distribution agreement, the applicable Sales Agent will use its reasonable efforts to sell, on our behalf, all of the designated common stock. We may instruct the applicable Sales Agent not to sell any common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or the applicable Sales Agent may suspend the offering of common stock at any time and from time to time by notifying the other party.

If shares of our common stock are sold by a Sales Agent in an at-the-market offering, the Sales Agent will provide written confirmation to us promptly following the close of trading on The Nasdaq Global Select Market each trading day on which shares of our common stock are sold under the equity distribution agreement. Each confirmation will include the number of shares of our common stock sold on the preceding day, the gross sales price, the net proceeds to us and the compensation payable by us to the Sales Agent in connection with the sales.

We will pay the applicable Sales Agent a commission of up to 3.0% of the gross sales price per share of common stock sold through such Sales Agent under the equity distribution agreement. We have also agreed to reimburse the Sales Agents for certain specified expenses, including the fees and disbursements of its legal counsel (a) payable in connection with the original equity distribution agreement, dated December 28, 2018, which has been amended and restated by the amended and restated equity distribution agreement, in an amount not to exceed \$50,000, and (b) payable in connection with the amended and restated equity distribution agreement, in an amount not to exceed \$35,000, as provided in the amended and restated equity distribution agreement. We estimate that the total expenses payable by us in connection with the establishment of the program to offer shares of our common stock described in this prospectus, excluding commissions and reimbursements payable to the Sales Agents under the equity distribution agreement, will be approximately \$350,000.

Settlement for sales of our common stock under the equity distribution agreement will occur on the second trading day following the date on which any sales are made, or on some other date that is agreed upon by us and the applicable Sales Agent in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

The offering of common stock pursuant to the equity distribution agreement will terminate upon the earlier of (1) the sale of all common stock subject to the equity distribution agreement or (2) the termination of the equity distribution agreement by us, by the Sales Agents or by its terms, as applicable.

In connection with the sale of the common stock on our behalf, the Sales Agents will be deemed to be “underwriters” within the meaning of the Securities Act and the compensation paid to the Sales Agents will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to the Sales Agents against certain liabilities, including civil liabilities under the Securities Act.

**Other Relationships**

The Sales Agents are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The Sales Agents and their affiliates have in the past performed commercial banking, investment banking and advisory services for us from time to time for which they have received no more than customary fees and reimbursement of expenses and may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of its various business activities, the Sales Agents and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The Sales Agents and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments. To the extent required by Regulation M, the Sales Agents will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus.

## **LEGAL MATTERS**

Unless the applicable prospectus indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Wilmer Cutler Pickering Hale and Dorr LLP, Boston, Massachusetts. The Sales Agents are being represented by Cooley LLP, New York, New York in connection with this offering.

## **EXPERTS**

The consolidated financial statements of Apellis Pharmaceuticals, Inc. (the Company) appearing in the Company's Annual Report (Form 10-K) for the year ended December 31, 2018, and the effectiveness of Apellis Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2018, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

\$150,000,000



**Apellis Pharmaceuticals, Inc.**

**Common Stock**

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**PROSPECTUS**

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**Citigroup**

**Jefferies**

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, 2019

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**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth the fees and expenses payable by us in connection with the sale of the offered securities being registered hereby, other than underwriting discounts and commissions.

SEC registration fee	\$ 58,270(1)
FINRA filing fee	\$ 45,500(1)
Printing and engraving	(2)
Accounting services	(2)
Legal fees of registrant's counsel	(2)
Transfer agent's and trustee's fees and expenses	(2)
Miscellaneous fees and expenses	(2)
Total expenses	<u>(2)</u>

- (1) Previously paid.  
(2) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

**Item 15. Indemnification of Directors and Officers.**

Section 102 of the General Corporation Law of the State of Delaware permits a corporation to eliminate the personal liability of its directors for monetary damages for a breach of fiduciary duty as a director, except where the director breached his or her duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our restated certificate of incorporation provides that none of our directors shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the General Corporation Law of the State of Delaware provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person 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, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our restated certificate of incorporation provides that we will indemnify each person who was or is a party or is threatened to be made a party or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, our director or officer, or is or was

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serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an “Indemnitee”), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our restated certificate of incorporation also provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, our director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys’ fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys’ fees) actually and reasonably incurred by him or her or on his or her behalf in connection therewith. If we do not assume the defense, expenses must be advanced to an Indemnitee under certain circumstances.

We have entered into indemnification agreements with our directors and executive officers. These indemnification agreements may require us, among other things, to indemnify each such director or officer for some expenses, including attorneys’ fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our directors or officers.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act of 1933, as amended, against certain liabilities.

Insofar as the foregoing provisions permit indemnification of directors, executive officers, or persons controlling us for liability arising under the Securities Act of 1933, as amended, or the Securities Act, we have been informed 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.

### **Item 16. Exhibits**

<u>Exhibit Number</u>	<u>Description</u>
1.1*	Form of Underwriting Agreement
1.2	<a href="#">Amended and Restated Equity Distribution Agreement, dated October 4, 2019, by and among the Registrant and Citigroup Global Markets Inc. and Jefferies LLC</a>
3.1	<a href="#">Restated Certificate Incorporation of the Registrant (filed as Exhibit 3.1 to the Registrant’s Current Report on Form 8-K filed on November 13, 2017 and incorporated herein by reference)</a>

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3.2	<a href="#"><u>Amended and Restated Bylaws of the Registrant (filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on November 13, 2017 and incorporated herein by reference)</u></a>
4.1	<a href="#"><u>Specimen Stock Certificate evidencing the shares of common stock (filed as Exhibit 4.1 to Amendment No. 2 to the Registrant's Registration Statement on Form S-1 filed on October 27, 2017 and incorporated herein by reference)</u></a>
4.2	<a href="#"><u>Investors' Rights Agreement, dated as of August 7, 2017, among the Registrant and the other parties thereto (filed as Exhibit 4.2 to the Registrant's Registration Statement on Form S-1 filed on October 13, 2017 and incorporated herein by reference)</u></a>
4.3	<a href="#"><u>Form of Senior Indenture (filed as Exhibit 4.3 to the Registrant's Registration Statement on Form S-3 filed on December 28, 2018 and incorporated herein by reference)</u></a>
4.4	<a href="#"><u>Form of Subordinated Indenture (filed as Exhibit 4.4 to the Registrant's Registration Statement on Form S-3 filed on December 28, 2018 and incorporated herein by reference)</u></a>
4.5	<a href="#"><u>Form of Senior Note (filed as Exhibit 4.5 to the Registrant's Registration Statement on Form S-3 filed on December 28, 2018 and incorporated herein by reference)</u></a>
4.6	<a href="#"><u>Form of Subordinated Note (filed as Exhibit 4.6 to the Registrant's Registration Statement on Form S-3 filed on December 28, 2018 and incorporated herein by reference)</u></a>
4.7*	Form of Unit Agreement
4.8*	Form of Warrant Agreement
5.1	<a href="#"><u>Opinion of Wilmer Cutler Pickering Hale and Dorr LLP</u></a>
23.1	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered public accounting firm</u></a>
23.2	<a href="#"><u>Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)</u></a>
24.1	<a href="#"><u>Power of Attorney (included on the signature page to the Registrant's Registration Statement on Form S-3 filed on December 28, 2018 and incorporated herein by reference)</u></a>
25.1**	The Statement of Eligibility on Form T-1 under the Trust Indenture Act of 1939, as amended, of the Trustee under the Senior Indenture
25.2**	The Statement of Eligibility on Form T-1 under the Trust Indenture Act of 1939, as amended, of the Trustee under the Subordinated Indenture

\* To be filed by amendment or by a Current Report on Form 8-K.

\*\* To be filed pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939.

### **Item 17. Undertakings.**

The undersigned Registrant hereby undertakes:

- (a)(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 of 1933, as amended, or the Securities Act;
  - (ii) to reflect in the prospectus any facts or events arising after the effective date of this 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

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this 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 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

- (iii) to include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

*provided, however,* that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) 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 a Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this registration statement.

- (2) That, for the purposes 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 therein, and the offering of such securities at the 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.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
  - (i) each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
  - (ii) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned

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Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
  - (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
  - (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and
  - (iv) any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.
- (6) That, for purposes of determining any liability under the Securities Act:
- (i) the information omitted from the form of prospectus filed as part of the registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of the registration statement as of the time it was declared effective; and
  - (ii) each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (b) 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 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 this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) To supplement, if applicable, the prospectus, after the expiration of the subscription period, to set forth the results of the subscription offer, the transaction by the underwriters during the subscription period, the amount of unsubscribed securities to be purchased by the underwriters, and the terms of any subsequent reoffering thereof. If any public offering by the underwriters is to be made on terms differing from those set forth on the cover page of the prospectus, a post-effective amendment will be filed to set forth the terms of such offering.
- (d) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Trust Indenture Act.
- (e) That, 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 indemnification provisions described herein, or otherwise, the Registrant has been advised that in the opinion of the 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.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment No. 3 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Crestwood, Commonwealth of Kentucky, on October 4, 2019.

**APELLIS PHARMACEUTICALS, INC.**

By: /s/ Cedric Francois

Cedric Francois, M.D., Ph.D.

President and Chief Executive Officer

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment No. 3 to the Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Cedric Francois</u> Cedric Francois, M.D., Ph.D.	President, Chief Executive Officer and Director (principal executive officer)	October 4, 2019
<u>*</u> Timothy Sullivan	Chief Financial Officer and Treasurer (principal financial officer)	October 4, 2019
<u>*</u> Nicole Perry	Vice President of Finance (principal accounting officer)	October 4, 2019
<u>*</u> Gerald Chan, D.Sc.	Chairman of the Board of Directors	October 4, 2019
<u>*</u> A. Sinclair Dunlop	Director	October 4, 2019
<u>*</u> Alec Machiels	Director	October 4, 2019
<u>*</u> Stephanie Monaghan O'Brien	Director	October 4, 2019

\*By: /s/ Cedric Francois  
Cedric Francois, M.D., Ph.D.  
Attorney-in-Fact

Apellis Pharmaceuticals, Inc.

\$150,000,000 Shares  
Common Stock  
(\$0.0001 par value per share)

Amended and Restated Equity Distribution Agreement

October 4, 2019

Citigroup Global Markets Inc.  
388 Greenwich Street  
New York, New York, 10013

Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

Ladies and Gentlemen:

Reference is made to the Equity Distribution Agreement, dated as of December 28, 2018 (the "Original Agreement"), by and between Apellis Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and Citigroup Global Markets Inc. ("Citigroup"), pursuant to which the Company proposed to issue and sell through Citigroup, from time to time during the term of the Original Agreement, on the terms and subject to the conditions set forth in the Original Agreement, shares of the Company's common stock, par value \$0.0001 per share ("Common Stock"). The Company, Citigroup and Jefferies LLC ("Jefferies" together with Citigroup, collectively, the "Managers", and each individually a "Manager") wish to amend and restate the Original Agreement in its entirety as provided hereby.

The Company confirms its agreement (as such agreement may be amended from time to time, this "Agreement") with the Managers as follows:

1. Description of Shares. The Company proposes to issue and sell through or to the Managers, as sales agent and/or principal, Common Stock having an aggregate gross sales price of up to \$150,000,000 (the "Shares"), from time to time during the term of this Agreement and on the terms set forth in Section 3 of this Agreement. For purposes of selling the Shares through the Managers, the Company hereby appoints the Managers as exclusive agents of the Company for the purpose of selling the Shares pursuant to this Agreement, and each Manager agrees to use its reasonable efforts to sell the Shares on the terms and subject to the conditions stated herein. The Company agrees that whenever it determines to sell the Shares directly to the Managers as principals, it will enter into a separate agreement (each, a "Terms Agreement") in substantially the form of Annex I hereto, relating to such sale in accordance with Section 3 of this Agreement. Certain terms used herein are defined in Section 18 hereof.

2. **Representations and Warranties.** The Company represents and warrants to, and agrees with, the Managers at the Execution Time and on each such time the following representations, warranties and agreements are repeated or deemed to be made pursuant to this Agreement unless such representation, warranty or agreement specifies otherwise.

(a) The Company meets the requirements for use of Form S-3 under the Securities Act and has prepared and filed with the Commission an automatic shelf registration statement, as defined in Rule 405 on Form S-3, including a base prospectus, relating to certain securities, including the Common Stock, to be issued from time to time by the Company, as well as a prospectus included as part of the Registration Statement specifically relating to the sale of the Shares (the "Prospectus"). The Prospectus will contain or contains all information required by the Securities Act and the rules thereunder, and, except to the extent the Managers shall agree in writing to a modification, shall be in all substantive respects in the form furnished to the Managers prior to the Execution Time or prior to any such time this representation is repeated or deemed to be made. The Registration Statement, at the Effective Date will meet, and at each such time this representation is repeated or deemed to be made, and at all times during which a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 or any similar rule) in connection with any offer or sale of Shares, meets the requirements set forth in Rule 415(a)(1)(x). The initial Effective Date of the Registration Statement was not earlier than the date three years before the Execution Time. Any reference herein to the Registration Statement or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 which were filed under the Exchange Act on or before the Effective Date of the Registration Statement or the issue date of the Prospectus, as the case may be; and any reference herein to the terms "amend," "amendment" or "supplement" with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing of any document under the Exchange Act after the Effective Date of the Registration Statement or the issue date of the Prospectus, as the case may be, deemed to be incorporated therein by reference.

(b) To the extent that the Registration Statement is not available for the sales of the Shares as contemplated by this Agreement or the Company is not a "well-known seasoned issuer" as defined in Rule 405 at the most recent "determination date" as defined in Rule 405, the Company shall, prior to requesting the sale of Shares pursuant to this Agreement, file a new registration statement or a post-effective amendment to the Registration Statement with respect to any additional shares of Common Stock necessary to complete such sales of the Shares and shall cause such registration statement to become effective as promptly as practicable. After the effectiveness of any such registration statement, all references to "Registration Statement" included in this Agreement shall be deemed to include such new registration statement, including all documents incorporated by reference therein pursuant to Item 12 of Form S-3, and all references to "Prospectus" included in this Agreement shall be deemed to include the final form of prospectus, including all documents incorporated therein by reference, included in any such registration statement at the time such registration statement or post-effective amendment became effective.

(c) On each Effective Date, at each Applicable Time and at all times during which a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 or any similar rule) in connection with any offer or sale of Shares, the Registration Statement complied and will comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act and the respective rules thereunder and did not and will not 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 not misleading; and on the date of any filing of the Prospectus pursuant to the rules and regulations of the Securities Act, at each Applicable Time and at all times during which a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 or any similar rule) in connection with any offer or sale of Shares, the Prospectus (together with any supplement thereto) complied and will comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act and the respective rules thereunder and did not and will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no representations or warranties as to the information contained in or omitted from the Registration Statement or the Prospectus (or any supplement thereto) in reliance upon and in conformity with information furnished in writing to the Company by a Manager specifically for inclusion in the Registration Statement or the Prospectus (or any supplement thereto).

(d) At the Effective Date and at each Applicable Time, the Disclosure Package did not and will not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from the Disclosure Package based upon and in conformity with written information furnished to the Company by a Manager specifically for use therein.

(e) (i) At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2)) of the Shares and (ii) as of the Execution Time and the Effective Date and on each such time this representation is repeated or deemed to be made (with such date being used as the determination date for purposes of this clause (ii)), the Company was not and is not an Ineligible Issuer (as defined in Rule 405), without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an Ineligible Issuer.

(f) Each Issuer Free Writing Prospectus, if any, does not include any information that conflicts with the information contained in the Registration Statement, including any document incorporated therein by reference and any prospectus supplement deemed to be a part thereof that has not been superseded or modified. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus based upon and in conformity with written information furnished to the Company by a Manager specifically for use therein.

(g) The Registration Statement is not the subject of a pending proceeding or examination under Section 8(d) or 8(e) of the Securities Act, and the Company is not the subject of a pending proceeding under Section 8A of the Securities Act in connection with the offering of the Shares.

(h) The Common Stock is an “actively-traded security” exempted from the requirements of Rule 101 of Regulation M under the Exchange Act by subsection (c)(1) of such rule.

(i) The Company has not entered into any other sales agency agreements or other similar arrangements with any agent or any other representative in respect of at the market offerings of the Shares in accordance with Rule 415(a)(4) of the Securities Act.

(j) The Company has not taken and will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(k) There is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder’s fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(l) The interactive data in the eXtensible Business Reporting Language included or incorporated by reference into the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission’s rules and guidelines applicable thereto.

(m) Each of the Company and its subsidiaries (i) has been duly incorporated and is validly existing as a corporation in good standing (where such concept exists) under the laws of the jurisdiction in which it is chartered or organized with full corporate power and authority to own or lease, as the case may be, and to operate its properties and conduct its business as described in the Disclosure Package and the Prospectus, and (ii) is duly qualified to do business as a foreign corporation and is in good standing under the laws of each jurisdiction which requires such qualification, except where the failure to be so qualified or in good standing would not reasonably be expected, individually or in the aggregate, to have a material adverse effect on the condition (financial or otherwise), prospects, earnings, business or properties of the Company and its subsidiaries, taken as a whole, whether or not arising from transactions in the ordinary course of business (a “Material Adverse Effect”).

(n) All the outstanding shares of capital stock of each subsidiary have been duly and validly authorized and issued and are fully paid and nonassessable, and, except as otherwise set forth in the Disclosure Package and the Prospectus, all outstanding shares of capital stock of the subsidiaries are owned by the Company either directly or through wholly owned subsidiaries free and clear of any perfected security interest or any other security interests, claims, liens or encumbrances.

(o) There is no franchise, contract or other document of a character required to be described in the Registration Statement or Prospectus, or to be filed as an exhibit thereto, which is not described or filed as required; and the statements in the Prospectus under the heading "Description of Capital Stock", insofar as such statements summarize legal matters, agreements, documents or proceedings discussed therein, are accurate and fair summaries of such legal matters, agreements, documents or proceedings.

(p) This Agreement has been duly authorized, executed and delivered by the Company.

(q) The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Disclosure Package and the Prospectus, will not be an "investment company" as defined in the Investment Company Act of 1940, as amended.

(r) No consent, approval, authorization, filing with or order of any court or governmental agency or body is required in connection with the transactions contemplated herein, except such as have been obtained or as may be required under the Securities Act, the Exchange Act, the listing rules of the Nasdaq Global Select Market ("Nasdaq"), applicable Financial Industry Regulatory Authority, Inc. ("FINRA") rules and the blue sky laws of any jurisdiction in connection with the purchase and distribution of the Shares by the Managers in the manner contemplated herein and in the Disclosure Package and the Prospectus.

(s) Neither the issue and sale of the Shares nor the consummation of any other of the transactions herein contemplated nor the fulfillment of the terms hereof will conflict with, result in a breach or violation of, or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, (i) the charter or by-laws of the Company or any of its subsidiaries, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which the Company or any of its subsidiaries is a party or bound or to which its or their property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree applicable to the Company or any of its subsidiaries of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its subsidiaries or any of its or their properties, except in the case of clauses (ii) and (iii) as would not have a Material Adverse Effect or an adverse effect on the consummation of the transactions contemplated hereby.

(t) No holders of securities of the Company have rights to the registration of such securities under the Registration Statement except for such rights that have been effectively waived in writing.

(u) The consolidated historical financial statements and schedules of the Company and its consolidated subsidiaries included in the Prospectus and the Registration Statement present fairly in all material respects the financial condition, results of operations and cash flows of the Company as of the dates and for the periods indicated, comply as to form in all material respects with the applicable accounting requirements of the Securities Act and have been prepared in conformity with generally accepted accounting principles in the United States applied on a consistent basis throughout the periods involved (except as otherwise noted therein).

(v) No action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries or its or their property is pending or, to the best knowledge of the Company, threatened that (i) could reasonably be expected to have a material adverse effect on the performance of this Agreement or the consummation of any of the transactions contemplated hereby or (ii) could reasonably be expected to have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(w) Each of the Company and each of its subsidiaries owns or leases all such properties as are necessary to the conduct of its operations as presently conducted in all material respects.

(x) Neither the Company nor any of its subsidiaries is in violation or default of (i) any provision of its charter or bylaws, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which it is a party or bound or to which its property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree applicable to the Company or any of its subsidiaries of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or such subsidiary or any of its properties, as applicable, except in the case of clauses (ii) and (iii), for such violation or default as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(y) Ernst & Young LLP, who has certified certain financial statements of the Company and its consolidated subsidiaries and delivered their report with respect to the audited consolidated financial statements and schedules included or incorporated by reference in the Disclosure Package and the Prospectus, as well as Deloitte & Touche LLP, are independent public accountants with respect to the Company within the meaning of the Securities Act and the applicable published rules and regulations thereunder.

(z) There are no transfer taxes or other similar fees or charges under U.S. federal law or the laws of any state, or any political subdivision thereof, required to be paid in connection with the execution and delivery of this Agreement or the issuance by the Company or sale by the Company of the Shares.

(aa) The Company has filed all tax returns that are required to be filed or has requested extensions thereof, except in any case in which the failure so to file would not have a Material Adverse Effect (except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto)) and has paid all taxes

required to be paid by it and any other assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, except for any such assessment, fine or penalty that is currently being contested in good faith or as would not have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(bb) No labor problem or dispute with the employees of the Company or any of its subsidiaries exists or, to the Company's knowledge, is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or its subsidiaries' principal suppliers, contractors or customers, that could have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(cc) The Company and each of its subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as the Company reasonably believes are prudent and customary in the businesses in which they are engaged; all policies of insurance and fidelity or surety bonds insuring the Company or any of its subsidiaries or their respective businesses, assets, employees, officers and directors are in full force and effect; the Company and its subsidiaries are in compliance with the terms of such policies and instruments in all material respects; and there are no claims by the Company or any of its subsidiaries under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; neither the Company nor any such subsidiary has been refused any insurance coverage sought or applied for; and neither the Company nor any such subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(dd) No subsidiary of the Company is currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's property or assets to the Company or any other subsidiary of the Company, except as described in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(ee) The Company and its subsidiaries possess all licenses, certificates, permits and other authorizations issued by all applicable authorities necessary to conduct their respective businesses, except for the lack of which would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, and neither the Company nor any such subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(ff) The Company and each of its subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles in the United States and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company's and its subsidiaries' internal controls over financial reporting are effective and the Company and its subsidiaries are not aware of any material weakness in their internal controls over financial reporting.

(gg) The Company and its subsidiaries maintain "disclosure controls and procedures" (as such term is defined in Rule 13a-15(e) under the Exchange Act); such disclosure controls and procedures are effective.

(hh) The Company has not taken, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the Exchange Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(ii) Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiaries (i) are in compliance with any and all applicable foreign, U.S. federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (collectively, the "Environmental Laws"), (ii) have received and are in compliance with all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) have not received notice of any actual or potential liability under any environmental law, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto). Except as set forth in the Disclosure Package and the Prospectus, neither the Company nor any of its subsidiaries has been named as a "potentially responsible party" under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

(jj) In the ordinary course of its business, the Company periodically reviews the effect of Environmental Laws on the business, operations and properties of the Company and its subsidiaries, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws, or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such review, the Company has reasonably concluded that such associated costs and liabilities would not, singly or in the aggregate, have a Material Adverse Effect.

(kk) None of the following events has occurred or exists: (i) a failure to fulfill the obligations, if any, under the minimum funding standards of Section 302 of the United States Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and the regulations and published interpretations thereunder with respect to a Plan that is required to be funded, determined without regard to any waiver of such obligations or extension of any amortization period that would reasonably be expected to have a Material Adverse Effect; (ii) an audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other U.S. federal or state governmental agency or any foreign regulatory agency with respect to the employment or compensation of employees by any of the Company or any of its subsidiaries that would reasonably be expected to have a Material Adverse Effect; (iii) any breach of any contractual obligation, or any violation of law or applicable qualification standards, with respect to the employment or compensation of employees by the Company or any of its subsidiaries that would reasonably be expected to have a Material Adverse Effect. None of the following events has occurred or is reasonably likely to occur: (i) a material increase in the aggregate amount of contributions required to be made to all Plans in the current fiscal year of the Company and its subsidiaries compared to the amount of such contributions made in the most recently completed fiscal year of the Company and its subsidiaries; (ii) a material increase in the “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106) of the Company and its subsidiaries compared to the amount of such obligations in the most recently completed fiscal year of the Company and its subsidiaries; (iii) any event or condition giving rise to a liability under Title IV of ERISA that would reasonably be expected to have a Material Adverse Effect; or (iv) the filing of a claim by one or more employees or former employees of the Company or any of its subsidiaries related to their employment that would reasonably be expected to have a Material Adverse Effect. For purposes of this paragraph, the term “Plan” means a plan (within the meaning of Section 3(3) of ERISA) subject to Title IV of ERISA with respect to which the Company or any of its subsidiaries may have any liability.

(ll) There is and has been no failure on the part of the Company and any of the Company’s directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the “Sarbanes-Oxley Act”), including Section 402 relating to loans and Sections 302 and 906 relating to certifications, as applicable.

(mm) Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or any of its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation or a sanction for violation by such persons of the U.S. Foreign Corrupt Practices Act of 1977 or the U.K. Bribery Act 2010, each as may be amended, or similar law of any other relevant jurisdiction, or the rules or regulations thereunder; and the Company and its subsidiaries have instituted and maintain policies and procedures designed to ensure compliance therewith. No part of the proceeds of the offering will be used, directly or indirectly, in violation of the Foreign Corrupt Practices Act of 1977 or the U.K. Bribery Act 2010, each as may be amended, or similar law of any other relevant jurisdiction, or the rules or regulations thereunder.

(nn) The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements and the money laundering statutes and the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “Money Laundering Laws”) and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(oo) Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of its subsidiaries (i) is, or is controlled or 50% or more owned in the aggregate by or is acting on behalf of, one or more individuals or entities that are currently the subject of any sanctions administered or enforced by the United States (including any administered or enforced by the Office of Foreign Assets Control of the U.S. Department of the Treasury, the U.S. Department of State or the Bureau of Industry and Security of the U.S. Department of Commerce), the United Nations Security Council, the European Union, a member state of the European Union (including sanctions administered or enforced by Her Majesty’s Treasury of the United Kingdom) or other relevant sanctions authority (collectively, “Sanctions”) and such persons, “Sanctioned Persons” and each such person, a “Sanctioned Person”), (ii) is located, organized or resident in a country or territory that is, or whose government is, the subject of Sanctions that broadly prohibit dealings with that country or territory, including without limitation, Cuba, Iran, North Korea, Syria, and the Crimea region of Ukraine (collectively, “Sanctioned Countries”) and each, a “Sanctioned Country”) or (iii) will, directly or indirectly, use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other individual or entity in any manner that could result in a violation of any Sanctions by, or could result in the imposition of Sanctions against, any individual or entity (including any individual or entity participating in the offering, whether as underwriter, advisor, investor or otherwise).

(pp) Neither the Company nor any of its subsidiaries has engaged in any dealings or transactions with or for the benefit of a Sanctioned Person, or with or in a Sanctioned Country, in the preceding five years, nor does the Company or any of its subsidiaries have any plans to engage in dealings or transactions with or for the benefit of a Sanctioned Person, or with or in a Sanctioned Country.

(qq) The Company and its subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “IT Systems”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT

Systems and data (including all personal, personally identifiable, sensitive, confidential or regulated data (“Personal Data”)) used in connection with their businesses, and there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(rr) The subsidiaries listed on Exhibit 21.2, as incorporated by reference into the Company’s most recent Annual Report on Form 10-K, are the only significant subsidiaries of the Company as defined by Rule 1-02 of Regulation S-X.

(ss) Except as described in the Disclosure Package and the Prospectus, the Company and its subsidiaries own, possess, license or have other rights to use all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets, technology, know-how and other intellectual property (collectively, the “Intellectual Property”) necessary for the conduct of the Company’s business in all material respects as now conducted or as proposed in the Disclosure Package and the Prospectus to be conducted. Except as set forth in the Disclosure Package and the Prospectus, (a) there are no rights of third parties to any such Intellectual Property, including no liens, security interests, or other encumbrances; (b) to the Company’s knowledge, there is no infringement by third parties of any such Intellectual Property having or expected to have a Material Adverse Effect on Company’s ability to conduct its business, as presently conducted or as proposed in the Disclosure Package and the Prospectus to be conducted; (c) there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others challenging the Company’s rights in or to any such Intellectual Property, and, except as would not reasonably be expected to have a Material Adverse Effect, the Company is aware of no factual basis for any such claim; (d) such Intellectual Property has not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part; (e) there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, including interferences, oppositions, reexaminations, or government proceedings, and, except as would not reasonably be expected to have a Material Adverse Effect, the Company is aware of no factual basis for any such claim; (f) there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others that (i) the Company infringes, misappropriates, or otherwise violates any patent, trademark, copyright, trade secret or other proprietary rights of others or (ii) the Company would, upon the commercialization of any product or service set forth in the Disclosure Package and the Prospectus, infringe, misappropriate, or otherwise violate any patent, trademark, copyright, trade secret or other proprietary rights of others and, except as would not reasonably be expected to have a Material Adverse Effect, the Company is aware of no factual basis for any such claim; (g) to the Company’s knowledge, no employee of the

Company is in or has been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or actions undertaken by the employee in his or her capacity as an employee with the Company; (h) to the Company's knowledge, there is no patent or published patent application in the U.S. or other jurisdiction which contains valid claims that dominate any Intellectual Property described in the Disclosure Package and the Prospectus as being owned by or licensed to the Company or that would form the basis for an interference with the issued or pending claims of any such Intellectual Property; (i) the Company is not aware of any prior art that may render any patent held by the Company invalid or any patent application held by the Company unpatentable; and (j) the Company has complied with United State Patent and Trademark Office regulations in regard to the duty of good faith and candor pursuant to U.S. patent law (including 37 C.F.R. 1.56) and counterparts in other jurisdictions. The Company has complied in all material respects with all license agreements to which it is a party relating to the Intellectual Property and has not received any asserted or threatened claim of material breach of any of the same.

(tt) Except as described in the Disclosure Package and the Prospectus, as applicable, the Company (i) is and at all times has been in compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, advertising, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company, including, without limitation, the Federal Food, Drug and Cosmetic Act (21 U.S.C. § 301 et seq.), the federal Anti-kickback Statute (42 U.S.C. § 1320a-7b(b)), the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, and the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, the regulations promulgated pursuant to such laws, and any successor government programs, and comparable state laws, regulations relating to Good Clinical Practices and Good Laboratory Practices and all other local, state, federal, national, and foreign laws, and final administrative guidance relating to the regulation of the Company (collectively, the "Applicable Laws"), except for such non-compliance as would not, individually or in the aggregate, have a Material Adverse Effect; (ii) has not received any written notice from any court or arbitrator or governmental or regulatory authority or third party alleging or asserting non-compliance with any Applicable Laws or any licenses, exemptions, certificates, approvals, clearances, authorizations, permits, registrations and supplements or amendments thereto required by any such Applicable Laws ("Authorizations"), except for such non-compliance as would not, individually or in the aggregate, have a Material Adverse Effect; (iii) possesses all Authorizations and such Authorizations are valid and in full force and effect and are not in violation of any term of any such Authorizations, except for such violations as would not, individually or in the aggregate, have a Material Adverse Effect; (iv) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product

operation or activity is in violation of any Applicable Laws or Authorizations nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened; (v) has not received written notice that any court or arbitrator or governmental or regulatory authority has taken, is taking or intends to take action to materially limit, suspend, materially modify or revoke any Authorizations nor, to the Company's knowledge, is any such limitation, suspension, modification or revocation threatened; (vi) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission); and (vii) is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company nor its employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that would reasonably be expected to result in debarment, suspension, or exclusion.

(uu) The clinical trials and preclinical studies conducted by or on behalf of or sponsored by the Company, or in which the Company has participated, that are described in the Disclosure Package and the Prospectus or the results of which are referred to in Disclosure Package and the Prospectus and are intended to be submitted to Regulatory Authorities as a basis for product approval, were and, if still pending, are being conducted in all material respects in accordance with standard medical and scientific research procedures and all applicable statutes, rules and regulations of the U.S. Food and Drug Administration (the "FDA") and comparable drug regulatory agencies outside of the United States to which it is subject (collectively, the "Regulatory Authorities"), and current Good Clinical Practices and Good Laboratory Practices; the descriptions in the Disclosure Package and the Prospectus of the results of such studies and trials are accurate and complete in all material respects and fairly present the data derived from such trials; the Company has no knowledge of any other trials the results of which are inconsistent with or otherwise call into question the results described or referred to in the Disclosure Package and the Prospectus; the Company has operated and is currently in compliance in all material respects with all applicable statutes, rules and regulations of the Regulatory Authorities; the Company has not received any written notices, correspondence or other communication from the Regulatory Authorities or any other governmental agency which could lead to the termination or suspension of any clinical trials or preclinical studies that are described in the Disclosure Package and the Prospectus or the results of which are referred to in the Disclosure Package and the Prospectus, and, to the Company's knowledge, there are no reasonable grounds for same.

(vv) The Company possesses all material licenses, certificates, permits and other authorizations (collectively, “Permits”) issued by, and has made all declarations and filings with, the applicable U.S. federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of its properties or the conduct of its business as described in the Disclosure Package and the Prospectus, or to permit all clinical trials and nonclinical studies and trials conducted by or on behalf of the Company, including, without limitation, all necessary FDA and applicable foreign regulatory agency approvals; the Company is not in violation of, or in default under, any such Permit, except for such violation or default as would not have a Material Adverse Effect; and the Company has not received notice of any revocation, suspension or modification of any such Permit and does not have any reason to believe that any such Permit will not be renewed in the ordinary course. The Company has not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from any court or arbitrator or governmental or regulatory authority alleging or asserting non-compliance with (A) any Applicable Laws or (B) any Permits required by any such Applicable Laws.

(ww) To the Company’s knowledge, the manufacturing facilities and operations of its suppliers are operated in compliance in all material respects with all applicable statutes, rules, regulations and policies of the Regulatory Authorities.

(xx) None of the Company’s product candidates have received marketing approval from any Regulatory Authority.

(yy) Neither the Company nor any of its subsidiaries nor any of its or their properties or assets has any immunity from the jurisdiction of any court or from any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution or otherwise) under the laws of the State of New York.

(zz) The statistical and market-related data included in the Disclosure Package and the Prospectus are based on or derived from sources which the Company reasonably and in good faith believes are reliable and accurate in all material respects.

(aaa) With respect to the stock options (the “Stock Options”) granted pursuant to the stock-based compensation plans of the Company and its subsidiaries (the “Company Stock Plans”), (i) each Stock Option intended to qualify as an “incentive stock option” under Section 422 of the Code so qualifies, (ii) each grant of a Stock Option was duly authorized no later than the date on which the grant of such Stock Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto, (iii) each such grant was made in accordance with the terms of the Company Stock Plans and all other applicable laws and regulatory rules or requirements, and (iv) each such grant was properly accounted for in accordance with generally accepted accounting principles in the United States in the financial statements (including the related notes) of the Company.

Any certificate signed by any officer of the Company and delivered to the Managers or counsel for the Managers in connection with this Agreement or any Terms Agreement shall be deemed a representation and warranty by the Company, as to matters covered thereby, to such Manager.

The Company acknowledges that the Managers and, for purposes of the opinions to be delivered pursuant to Section 4 and Section 6 hereof, each counsel to the Company and counsel to the Manager, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

### 3. Sale and Delivery of Shares.

(a) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company agrees to issue and sell Shares from time to time through the Managers, acting as sales agents, and each Manager agrees to use its reasonable efforts to sell, as sales agent for the Company, the Shares on the following terms.

(i) Each time that the Company wishes to issue and sell any Shares hereunder (each, a “Placement”), it will notify a Manager (the “Designated Manager”) by email notice (or other method mutually agreed to in writing by the parties) (a “Placement Notice”) containing the parameters in accordance with which it desires such Shares to be sold, which shall at a minimum include the number of Shares to be issued, the time period during which sales are requested to be made, any limitation on the number of Shares that may be sold in any Trading Day and any minimum price below which sales may not be made, a form of which containing such minimum sales parameters necessary is attached hereto as Schedule 1. Subject to the terms and conditions hereof, the Designated Manager shall use its reasonable efforts to sell all of the Shares subject to a Placement Notice in the time frame specified therein.

(ii) The Placement Notice shall originate from any of the individuals from the Company set forth on Schedule 2 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from the Designated Manager set forth on Schedule 2, as such Schedule 2 may be amended from time to time. The Placement Notice shall be effective upon receipt by the Designated Manager unless and until (i) the entire amount of the Shares to be sold under the Placement Notice have been sold, (ii) the Company suspends or terminates the Placement Notice for any reason in its sole discretion, (iii) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice or (iv) this Agreement has been terminated under the provisions of Section 8. It is expressly acknowledged and agreed that neither the Company nor the Designated Manager will have any obligation whatsoever with respect to a Placement or any Shares unless and until the Company delivers a Placement Notice to the Designated Manager, and then only upon the terms specified therein and herein.

(iii) The Company acknowledges and agrees that (A) there can be no assurance that the Designated Manager will be successful in selling the Shares, (B) the Designated Manager will incur no liability or obligation to the Company or any other person or entity if it does not sell Shares for any reason other than a failure by the Designated Manager to use its reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Shares as required under this Agreement, and (C) the Designated Manager shall be under no obligation to purchase Shares on a principal basis pursuant to this Agreement, except as otherwise specifically agreed by the Designated Manager and the Company.

(iv) The Company shall not authorize the issuance and sale of, and the Designated Manager shall not be obligated to use its reasonable efforts to sell, any Share at a price lower than the minimum price therefor designated from time to time by the Company's Board of Directors (the "Board"), or a duly authorized committee thereof, and notified to the Designated Manager in writing in the Placement Notice. The Company or the Designated Manager may, upon notice to the other party hereto by telephone (confirmed promptly by electronic mail), suspend the offering of the Shares for any reason and at any time; provided, however, that such suspension shall not affect or impair the parties' respective obligations with respect to the Shares sold hereunder prior to the giving of such notice.

(v) The Designated Manager hereby covenants and agrees not to make any sales of the Shares on behalf of the Company, pursuant to this Section 3(a), other than (A) by means of ordinary brokers' transactions between members of the Nasdaq Stock Market LLC that qualify for delivery of a Prospectus to the Nasdaq Stock Market LLC in accordance with Rule 153 (such transactions are hereinafter referred to as "Continuous Offerings") and (B) such other sales of the Shares on behalf of the Company in its capacity as agent of the Company as shall be agreed by the Company and the Designated Manager pursuant to a Terms Agreement.

(vi) The compensation to the Designated Manager for sales of the Shares with respect to which the Designated Manager acts as sales agent under this Agreement shall be up to 3.0% of the gross sales price of the Shares sold pursuant to this Section 3(a) and payable as described in the succeeding subsection (viii) below. The foregoing rate of compensation shall not apply when a Manager acts as principal, in which case the Company may sell Shares to the Designated Manager as principal at a price agreed upon at the relevant Applicable Time pursuant to a Terms Agreement. The remaining proceeds, after further deduction for any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales (the "Transaction Fees"), shall constitute the net proceeds to the Company for such Shares (the "Net Proceeds").

(vii) The Designated Manager shall provide written confirmation (which may be by electronic mail) to the Company following the close of trading on Nasdaq each day on which the Shares are sold under this Section 3(a) setting forth the number of the Shares sold on such day, the aggregate gross sales proceeds and the Net Proceeds to the Company, and the compensation payable by the Company to the Designated Manager with respect to such sales. Such compensation shall be set forth and invoiced in periodic statements from the Designated Manager to the Company, with payment to be made by the Company promptly after its receipt thereof.

(viii) Settlement for sales of the Shares pursuant to this Section 3(a) will occur on the second business day following the date on which such sales are made (each such day, a “Settlement Date”). On each Settlement Date, the Shares sold through the Designated Manager for settlement on such date shall be issued and delivered by the Company to the Designated Manager against payment of the aggregate gross sales proceeds less any Transaction Fees for the sale of such Shares. Settlement for all such Shares shall be effected by free delivery of the Shares to the Designated Manager’s account at The Depository Trust Company (“DTC”) in return for payments in same day funds delivered to the account designated by the Company. If the Company or its transfer agent (if applicable) shall default on its obligation to deliver the Shares on any Settlement Date, the Company shall (A) indemnify and hold the Designated Manager harmless against any loss, claim or damage arising from or as a result of such default by the Company and (B) pay the Designated Manager any commission to which it would otherwise be entitled absent such default. If the Designated Manager breaches this Agreement by failing to deliver the aggregate gross sales proceeds less any Transaction Fees to the Company on any Settlement Date for the Shares delivered by the Company, the Designated Manager will pay the Company interest based on the effective overnight federal funds rate on such unpaid amount less any compensation due to the Designated Manager.

(ix) At each Applicable Time and Representation Date (as defined in Section 4(k)), the Company shall be deemed to have affirmed each representation and warranty contained in this Agreement as if such representation and warranty were made as of such date, modified as necessary to relate to the Registration Statement and the Prospectus as amended as of such date. Any obligation of the Designated Manager to use its reasonable efforts to sell the Shares on behalf of the Company shall be subject to the continuing accuracy of the representations and warranties of the Company herein, to the performance by the Company of its obligations hereunder and to the continuing satisfaction of the additional conditions specified in Section 6 of this Agreement.

(b) If the Company wishes to issue and sell the Shares pursuant to this Agreement to a Designated Manager as principal, it will propose the terms of such sale to the Designated Manager. If a Designated Manager, acting as principal, wishes to accept such proposed terms (which it may decline to do for any reason in its sole discretion) or, following discussions with the Company wishes to accept amended terms, the Designated Manager and the Company will enter into a Terms Agreement setting forth the terms of such Placement. The terms set forth in a Terms Agreement will not be binding on the Company or the Designated Manager unless and until the Company and the Designated Manager have each executed such Terms Agreement accepting all of the terms of such Terms Agreement. In the event of a conflict between the terms of this Agreement and the terms of a Terms Agreement, the terms of such Terms Agreement will control.

(c) Each sale of the Shares to a Designated Manager as principal shall be made in accordance with the terms of this Agreement and, if applicable, a Terms Agreement, which will provide for the sale of such Shares to, and the purchase thereof by, the Designated Manager. A Terms Agreement may also specify certain provisions relating to the reoffering of such Shares by the Designated Manager. The commitment of the Designated Manager to purchase the Shares pursuant to any Terms Agreement shall be deemed to have been made on the basis of the representations and warranties of the Company herein contained and shall be subject to the terms and conditions herein set forth. Each Terms Agreement shall specify the number of the Shares to be purchased by the Designated Manager pursuant thereto, the price to be paid to the Company for such Shares, any provisions relating to rights of, and default by, underwriters acting together with the Designated Manager in the reoffering of the Shares, and the time and date (each such time and date being referred to herein as a “Time of Delivery”) and place of delivery of and payment for such Shares. Such Terms Agreement shall also specify any requirements for opinions of counsel, accountants’ letters and officers’ certificates pursuant to Section 6 of this Agreement and any other information or documents required by the Designated Manager.

(d) Under no circumstances shall the number and aggregate gross sales price of the Shares sold pursuant to this Agreement and any Terms Agreement exceed (i) the aggregate amount set forth in Section 1, (ii) the number of shares of the Common Stock available for issuance under the currently effective Registration Statement or (iii) the number and aggregate amount of the Shares authorized from time to time to be issued and sold under this Agreement by the Board, or a duly authorized committee thereof, and notified to the Designated Manager in writing in the Placement Notice.

(e) If either party has reason to believe that the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are not satisfied with respect to the Shares, it shall promptly notify the other party and sales of the Shares under this Agreement and any Terms Agreement shall be suspended until that or other exemptive provisions have been satisfied in the judgment of each party.

(f) Notwithstanding any other provision of this Agreement the Company shall not request the sale of any Shares that would be sold, and the Designated Manager shall not be obligated to sell, during any period in which the Company is, or would reasonably be deemed to be, in possession of material non-public information.

(g) With respect to the offering and sale of Shares pursuant to this Agreement, the Company agrees that any offer to sell Shares, any solicitation of an offer to buy Shares, and any sales of Shares shall only be effected by or through a single Manager on any single given day, and the Company shall in no event request that more than one Manager offer or sell Shares pursuant to this Agreement on the same day.

4. Agreements. The Company agrees with the Managers that:

(a) During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172) to be delivered under the Securities Act, the Company will not file any amendment of the Registration Statement or supplement to the Prospectus (other than an amendment or supplement relating to an offering of the Company's securities which is unrelated to the offering of Shares hereunder or any amendment pursuant to Section 10(a)(3) of the Securities Act deemed effected pursuant to the filing of an Annual Report on Form 10-K by the Company) unless the Company has furnished to the Managers a copy for its review prior to filing and will not file any such proposed amendment or supplement to which the Managers reasonably object. The Company will properly complete the Prospectus, in a form approved by the Managers, and file such Prospectus, with the Commission and will cause any supplement to the Prospectus to be properly completed, in a form approved by the Managers, and will file such supplement with the Commission pursuant to the applicable paragraph of Rule 424(b) within the time period prescribed thereby and will provide evidence satisfactory to the Managers of such timely filing. The Company will promptly advise the Managers (i) when the Prospectus, and any supplement thereto, shall have been filed (if required) with the Commission pursuant to Rule 424(b), (ii) when, during any period when the delivery of a prospectus (whether physically or through compliance with Rule 172 or any similar rule) is required under the Securities Act in connection with the offering or sale of the Shares, any amendment to the Registration Statement shall have been filed or become effective, (iii) of any request by the Commission or its staff for any amendment of the Registration Statement, or for any supplement to the Prospectus or for any additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of any notice objecting to its use or the institution or threatening of any proceeding for that purpose and (v) of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for sale in any jurisdiction or the institution or threatening of any proceeding for such purpose. Notwithstanding the foregoing, the Company shall not be obligated to provide notice of or furnish copies of any report or statement filed with the Commission to the extent it is available on the Commission's Electronic Data Gathering, Analysis, and Retrieval System. The Company will use its best efforts to prevent the issuance of any such stop order or the occurrence of any such suspension or objection to the use of the Registration Statement and, upon such issuance, occurrence or notice of objection, to obtain as soon as possible the withdrawal of such stop order or relief from such occurrence or objection, including, if necessary, by filing an amendment to the Registration Statement or a new registration statement and using its best efforts to have such amendment or new registration statement declared effective as soon as practicable.

(b) If, at any time on or after an Applicable Time but prior to the related Settlement Date or Time of Delivery, any event occurs as a result of which the Disclosure Package would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, the Company will (i) notify promptly the Managers so that any use of the Disclosure Package may cease until it is amended or supplemented; (ii) amend or supplement the Disclosure Package to correct such statement or omission; and (iii) supply any amendment or supplement to the Managers in such quantities as the Managers may reasonably request.

(c) During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172) to be delivered under the Securities Act, any event occurs as a result of which the Prospectus as then supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein in the light of the circumstances under which they were made at such time not misleading, or if it shall be necessary to amend the Registration Statement, file a new registration statement or supplement the Prospectus to comply with the Securities Act or the Exchange Act or the respective rules thereunder, including in connection with use or delivery of the Prospectus, the Company promptly will (i) notify the Managers of any such event, (ii) prepare and file with the Commission, subject to the second sentence of paragraph (a) of this Section 4, an amendment or supplement or new registration statement which will correct such statement or omission or effect such compliance, (iii) use its best efforts to have any amendment to the Registration Statement or new registration statement declared effective as soon as practicable in order to avoid any disruption in use of the Prospectus and (iv) supply any supplemented Prospectus to the Managers in such quantities as the Managers may reasonably request. Notwithstanding the foregoing, in the alternative the Company can suspend or terminate the Placement Notice upon written notice to the Designated Manager and delay the filing of any amendment or supplement, if in the judgment of the Company, it is in the best interest of the Company.

(d) As soon as practicable, the Company will make generally available to its security holders and to the Managers an earnings statement or statements of the Company and its subsidiaries which will satisfy the provisions of Section 11(a) of the Securities Act and Rule 158.

(e) The Company will furnish to the Managers and counsel for either of the Managers, without charge, signed copies of the Registration Statement (including exhibits thereto) and, so long as delivery of a prospectus by the Managers or dealer may be required by the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172), as many copies of the Prospectus and each Issuer Free Writing Prospectus and any supplement thereto as the Managers may reasonably request. The Company will pay the expenses of printing or other production of all documents relating to the offering.

(f) The Company will arrange, if necessary, for the qualification of the Shares for sale under the laws of such jurisdictions as the Managers may reasonably designate and will maintain such qualifications in effect so long as required for the distribution of the Shares; provided that in no event shall the Company be obligated to qualify to do business in any jurisdiction where it is not now so qualified or to take any action that would subject it to service of process in suits, other than those arising out of the offering or sale of the Shares, in any jurisdiction where it is not now so subject.

(g) The Company agrees that, unless it has or shall have obtained the prior written consent of each of the Managers, and each Manager agrees with the Company that, unless it has or shall have obtained, as the case may be, the prior written consent of the Company, it has not made and will not make any offer relating to the Shares that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus” (as defined in Rule 405) required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the prior written consent of the parties hereto shall be deemed to have been given in respect of the Free Writing Prospectuses included in Schedule 3 hereto. Any such free writing prospectus consented to by the Managers or the Company is hereinafter referred to as a “Permitted Free Writing Prospectus.” The Company agrees that (i) it has treated and will treat, as the case may be, each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus and (ii) it has complied and will comply, as the case may be, with the requirements of Rules 164 and 433 applicable to any Permitted Free Writing Prospectus, including in respect of timely filing with the Commission, legending and record keeping.

(h) During the pendency of any Placement Notice, the Company will not offer, sell, contract to sell, pledge, or otherwise dispose of, or file a registration statement with the Commission in respect of (other than any Registration Statement on Form S-8 or Form S-4, or any successors to such forms), any other shares of Common Stock or any securities convertible into, or exercisable, or exchangeable for, shares of Common Stock, or publicly announce an intention to effect any such transaction, without giving a Manager at least five Trading Days’ prior written notice specifying the nature of the proposed transaction and the date of such proposed transaction and; provided, however, that the Company may, without giving such notice, (i) issue and sell Common Stock pursuant to this Agreement or any Terms Agreement; (ii) issue, grant or sell Common Stock or options or other equity awards pursuant to any equity incentive plan, inducement plan, any employee stock purchase plan, stock ownership plan or dividend reinvestment plan of the Company in effect at the Execution Time or approved by the Board thereafter; (iii) issue or sell Common Stock pursuant to any dividend reinvestment plan that the Company may adopt from time to time provided the implementation of such is disclosed to the Managers in advance; (iv) issue Common Stock upon the conversion of securities or the exercise of warrants; (v) issue Common Stock or securities convertible into or exchangeable for Common Stock in satisfaction of contractual payment obligations described in Disclosure Package and the Prospectus, including the issuance of Common Stock as repayment of indebtedness of the Company in accordance with the terms thereof; (vi) issue Common Stock or securities convertible into or exchangeable for Common Stock in connection with an acquisition, merger or sale or purchase of assets; and (vii) issue Common Stock or securities convertible into or exchangeable for Common Stock offered and sold in connection with any strategic investment (including any joint venture, strategic alliance or partnership).

(i) The Company will not (i) take, directly or indirectly, any action designed to or that would constitute or that might reasonably be expected to cause or result in, under the Exchange Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or (ii) sell, bid for, purchase Common Stock in violation of Regulation M under the Exchange Act or pay any person (other than as contemplated by this Agreement or any Terms Agreement) any compensation for soliciting purchases of the Shares; provided, however, that the Company may bid for and purchase shares of its common stock in accordance with Rule 10b-18 under the Exchange Act.

(j) The Company will, simultaneously upon delivering to the Designated Manager a Placement Notice or, at any time during the pendency of a Placement Notice, advise the Designated Manager promptly after it shall have received notice or obtain knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter and other document provided to the Designated Manager pursuant to Section 6 herein.

(k) On or prior to the first delivery of a Placement Notice under this Agreement and each time thereafter during the term of this Agreement the Company (i) amends or supplements the Registration Statement or the Prospectus (other than a prospectus supplement filed in accordance with Section 4(p) of this Agreement or a prospectus supplement relating solely to the offering of securities other than the Shares) by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of document(s) by reference to the Registration Statement or the Prospectus, (ii) files an Annual Report on Form 10-K under the Exchange Act, (iii) files a Quarterly Report on Form 10-Q under the Exchange Act, (iv) files a Current Report on Form 8-K under the Exchange Act containing amended financial information (other than an earnings release or other information “furnished” pursuant to Items 2.02 or 7.01 of Form 8-K) under the Exchange Act and (v) delivers Shares to a Manager as principal at the Time of Delivery pursuant to a Terms Agreement (the date on which the Company first delivers a Placement Notice and each such date referred to in (i), (ii), (iii), (iv) and (v) above, a “Representation Date”), the Company shall furnish or cause to be furnished to the Managers forthwith a certificate dated and delivered the date of such Representation Date, in form reasonably satisfactory to the Managers with a certificate, in the form attached hereto as Exhibit 4(k) within two Trading Days of any Representation Date if requested by the Managers; provided, however, in the case of clause (iv) above a certificate will only be required if (1) a Placement Notice is pending and (2) the Managers reasonably determine that the information contained in such Form 8-K is material to a holder of Common Stock. The requirement to deliver a certificate under this Section 4(k) shall be automatically waived for any Representation Date occurring at a time at which no Placement Notice is pending or no Terms Agreement is in effect (a “Waiver”), which Waiver, in each case, shall not apply the next time the Company delivers its next Placement Notice or enters into a Terms Agreement; provided, however, that such Waiver shall not apply for any Representation Date on which the Company files its Annual Report on Form 10-K. Notwithstanding the foregoing, if the Company subsequently decides to sell Shares following a Representation Date when the Company relied on a Waiver and did not provide the Managers with a certificate under this Section 4(k), then before the Company delivers the Placement Notice or the Managers sell any Shares, the Company shall provide the Managers with a certificate, in the form attached hereto as Exhibit 4(k), dated the date of the Placement Notice.

(l) On or prior to the first delivery of a Placement Notice under this Agreement and within two Trading Days of each Representation Date with respect to which the Company is obligated to deliver a certificate attached hereto as Exhibit 4(k) for which no Waiver is applicable, the Company shall furnish or cause to be furnished forthwith to the Managers and to counsel to the Managers:

(i) a written opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to the Company (“Company Counsel”), or other counsel satisfactory to the Managers, dated and delivered on the date that the opinion is required to be delivered, in form and substance reasonably satisfactory to the Managers, substantially similar to the form previously provided to the Managers and their counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented;

(ii) a written opinion of Choate, Hall & Stuart LLP, intellectual property counsel to the Company, or other counsel satisfactory to the Managers, dated and delivered on the date that the opinion is required to be delivered, in form and substance reasonably satisfactory to the Managers, substantially similar to the form previously provided to the Managers and their counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented;

provided, however, that in lieu of such opinions for subsequent Representation Dates, in each case, counsel may furnish the Managers with a letter (a “Reliance Letter”) to the effect that the Managers may rely on a prior opinion delivered under this Section 4(l)(i) or (ii), as applicable, to the same extent as if it were dated the date of such letter (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented at such Representation Date). Notwithstanding the foregoing, if the Company subsequently decides to sell Shares following a Representation Date when the Company relied on such waiver/exemption and did not provide the Managers with the opinions under this Section 4(l), then before the Company delivers the Placement Notice or the Designated Manager sells any Shares, the Managers may, in their discretion, require the Company to provide the Managers with some or all of the opinions under this Section 4(l), substantially similar to the forms previously provided to the Managers, each dated the date of the Placement Notice; provided, the Company shall be required to furnish to the Managers no more than one of each such opinion hereunder per calendar quarter.

(m) On or prior to the first delivery of a Placement Notice under this Agreement and within two Trading Days of each Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 4(k) for which no Waiver is applicable, the Company shall cause Ernst & Young LLP and Deloitte & Touche LLP or other independent accountants reasonably satisfactory to the Designated Manager (the “Accountants”) forthwith, to furnish the Managers a letter (the “Comfort Letter”) dated the date that the letter is delivered, in form reasonably satisfactory to the Managers (i) confirming that they are independent accountants within the meaning of the Securities Act and the Exchange Act and the

respective applicable rules and regulations adopted by the Commission thereunder, (ii) that they have performed a review of any unaudited interim financial information of the Company included or incorporated by reference in the Registration Statement and the Prospectus in accordance with Statement on Auditing Standards No. 100 (the first such letter, the "Initial Comfort Letter") and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter; provided that the Company shall be required to furnish to the Managers no more than one Comfort Letter hereunder per calendar quarter.

(n) On or prior to the first delivery of a Placement Notice under this Agreement and at each Representation Date on which an opinion of counsel is requested by the Managers pursuant to Section 6(d), the Managers may request that the Company conduct a due diligence session, in form and substance reasonably satisfactory to the Managers. The Company shall cooperate timely with any reasonable due diligence request from or review conducted by the Managers or their agents from time to time in connection with the transactions contemplated by this Agreement, including, without limitation, providing information and available documents and access to appropriate senior corporate officers during regular business hours and at the Company's principal offices as the Managers may reasonably request.

(o) The Company acknowledges and agrees that each Manager may trade in the Common Stock for such Manager's own account and for the account of its clients at the same time as sales of the Shares occur pursuant to this Agreement or pursuant to a Terms Agreement.

(p) The Company will either (i) in its Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q, as applicable, or (ii) in a prospectus supplement filed with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act, disclose the number of Shares sold through the Managers under this Agreement, the Net Proceeds to the Company and the compensation paid by the Company to the Managers with respect to sales of Shares pursuant to this Agreement during the relevant quarter.

(q) Each execution and delivery by the Company of a Terms Agreement, shall be deemed to be an affirmation to the Managers that the representations and warranties of the Company contained in or made pursuant to this Agreement are true and correct as of the date of such Terms Agreement as though made at and as of such date, and an undertaking that such representations and warranties will be true and correct as of the Time of Delivery relating to such sale, as though made at and as of such date (except that such representations and warranties shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented relating to such Shares).

(r) The Company shall ensure that there are at all times sufficient shares of Common Stock to provide for the issuance, free of any preemptive rights, out of its authorized but unissued shares of Common Stock or shares of Common Stock held in treasury, of the maximum aggregate number of Shares authorized for issuance by the Board pursuant to the terms of this Agreement. The Company will use its commercially reasonable efforts to cause the Shares to be listed for trading on Nasdaq and to maintain such listing.

(s) During any period when the delivery of a prospectus relating to the Shares is required (including in circumstances where such requirement may be satisfied pursuant to Rule 172) to be delivered under the Securities Act, the Company will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and the regulations thereunder.

(t) The Company shall cooperate with Managers and use its reasonable efforts to permit the Shares to be eligible for clearance and settlement through the facilities of DTC.

(u) The Company will apply the Net Proceeds from the sale of the Shares in the manner set forth in the Prospectus.

5. Payment of Expenses. The Company agrees to pay the costs and expenses incident to the performance of its obligations under this Agreement, whether or not the transactions contemplated hereby are consummated, including without limitation: (i) the preparation, printing or reproduction and filing with the Commission of the Registration Statement (including financial statements and exhibits thereto), the Prospectus and each Issuer Free Writing Prospectus, and each amendment or supplement to any of them; (ii) the printing (or reproduction) and delivery (including postage, air freight charges and charges for counting and packaging) of such copies of the Registration Statement, the Prospectus, and each Issuer Free Writing Prospectus, and all amendments or supplements to any of them, as may, in each case, be reasonably requested for use in connection with the offering and sale of the Shares; (iii) the preparation, printing, authentication, issuance and delivery of certificates for the Shares, including any stamp or transfer taxes in connection with the original issuance and sale of the Shares; (iv) the printing (or reproduction) and delivery of this Agreement, any blue sky memorandum and all other agreements or documents printed (or reproduced) and delivered in connection with the offering of the Shares; (v) the registration of the Shares under the Exchange Act and the listing of the Shares on Nasdaq; (vi) any registration or qualification of the Shares for offer and sale under the securities or blue sky laws of the several states (including filing fees and the reasonable fees and expenses of counsel for the Managers relating to such registration and qualification); (vii) any filings required to be made with FINRA, including filing fees, as well as and the reasonable fees and expenses of counsel for the Managers relating to such filings; (viii) the transportation and other expenses incurred by or on behalf of Company representatives in connection with presentations to prospective purchasers of the Shares; (ix) the fees and expenses of the Company's accountants and the fees and expenses of counsel (including local and special counsel) for the Company; (x) the reasonable documented out-of-pocket expenses of the Managers, including the reasonable fees, disbursements and expenses of counsel for the Managers in connection with this Agreement and the Registration Statement and ongoing services in connection with the transactions contemplated hereunder, including the fees set forth in clause (vii) above, (A) payable upon the execution of the Original Agreement, in an aggregate amount not to exceed \$50,000 and (B) payable upon the execution of this Agreement, in an amount not to exceed \$35,000; and (xi) all other costs and expenses incident to the performance by the Company of its obligations hereunder.

6. Conditions to the Obligations of the Managers. The obligations of the Managers under this Agreement with respect to a Placement and any Terms Agreement shall be subject to (i) the accuracy of the representations and warranties on the part of the Company contained herein as of the Execution Time, each Representation Date, and as of each Applicable Time and Time of Delivery, (ii) to the performance by the Company of its obligations hereunder and (iii) the following additional conditions:

(a) Any supplement to the Prospectus required by Rule 424 to be filed with the Commission have been filed in the manner and within the time period required by Rule 424(b) with respect to any sale of Shares; any other material required to be filed by the Company pursuant to Rule 433(d) under the Securities Act, shall have been filed with the Commission within the applicable time periods prescribed for such filings by Rule 433; and no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use shall have been issued and no proceedings for that purpose shall have been instituted or threatened.

(b) The Company shall have requested and caused the Company Counsel, to furnish to the Managers, on the dates specified in Section 4(l)(i) of this Agreement, its opinion, dated as of such date and addressed to the Managers, in form and substance reasonably satisfactory to the Managers.

(c) The Company shall have requested and caused Choate, Hall & Stuart LLP, intellectual property counsel for the Company, to furnish to the Managers, on the dates specified in Section 4(l)(ii) of this Agreement, its opinion, dated as of such date and addressed to the Managers, in form and substance reasonably satisfactory to the Managers.

(d) The Managers shall have received from Cooley LLP, counsel for Citigroup on each date which the delivery of the Company Counsel legal opinion is required pursuant to Section 4(l)(i) of this Agreement, such opinion or opinions, dated as of such date and addressed to the Managers, with respect to the issuance and sale of the Shares, the Registration Statement, the Disclosure Package, the Prospectus (together with any supplement thereto) and other related matters as the Managers may reasonably require, and the Company shall have furnished to such counsel such documents as they request for the purpose of enabling them to pass upon such matters.

(e) The Company shall have furnished or caused to be furnished to the Managers, on the dates specified in Section 4(k) of this Agreement, a certificate of the Company, signed by the Chairman of the Board, the President, the Chief Executive Officer or the principal financial or principal accounting officer of the Company, dated as of such date, to the effect that the signer of such certificate has carefully examined the Registration Statement, the Disclosure Package and the Prospectus and any supplements or amendments thereto and this Agreement and that:

(i) the representations and warranties of the Company in this Agreement are true and correct on and as of such date with the same effect as if made on such date and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such date;

(ii) no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use has been issued and no proceedings for that purpose have been instituted or, to the Company's knowledge, threatened; and

(iii) since the date of the most recent financial statements included in the Disclosure Package, there has been no Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus.

(f) The Company shall have requested and caused the Accountants to have furnished to the Managers, on every date specified in Section 4(m) hereof, the Comfort Letter that is required to be delivered pursuant to Section 4(m) hereof (which may refer to letters previously delivered to the Managers), dated as of such date, in form and substance reasonably satisfactory to the Managers.

(g) Since the respective dates as of which information is disclosed in the Registration Statement, the Disclosure Package and the Prospectus, except as otherwise stated therein, there shall not have been (i) any change or decrease in financial statement items specified in the letter or letters referred to in paragraph (f) of this Section 6 or (ii) any change, or any development involving a prospective change, in or affecting the condition (financial or otherwise), earnings, business or properties of the Company and its subsidiaries taken as a whole, whether or not arising from transactions in the ordinary course of business, except as set forth or contemplated in the Disclosure Package, the effect of which is, in any case referred to in clause (i) or (ii) above, in the sole judgment of the Managers, so material and adverse as to make it impractical or inadvisable to market the Shares on the terms and in the manner contemplated in the Disclosure Package and the Prospectus.

(h) The Company shall have paid the required Commission filing fees relating to the Shares within the time period required by Rule 456(b)(1)(i) of the Securities Act without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) of the Securities Act and, if applicable, shall have updated the "Calculation of Registration Fee" table in accordance with Rule 456(b)(1)(ii) either in a post-effective amendment to the Registration Statement or on the cover page of a prospectus or prospectus supplement filed pursuant to Rule 424(b).

(i) Between the Execution Time and the time of any sale of Shares through the Managers, there shall not have been any decrease in the rating of any of the Company's debt securities by any "nationally recognized statistical rating organization" (as defined for purposes of Rule 436(g) under the Securities Act) or any notice given of any intended or potential decrease in any such rating or of a possible change in any such rating that does not indicate the direction of the possible change.

(j) FINRA shall not have raised any objection with respect to the fairness and reasonableness of the terms and arrangements under this Agreement.

(k) The Shares shall have been listed and admitted and authorized for trading on Nasdaq, and satisfactory evidence of such actions shall have been provided to the Designated Manager.

(l) Prior to each Settlement Date and Time of Delivery, as applicable, the Company shall have furnished to the Managers such further information, certificates and documents as the Managers may reasonably request.

If any of the conditions specified in this Section 6 shall not have been fulfilled when and as provided in this Agreement, or if any of the opinions and certificates mentioned above or elsewhere in this Agreement shall not be reasonably satisfactory in form and substance to the Managers and counsel for the Managers, this Agreement and all obligations of the Managers hereunder may be canceled at, or at any time prior to, any Settlement Date or Time of Delivery, as applicable, by the Managers. Notice of such cancellation shall be given to the Company in writing or by telephone or electronic mail and confirmed in writing.

The documents required to be delivered by this Section 6 shall be delivered at the office of Cooley LLP, counsel for the Managers, at 55 Hudson Yards, New York, New York 10001-2157, on each such date as provided in this Agreement.

#### 7. Indemnification and Contribution.

(a) The Company agrees to indemnify and hold harmless the Managers, the directors, officers, employees, affiliates and agents of the Managers and each person who controls the Managers within the meaning of either the Securities Act or the Exchange Act against any and all losses, claims, damages or liabilities, joint or several, to which they or any of them may become subject under the Securities Act, the Exchange Act or other U.S. federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in the registration statement for the registration of the Shares as originally filed or in any amendment thereof or the Prospectus, or any Issuer Free Writing Prospectus, or in any amendment thereof or supplement thereto or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein not misleading, and agrees to reimburse each such indemnified party, as incurred, for any documented legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action, provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon any such untrue statement or alleged untrue statement or omission or alleged omission made therein in reliance upon and in

conformity with written information furnished to the Company by a Manager specifically for inclusion therein. This indemnity agreement will be in addition to any liability that the Company may otherwise have. The Company acknowledges that the last two sentences of the first paragraph under the heading "Plan of Distribution" in the Prospectus and the name and contact information of the Managers in the Prospectus constitute the only information furnished in writing by or on behalf of the Managers for inclusion in the Prospectus or Issuer Free Writing Prospectus.

(b) Each respective Manager, severally but not jointly, agrees to indemnify and hold harmless the Company, each of its directors, each of its officers who signs the Registration Statement, and each person who controls the Company within the meaning of either the Securities Act or the Exchange Act, to the same extent as the foregoing indemnity from the Company to the Managers, but only with reference to written information relating to such Manager furnished to the Company by or on behalf of the Manager specifically for inclusion in the documents referred to in the foregoing indemnity. This indemnity agreement will be in addition to any liability which the Managers may otherwise have.

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party under this Section 7, notify the indemnifying party in writing of the commencement thereof; but the failure so to notify the indemnifying party (i) will not relieve it from liability under paragraph (a) or (b) above unless and to the extent it did not otherwise learn of such action and such failure results in the forfeiture by the indemnifying party of substantial rights and defenses and (ii) will not, in any event, relieve the indemnifying party from any obligations to any indemnified party other than the indemnification obligation provided in paragraph (a) or (b) above. The indemnifying party shall be entitled to appoint counsel of the indemnifying party's choice at the indemnifying party's expense to represent the indemnified party in any action for which indemnification is sought (in which case the indemnifying party shall not thereafter be responsible for the fees and expenses of any separate counsel retained by the indemnified party or parties except as set forth below); provided, however, that such counsel shall be reasonably satisfactory to the indemnified party. Notwithstanding the indemnifying party's election to appoint counsel to represent the indemnified party in an action, the indemnified party shall have the right to employ separate counsel (including local counsel), and the indemnifying party shall bear the reasonable fees, costs and expenses of such separate counsel (which, if the Company is the indemnifying party, shall be limited to one such separate counsel for the Managers together with directors, officers, employees, affiliates, agents and all persons who control the Managers, within the meaning of either the Securities Act or the Exchange Act) if (i) the use of counsel chosen by the indemnifying party to represent the indemnified party would present such counsel with a conflict of interest, (ii) the actual or potential defendants in, or targets of, any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, (iii) the indemnifying party shall not have employed counsel reasonably satisfactory to the indemnified party to

represent the indemnified party within a reasonable time after notice of the institution of such action or (iv) the indemnifying party shall authorize the indemnified party to employ separate counsel at the expense of the indemnifying party. An indemnifying party will not, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent: (i) includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding and (ii) does not include an admission of fault.

(d) In the event that the indemnity provided in paragraph (a), (b) or (c) of this Section 7 is unavailable to or insufficient to hold harmless an indemnified party for any reason, the Company and each Manager agree to contribute to the aggregate losses, claims, damages and liabilities (including legal or other expenses reasonably incurred in connection with investigating or defending the same) (collectively "Losses") to which the Company and each Manager may be subject in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and by each Manager on the other from the offering of the Shares. If the allocation provided by the immediately preceding sentence is unavailable for any reason, the Company and each Manager severally shall contribute in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and of each Manager on the other in connection with the statements or omissions which resulted in such Losses as well as any other relevant equitable considerations. Benefits received by the Company shall be deemed to be equal to the total net proceeds from the offering (before deducting expenses) received by it, and benefits received by a Managers shall be deemed to be equal to the total gross compensation received by such Manager (before deducting expenses) with respect to Shares purchased under this Agreement, in each case as determined by this Agreement or any applicable Terms Agreement. Relative fault shall be determined by reference to, among other things, whether any untrue or any alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information provided by the Company on the one hand or the Managers on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and each Manager agree that it would not be just and equitable if contribution were determined by pro rata allocation or any other method of allocation which does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this paragraph (d), no Manager shall be required to contribute any amount in excess of the amount by which the total gross compensation received by such Manager (before deducting expenses) with respect to Shares purchased under this Agreement exceeds the amount of any damages that such Manager has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 7, each person who controls a Managers within the meaning of either the Securities Act or the Exchange Act and each director, officer, employee, affiliate and agent of a Manager shall have the same

rights to contribution as such Manager, and each person who controls the Company within the meaning of either the Securities Act or the Exchange Act, each officer of the Company who shall have signed the Registration Statement and each director of the Company shall have the same rights to contribution as the Company, subject in each case to the applicable terms and conditions of this paragraph (d). The Managers' respective obligations to contribute pursuant to this paragraph (d) are several in proportion to the respective number of Shares they have sold hereunder, and not joint.

#### 8. Termination.

(a) The Company shall have the right, by giving written notice as hereinafter specified, to terminate the provisions of this Agreement relating to the solicitation of offers to purchase the Shares in its sole discretion at any time. Any such termination shall be without liability of any party to any other party except that (i) if Shares have been sold through the Managers for the Company, then Section 4(q) shall remain in full force and effect, (ii) with respect to any pending sale, through the Managers for the Company, the obligations of the Company, including in respect of compensation of the Managers, shall remain in full force and effect notwithstanding the termination and (iii) the provisions of Sections 2, 5, 7, 9, 10, 12 and 14 of this Agreement shall remain in full force and effect notwithstanding such termination.

(b) Each Manager shall have the right, by giving written notice as hereinafter specified, to terminate the provisions of this Agreement relating to the solicitation of offers to purchase the Shares in its sole discretion at any time, with respect to such Manager's rights and obligations under this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Sections 2, 5, 7, 9, 10, 12 and 14 of this Agreement shall remain in full force and effect notwithstanding such termination. For the avoidance of doubt, the termination by one Manager of its rights and obligations under this Agreement pursuant to this Section 8 shall not affect the rights and obligations of the other Manager under this Agreement.

(c) This Agreement shall remain in full force and effect unless terminated pursuant to Sections 8(a) or (b) above or otherwise by mutual agreement of the parties; provided that any such termination by mutual agreement shall in all cases be deemed to provide that Sections 2, 5, 7 and 9 shall remain in full force and effect.

(d) Any termination of this Agreement shall be effective on the date specified in such notice of termination; provided that such termination shall not be effective until the close of business on the date of receipt of such notice by a Manager or the Company, as the case may be. If such termination shall occur prior to the Settlement Date or Time of Delivery for any sale of the Shares, such sale shall settle in accordance with the provisions of Section 3(a)(viii) of this Agreement.

(e) In the case of any purchase of Shares by a Manager pursuant to a Terms Agreement, the obligations of such Manager pursuant to such Terms Agreement shall be subject to termination, in the absolute discretion of the Manager, by notice given to the Company prior to the Time of Delivery relating to such Shares, if at any time prior to such delivery and payment (i) trading in the Company's Common Stock shall have been suspended by the Commission or

Nasdaq or trading in securities generally on the NYSE or Nasdaq shall have been suspended or limited or minimum prices shall have been established on either of such exchanges, (ii) a banking moratorium shall have been declared either by U.S. federal or New York State authorities or (iii) there shall have occurred any outbreak or escalation of hostilities, declaration by the United States of a national emergency or war, or other calamity or crisis the effect of which on financial markets is such as to make it, in the judgment of such Manager, impractical or inadvisable to proceed with the offering or delivery of the Shares as contemplated by the Prospectus (exclusive of any amendment or supplement thereto).

9. Representations and Indemnities to Survive. The respective agreements, representations, warranties, indemnities and other statements of the Company or its officers and of the Managers set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by any Manager or the Company or any of the officers, directors, employees, affiliates, agents or controlling persons referred to in Section 7 hereof, and will survive delivery of and payment for the Shares.

10. Notices. All communications hereunder will be in writing and effective only on receipt, and, if sent to Citigroup, will be mailed, delivered or telefaxed to the Citigroup Global Markets Inc. General Counsel (fax no.: (646) 291-1469) and confirmed to the General Counsel, Citigroup Global Markets Inc., at 388 Greenwich Street, New York, New York, 10013, Attention: General Counsel; and, if sent to Jefferies, will be mailed, delivered or telefaxed to the Jefferies LLC General Counsel (fax no.: (646) 619-4437) and confirmed to the General Counsel, Jefferies LLC, at 520 Madison Avenue, New York, New York, 10022, Attention: General Counsel; or, if sent to the Company, will be mailed or delivered to and confirmed to it at 6400 Westwind Way, Suite A, Crestwood, KY 40014, attention of the Legal Department.

11. Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers, directors, employees, agents and controlling persons referred to in Section 8 hereof, and no other person will have any right or obligation hereunder.

12. No Fiduciary Duty. The Company hereby acknowledges that (a) the purchase and sale of the Shares pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the Managers and any affiliates through which they may be acting, on the other, (b) each Manager is acting solely as sales agent and/or principal in connection with the purchase and sale of the Company's securities and not as a fiduciary of the Company and (c) the Company's engagement of the Managers in connection with the offering and the process leading up to the offering is as independent contractors and not in any other capacity. Furthermore, the Company agrees that it is solely responsible for making its own judgments in connection with the offering (irrespective of whether the Managers have advised or are currently advising the Company on related or other matters). The Company agrees that it will not claim that the Managers have rendered advisory services of any nature or respect, or owe an agency, fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

13. Integration. This Agreement and any Terms Agreement supersede all prior agreements and understandings (whether written or oral) between the Company and the Managers with respect to the subject matter hereof.

14. Applicable Law. This Agreement and any Terms Agreement will be governed by and construed in accordance with the laws of the State of New York applicable to contracts made and to be performed within the State of New York.

15. Waiver of Jury Trial. The Company hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement, any Terms Agreement or the transactions contemplated hereby or thereby.

16. Counterparts. This Agreement and any Terms Agreement may be signed in one or more counterparts, each of which shall constitute an original and all of which together shall constitute one and the same agreement.

17. Headings. The section headings used in this Agreement and any Terms Agreement are for convenience only and shall not affect the construction hereof.

18. Definitions. The terms that follow, when used in this Agreement and any Terms Agreement, shall have the meanings indicated.

“Applicable Time” shall mean, with respect to any Shares, the time of sale of such Shares pursuant to this Agreement or any relevant Terms Agreement.

“Business Day” shall mean any day other than a Saturday, a Sunday or a legal holiday or a day on which banking institutions or trust companies are authorized or obligated by law to close in New York City.

“Commission” shall mean the Securities and Exchange Commission.

“Disclosure Package” shall mean (i) the Prospectus, (ii) any prospectus supplement to the Prospectus filed with the Commission pursuant to Rule 424(b) of the Securities Act and relating to the Shares, (iii) any Issuer Free Writing Prospectuses, if any, identified in Schedule 3 hereto, (iv) the public offering price of Shares sold at the relevant Applicable Time and (v) any other Free Writing Prospectus that the parties hereto shall hereafter expressly agree in writing to treat as part of the Disclosure Package

“Effective Date” shall mean each date and time that the Registration Statement, and any post-effective amendment or amendments thereto became or becomes effective.

“Exchange Act” shall mean the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Execution Time” shall mean the date and time that this Agreement is executed and delivered by the parties hereto.

“Free Writing Prospectus” shall mean a free writing prospectus, as defined in Rule 405.

“Issuer Free Writing Prospectus” shall mean an issuer free writing prospectus, as defined in Rule 433.

“Registration Statement” shall mean the registration statement referred to in Section 2(a) above, including exhibits and financial statements and any prospectus supplement relating to the Shares that is filed with the Commission pursuant to Rule 424(b) and deemed part of such registration statement pursuant to Rule 430B, as amended on each Effective Date and, in the event any post-effective amendment thereto becomes effective, shall also mean such registration statement as so amended.

“Rule 153, Rule 158”, “Rule 163”, “Rule 164”, “Rule 172”, “Rule 405”, “Rule 415”, “Rule 424”, “Rule 430B” and “Rule 433” refer to such rules under the Securities Act.

“Securities Act” shall mean the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Trading Day” means any day on which the Company’s Common Stock is purchased and sold on the Nasdaq or other principal market on which the Common Stock is listed or quoted.

\* \* \* \* \*

If the foregoing is in accordance with your understanding of our agreement, please sign and return to us the enclosed duplicate hereof, whereupon this letter and your acceptance shall represent a binding agreement among the Company and the Managers.

Very truly yours,

Apellis Pharmaceuticals, Inc.

By: /s/ Timothy E. Sullivan

Name: Timothy E. Sullivan

Title: Chief Financial Officer

The foregoing Agreement is hereby confirmed and accepted as of the date first written above.

Citigroup Global Markets Inc.

By: /s/ Jennifer Fox

Name: Jennifer Fox

Title: Co-Head of North American Healthcare Group,  
Investment Banking

Jefferies LLC

By: /s/ Michael Magarro

Name: Michael Magarro

Title: Managing Director

**SCHEDULE 1**

**Form of Placement Notice**

From: [ ]

Cc: [ ]

To: [ ]

Subject: Equity Distribution — Placement Notice

Ladies and Gentlemen:

Pursuant to the terms and subject to the conditions contained in the Amended and Restated Equity Distribution Agreement (the “Agreement”), dated October \_\_, 2019, by and among Apellis Pharmaceuticals, Inc. (the “Company”), Citigroup Global Markets Inc. (“Citigroup”) and Jefferies LLC (“Jefferies”), I hereby request on behalf of the Company that [Citigroup/Jefferies] sell up to [ ] shares of the Company’s common stock, par value \$0.0001 per share, at a minimum market price of \$[ ] per share.

[ADDITIONAL SALES PARAMETERS MAY BE ADDED, SUCH AS THE MAXIMUM AGGREGATE OFFERING PRICE, THE TIME PERIOD IN WHICH SALES ARE REQUESTED TO BE MADE, SPECIFIC DATES THE SHARES MAY NOT BE SOLD ON, THE MANNER IN WHICH SALES ARE TO BE MADE BY CITIGROUP/JEFFERIES, AND/OR THE CAPACITY IN WHICH CITIGROUP/JEFFERIES MAY ACT IN SELLING SHARES (AS PRINCIPAL, AGENT, OR BOTH)]

**SCHEDULE 2**

The Company.

Cedric Francois, Chief Executive Officer

Timothy Sullivan, Chief Financial Officer

Citigroup Global Markets Inc.

Robert Leonard, Managing Director

Eric Rosen, Vice President

Jefferies LLC

Michael Magarro, Managing Director

Donald Lynaugh, Managing Director

Jack Fabbri, Vice President

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**SCHEDULE 3**

**Schedule of Free Writing Prospectuses included in the Disclosure Package**

None.

**Exhibit 4(k)**

Form of Officer's Certificate

The undersigned, the duly qualified and elected \_\_\_\_\_, of Apellis Pharmaceuticals, Inc. ("Company"), a Delaware corporation, does hereby certify in such capacity and on behalf of the Company, pursuant to Section 6(e) of the Amended and Restated Equity Distribution Agreement dated October \_\_, 2019 (the "Agreement") between the Company and Citigroup Global Markets Inc. and Jefferies LLC, that the undersigned has carefully examined the Registration Statement, the Disclosure Package and the Prospectus and any supplements or amendments thereto and the Agreement and that:

- (i) the representations and warranties of the Company set forth in the Agreement are true and correct on and as of the date hereof with the same effect as if made on the date hereof and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to the date hereof;
- (ii) no stop order suspending the effectiveness of the Registration Statement or any notice objecting to its use has been issued and no proceedings for that purpose have been instituted or, to the Company's knowledge, threatened; and
- (iii) since the date of the most recent financial statements included in the Disclosure Package, there has been no Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus.

Capitalized terms used herein without definition have the meanings ascribed to them in the Agreement.

Each of Cooley LLP, Wilmer Cutler Pickering Hale and Dorr LLP, and Choate, Hall & Stewart LLP is entitled to rely on this certificate in connection with the opinions such firms are rendering pursuant to Section 6(d), Section 6(b) and Section 6(c), respectively, of the Agreement.

**Apellis Pharmaceuticals, Inc.**

By: \_\_\_\_\_  
Name:  
Title:

Date: \_\_\_\_\_

ANNEX I

APELLIS PHARMACEUTICALS, INC.

Common Stock

TERMS AGREEMENT

\_\_\_\_\_, 20\_\_

[Citigroup Global Markets Inc.  
388 Greenwich Street  
New York, New York, 10013]

[Jefferies LLC  
520 Madison Avenue  
New York, New York 10022]

Dear Ladies and Gentlemen:

Apellis Pharmaceuticals, Inc. (the "Company") proposes, subject to the terms and conditions stated herein and in the Amended and Restated Equity Distribution Agreement, October 4, 2019 (the "A&R Equity Distribution Agreement"), between the Company, Citigroup Global Markets Inc. ("Citigroup") and Jefferies LLC ("Jefferies" together with Citigroup, collectively, the "Managers", and each individually a "Manager"), to issue and sell to the [Citigroup/Jefferies] the securities specified in the Schedule I hereto (the "Purchased Shares").

Each of the provisions of the A&R Equity Distribution Agreement not specifically related to the solicitation by [Citigroup/Jefferies], as agent of the Company, of offers to purchase securities is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if such provisions had been set forth in full herein. Each of the representations and warranties set forth therein shall be deemed to have been made at and as of the date of this Terms Agreement and the Time of Delivery, except that each representation and warranty in Section 2 of the A&R Equity Distribution Agreement which makes reference to the Prospectus (as therein defined) shall be deemed to be a representation and warranty as of the date of the A&R Equity Distribution Agreement in relation to the Prospectus, and also a representation and warranty as of the date of this Terms Agreement and the Time of Delivery in relation to the Prospectus as amended and supplemented to relate to the Purchased Shares.

An amendment to the Registration Statement (as defined in the A&R Equity Distribution Agreement), or a supplement to the Prospectus, as the case may be, relating to the Purchased Shares, in the form heretofore delivered to the Managers is now proposed to be filed with the Securities and Exchange Commission.

Subject to the terms and conditions set forth herein and in the A&R Equity Distribution Agreement which are incorporated herein by reference, the Company agrees to issue and sell to [Citigroup/Jefferies] and the latter agrees to purchase from the Company the number of shares of the Purchased Shares at the time and place and at the purchase price set forth in the Schedule I hereto.

If the foregoing is in accordance with your understanding, please sign and return to us a counterpart hereof, whereupon this Terms Agreement, including those provisions of the Equity Distribution Agreement incorporated herein by reference, shall constitute a binding agreement between [Citigroup/Jefferies] and the Company.

Apellis Pharmaceuticals, Inc.

By: \_\_\_\_\_  
Name:  
Title:

ACCEPTED as of the date first written above.

[Citigroup Global Markets Inc.]

By: \_\_\_\_\_  
Name:  
Title:

[Jefferies LLC]

By: \_\_\_\_\_  
Name:  
Title:

## Schedule I to Terms Agreement

Title of Purchased Shares:

Common Stock, par value \$0.0001 per share

Number of Shares of Purchased Shares:

Price to Public:

Purchase Price by [Citigroup Global Markets Inc./Jefferies LLC]

Method of and Specified Funds for Payment of Purchase Price:

By wire transfer to a bank account specified by the Company in same day funds.

Method of Delivery:

Free delivery of the Shares to the Manager's account at The Depository Trust Company in return for payment of the purchase price.

Time of Delivery:

Closing Location:

Documents to be Delivered:

The following documents referred to in the A&R Equity Distribution Agreement shall be delivered as a condition to the closing at the Time of Delivery:

- (1) The opinion referred to in Section 4(l).
- (2) The opinion referred to in Section 4(m).
- (3) The opinion referred to in Section 4(n).
- (3) The accountants' letter referred to in Section 4(o).
- (4) The officers' certificate referred to in Section 4(k).
- (5) Such other documents as the Designated Manager shall reasonably request.

October 4, 2019

Apellis Pharmaceuticals, Inc.  
6400 Westwind Way, Suite A  
Crestwood, Kentucky, 40014

+1 617 526 6000 (t)  
+1 617 526 5000 (f)  
wilmerhale.com

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is furnished to you in connection with Post-Effective Amendment No. 3 to Registration Statement on Form S-3 (the "Registration Statement") to be filed by Apellis Pharmaceuticals, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of the following securities of the Company (the "Securities"):

- i. senior debt securities (the "Senior Debt Securities");
- ii. subordinated debt securities (the "Subordinated Debt Securities" and, together with the Senior Debt Securities, the "Debt Securities");
- iii. common stock, par value \$0.0001 per share (the "Common Stock");
- iv. preferred stock, par value \$0.0001 per share (the "Preferred Stock");
- v. warrants to purchase Debt Securities, Common Stock or Preferred Stock (the "Warrants"); and
- vi. units consisting of any combination of Debt Securities, Common Stock, Preferred Stock or Warrants (as defined below) (the "Units").

all of which may be issued from time to time on a delayed or continuous basis by the Company pursuant to Rule 415 under the Securities Act at an aggregate offering price not to exceed \$300,000,000, as set forth in the Registration Statement, the base prospectus contained therein (the "Prospectus") and any amendments or supplements thereto. In addition to the foregoing, there are being registered for resale under the Registration Statement 12,256,035 shares of Common Stock that may be sold by stockholders of the Company from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act (the "Selling Stockholder Shares").

We are acting as counsel for the Company in connection with the filing of the Registration Statement. The Senior Debt Securities may be issued pursuant to a senior indenture (the "Senior Indenture") to be entered into between the Company and a trustee to be named, as trustee (the "Senior Trustee") and duly qualified under the Trust Indenture Act of 1939, as

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing      Berlin      Boston      Brussels      Denver      Frankfurt      London      Los Angeles      New York      Palo Alto      Washington

amended (the “Trust Indenture Act”). The Subordinated Debt Securities may be issued pursuant to a subordinated indenture (the “Subordinated Indenture,” and together with the Senior Indenture, the “Indentures,” and each individually, an “Indenture”) to be entered into between the Company and a trustee to be named, as trustee (the “Subordinated Trustee” and together with the Senior Trustee, the “Trustees,” and each individually, a “Trustee”) and duly qualified under the Trust Indenture Act. The preferences, limitations and relative rights of shares of any series of Preferred Stock will be set forth in a Certificate of Designation (a “Certificate of Designation”). The Warrants may be issued pursuant to a warrant agreement (the “Warrant Agreement”) to be entered into between the Company and a bank or trust company to be named, as warrant agent. The Units may be issued pursuant to a Unit Agreement (the “Unit Agreement”) to be entered into between the Company and a bank or trust company to be named, as unit agent.

We are also acting as counsel for the Company in connection with the equity distribution agreement prospectus also contained in the Registration Statement (the “Equity Distribution Agreement Prospectus”) relating to the issuance and sale of shares of Common Stock having an aggregate offering price of up to \$150,000,000 of shares of Common Stock (the “Equity Distribution Agreement Shares”) under an Amended and Restated Equity Distribution Agreement, dated October 4, 2019, among the Company, Citigroup Global Markets Inc. and Jefferies LLC (the “Equity Distribution Agreement”).

We have examined and relied upon signed copies of the Registration Statement to be filed with the Commission, including the exhibits thereto. We have also examined and relied upon the Equity Distribution Agreement, the Restated Certificate of Incorporation of the Company (as amended or restated from time to time, the “Certificate of Incorporation”), the Amended and Restated Bylaws of the Company (as amended or restated from time to time, the “Bylaws”) and minutes of meetings of the stockholders and the Board of Directors of the Company as provided to us by the Company.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the legal capacity of all signatories, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of such original documents and the completeness and accuracy of the corporate minute books of the Company.

We have relied as to certain matters on information obtained from public officials and officers of the Company, and we have assumed (i) the Registration Statement will be effective and will comply with all applicable laws at the time Securities are offered or issued as contemplated by the Registration Statement; (ii) other than for the Equity Distribution Agreement Shares, one or more prospectus supplements and term sheets, as applicable, will have been prepared and filed with the Commission describing the Securities offered thereby; (iii) all Securities will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement, the Prospectus, the Equity Distribution Agreement Prospectus and any applicable prospectus supplement; (iv) in the case of Debt Securities, (a) the applicable Indenture will be duly authorized, executed and delivered by the

applicable Trustee in substantially the form filed as Exhibit 4.3 or Exhibit 4.4 to the Registration Statement, (b) the applicable Indenture will be duly qualified under the Trust Indenture Act, and the applicable Trustee will be duly eligible to serve as trustee, and (c) the Debt Securities will be duly authenticated by the Trustee named in the applicable Indenture; (v) any Warrant Agreement or Unit Agreement, as applicable, will be duly authorized, executed and delivered by all parties thereto other than the Company; (vi) other than for the Equity Distribution Agreement Shares, a definitive purchase, underwriting or similar agreement with respect to any Securities offered will be duly authorized, executed and delivered by all parties thereto other than the Company; (vii) any Securities issuable upon conversion, exchange or exercise of any Security being offered will be duly authorized, created and, if appropriate, reserved for issuance upon such conversion, exchange or exercise; (viii) with respect to shares of Common Stock or Preferred Stock offered, there will be sufficient shares of Common Stock or Preferred Stock authorized under the Certificate of Incorporation and not otherwise reserved for issuance; (ix) if issued in certificated form, valid book-entry notations for the issuance of the Common Stock or the Preferred Stock will have been duly made in the share register of the Company; (x) at the time of the issuance and sale of the Securities, the Company will be validly existing as a corporation and in good standing under the laws of the State of Delaware; and (xi) any Warrant Agreement or Unit Agreement will be governed by the laws of the State of New York or Delaware.

We are expressing no opinion herein as to the application of any federal or state law or regulation to the power, authority or competence of any party to any agreement with respect to any of the Securities other than the Company. We have assumed that such agreements are, or will be, the valid and binding obligations of each party thereto other than the Company, and enforceable against each such other party in accordance with their respective terms.

We have assumed for purposes of our opinions below that no authorization, approval or other action by, and no notice to or filing with, any governmental authority or regulatory body or any other third party is required for the due execution, delivery or performance by the Company, or, if any such authorization, approval, consent, action, notice or filing is required, it will have been duly obtained, taken, given or made and will be in full force and effect. We have also assumed that there will not have occurred, prior to the date of issuance of the Securities, any change in law affecting the validity or enforceability of such Securities and that at the time of the issuance and sale of such Securities, the Board of Directors of the Company (or any committee of such Board of Directors or any person acting pursuant to authority properly delegated to such person by the Board of Directors of the Company or any committee of such Board of Directors) shall not have taken any action to rescind or otherwise reduce its prior authorization of the issuance of such Securities.

Our opinion expressed in paragraph 7 below, insofar as it relates to the Selling Stockholder Shares being fully paid, is based solely on an officer's certificate of the Company, executed and delivered to us by an executive officer of the Company, confirming the Company's receipt of the consideration called for by the applicable resolutions authorizing the issuance of such shares.

Our opinions below are qualified to the extent that they may be subject to or affected by (i) applicable bankruptcy, insolvency, reorganization, moratorium, usury, fraudulent conveyance or similar laws relating to or affecting the rights or remedies of creditors generally, (ii) duties and standards imposed on creditors and parties to contracts, including, without limitation, requirements of materiality, good faith, reasonableness and fair dealing, (iii) general equitable principles, and (iv) acceleration of the Debt Securities which may affect the collectability of that portion of the stated principal amount thereof that might be determined to constitute unearned interest thereon. Furthermore, we express no opinion as to the availability of any equitable or specific remedy upon any breach of any of the agreements as to which we are opining herein, or any of the agreements, documents or obligations referred to therein, or to the successful assertion of any equitable defenses, inasmuch as the availability of such remedies or the success of any equitable defenses may be subject to the discretion of a court. We also express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the Commonwealth of Massachusetts and the General Corporation Law of the State of Delaware. We also express no opinion herein with respect to compliance by the Company with the securities or “blue sky” laws of any state or other jurisdiction of the United States or of any foreign jurisdiction. In addition, we express no opinion and make no statement herein with respect to the antifraud laws of any jurisdiction.

We also express no opinion herein as to any provision of any agreement (i) that may be deemed to or construed to waive any right of the Company, (ii) to the effect that rights and remedies are not exclusive, that every right or remedy is cumulative and may be exercised in addition to or with any other right or remedy and does not preclude recourse to one or more other rights or remedies, (iii) relating to the effect of invalidity or unenforceability of any provision of any agreement on the validity or enforceability of any other provision thereof, (iv) that is in violation of public policy, (v) relating to indemnification and contribution with respect to securities law matters, (vi) that provides that the terms of any agreement may not be waived or modified except in writing, (vii) purporting to indemnify any person against his, her or its own negligence or intentional misconduct, (viii) requiring the payment of penalties, consequential damages or liquidated damages or (ix) relating to choice of law or consent to jurisdiction.

Based upon and subject to the foregoing, we are of the opinion that:

1. With respect to the Debt Securities, when (i) specifically authorized for issuance by proper action of the Board of Directors of the Company or an authorized committee thereof (the “Authorizing Resolutions”), (ii) the applicable Indenture has been duly authorized, executed and delivered by the Company, (iii) the terms of the Debt Securities and of their issuance and sale have been duly established in conformity with the applicable Indenture and the Authorizing Resolutions and assuming such terms and sale do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (iv) such Debt Securities have been duly executed by the Company and authenticated by the applicable Trustee in accordance with the applicable Indenture and delivered and sold as contemplated by the Registration Statement, the Prospectus

and any applicable Prospectus Supplement in accordance with the applicable underwriting or other purchase agreement against payment therefor, and (v) the Company has received the consideration provided for in the Authorizing Resolutions and the applicable underwriting agreement or other purchase agreement, such Debt Securities will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms.

2. With respect to shares of Common Stock (other than the Equity Distribution Agreement Shares), when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the terms of the issuance and sale of the Common Stock have been duly established in conformity with the Certificate of Incorporation, By-laws and Authorizing Resolutions, (iii) the shares of Common Stock have been issued and delivered as contemplated by the Registration Statement, the Prospectus and any applicable Prospectus Supplement in accordance with the applicable underwriting or other purchase agreement or upon conversion or exercise of any Security offered under the Registration Statement against payment therefor, and (iv) the Company has received the consideration provided for in the Authorizing Resolutions and the applicable underwriting agreement or other purchase agreement and such consideration per share is not less than the par value per share of the Common Stock, the Common Stock will be validly issued, fully paid and non-assessable.

3. With respect to shares of any series of Preferred Stock, when (i) the Authorizing Resolutions have specifically authorized the issuance and terms of the shares of the series, the terms of the offering thereof and related matters, including resolutions establishing and designating the series and fixing and determining the preferences, limitations and relative rights thereof and the filing of a Certificate of Designation with respect to the series with the Secretary of State of the State of Delaware, and such Certificate of Designation has been duly filed, (ii) the terms of the issuance and sale of the series of Preferred Stock have been duly established in conformity with the Certificate of Incorporation, By-laws and Authorizing Resolutions, (iii) the shares of the series of Preferred Stock have been issued and delivered as contemplated by the Registration Statement, the Prospectus and any applicable Prospectus Supplement in accordance with the applicable underwriting or other purchase agreement against payment therefor, and (iv) the Company has received the consideration provided for in the Authorizing Resolutions and the applicable underwriting agreement or other purchase agreement and such consideration per share is not less than the par value per share of the Preferred Stock, the shares of such series of Preferred Stock will be validly issued, fully paid and non-assessable.

4. With respect to the Warrants, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the applicable Warrant Agreement relating to the Warrants has been duly authorized, executed and delivered by the Company, (iii) the terms of the Warrants and of their issuance and sale have been duly established in conformity with the applicable Warrant Agreement and the Authorizing Resolutions, (iv) the Warrants have been duly executed by the Company and countersigned in accordance with the Warrant Agreement and Authorizing Resolutions and issued and delivered as contemplated by the Registration Statement, the Prospectus and any applicable Prospectus Supplement in accordance with the applicable underwriting or other purchase agreement against payment therefor, and (v) the Company has

received the consideration provided for in the Authorizing Resolutions and the applicable underwriting agreement or other purchase agreement, such Warrants will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms.

5. With respect to the Units, when (i) specifically authorized for issuance by Authorizing Resolutions, (ii) the applicable Unit Agreement has been duly authorized, executed and delivered, (iii) the terms of the Units and of their issuance and sale have been duly established in conformity with the applicable Unit Agreement and the Authorizing Resolutions, (iv) the Units have been duly executed and delivered in accordance with the applicable Unit Agreement and issued and delivered as contemplated by the Registration Statement, the Prospectus and any applicable Prospectus Supplement in accordance with the applicable underwriting or other purchase agreement against payment therefor, and (v) the Company has received the consideration provided for in the Authorizing Resolutions and the applicable underwriting agreement or other purchase agreement, such Units will constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms.

6. With respect to the Equity Distribution Agreement Shares, such Equity Distribution Agreement Shares have been duly authorized for issuance and, when the Equity Distribution Agreement Shares have been issued and paid for in accordance with the terms and conditions of the Equity Distribution Agreement, the Equity Distribution Agreement Shares will be validly issued, fully paid and non-assessable.

7. The Selling Stockholder Shares are validly issued, fully paid and non-assessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related Prospectus, Equity Distribution Agreement Prospectus and in any prospectus supplement under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

WILMER CUTLER PICKERING  
HALE AND DORR LLP

By: /s/ Stuart M. Falber  
Stuart M. Falber, a Partner

**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption “Experts” and to the use of our reports dated February 26, 2019, in Amendment No. 3 to the Registration Statement (Form S-3 No. 333-229091) and related Prospectuses of Apellis Pharmaceuticals, Inc. for the registration of debt securities, common stock, preferred stock, units, and warrants.

/s/ Ernst & Young LLP

Boston, Massachusetts  
October 4, 2019