

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

FORM 8-K

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

Date of Report (Date of earliest event reported): **June 30, 2020**

ACCELERON PHARMA INC.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-36065
(Commission
File Number)

27-0072226
(I.R.S. Employer
Identification Number)

128 Sidney Street
Cambridge, MA
(Address of principal executive
offices)

02139
(Zip Code)

Registrant's telephone number, including area code: **(617) 649-9200**

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

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

Securities registered pursuant to Section 12(b) of the Exchange Act:

Title of each class	Ticker Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 per share	XLRN	The Nasdaq Global Market

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

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01 Other Events.

On June 30, 2020, Acceleron Pharma Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with J.P. Morgan Securities LLC, SVB Leerink LLC and Cowen and Company, LLC, as representatives (collectively, the “Representatives”) of the several underwriters named therein (collectively, the “Underwriters”), relating to the public offering (the “Offering”) of 4,864,864 shares (the “Shares”) of the Company’s common stock, par value \$0.001 per share, at a price to the public of \$92.50 per share. The net proceeds to the Company from the sale of the Shares, after deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company, will be approximately \$428.2 million. The Company has also granted the Underwriters a 30-day option to purchase up to an additional 729,729 shares of common stock from the Company at the public offering price less underwriting discounts and commissions.

The Offering was made only by means of a prospectus. An automatic shelf registration statement (including a prospectus) relating to the offering of common stock was filed with the Securities and Exchange Commission (the “SEC”) on September 19, 2017, and became effective upon filing (Registration No. 333-220522). A preliminary prospectus supplement relating to the Offering also was filed with the SEC on June 30, 2020, and a final prospectus supplement is expected to be filed on July 2, 2020. The closing of the Offering is expected to take place on July 6, 2020, subject to the satisfaction of customary closing conditions. A copy of the Underwriting Agreement is filed as Exhibit 1.1 to this Current Report on Form 8-K.

Ropes & Gray LLP, counsel to the Company, has issued an opinion to the Company, dated July 1, 2020 regarding the shares to be sold in the Offering. A copy of the opinion is filed as Exhibit 5.1 to this Current Report on Form 8-K. Certain information relating to Part II, Item 14 “Other Expenses of Issuance and Distribution” of the Registration Statement is filed as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description of Exhibit
<u>1.1</u>	<u>Underwriting Agreement, dated June 30, 2020, by and among the Company and the Representatives</u>
<u>5.1</u>	<u>Opinion of Ropes & Gray LLP</u>
<u>23.1</u>	<u>Consent of Ropes & Gray LLP (included in Exhibit 5.1 above)</u>
<u>99.1</u>	<u>Information relating to Part II, Item 14 “Other Expenses of Issuance and Distribution” of the Registration Statement</u>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ACCELERON PHARMA INC.

By: /s/ Adam M. Veness, Esq.
Adam M. Veness, Esq.
Senior Vice President, General Counsel and Secretary

Date: July 1, 2020

Acceleron Pharma Inc.
4,864,864 Shares¹
Common Stock
(\$0.001 par value)
Underwriting Agreement

New York, New York
June 30, 2020

J.P. Morgan Securities LLC
SVB Leerink LLC
Cowen and Company, LLC
As Representatives of the several Underwriters,

c/o J.P. Morgan Securities LLC
383 Madison Avenue
New York, New York 10179

c/o SVB Leerink LLC
One Federal Street, 37th Floor
Boston, Massachusetts 02119

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, New York 10022

Ladies and Gentlemen:

Acceleron Pharma Inc., a corporation organized under the laws of Delaware (the “Company”), proposes to sell to the several underwriters named in Schedule I hereto (the “Underwriters”), for whom you (the “Representatives”) are acting as representatives, 4,864,864 shares of common stock, \$0.001 par value (“Common Stock”), of the Company (said shares to be issued and sold by the Company being hereinafter called the “Underwritten Securities”). The Company also proposes to grant to the Underwriters an option to purchase up to 729,729 additional shares of Common Stock (the “Option Securities”; the Option Securities, together with the Underwritten Securities, being hereinafter called the “Securities”). To the extent there are no additional Underwriters listed on Schedule I other than you, the term Representatives as used herein shall mean you, as Underwriters, and the terms Representatives and Underwriters shall mean either the singular or plural as the context requires. Certain terms used herein are defined in Section 21 hereof. Any reference herein to the Registration Statement, the Base Prospectus, any Preliminary Prospectus 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 Base Prospectus, any Preliminary Prospectus or the Prospectus, as the case may be; and any reference herein to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement, the Base Prospectus, any Preliminary Prospectus 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 Base Prospectus, any Preliminary Prospectus or the Prospectus, as the case may be, deemed to be incorporated by reference therein.

¹ Plus an option to purchase from the Company up to 729,729 additional Securities

1. Representations and Warranties. The Company represents and warrants to, and agrees with, each Underwriter as set forth below in this Section 1.

(a) The Company meets the requirements for use of Form S-3 under the Act and has prepared and filed with the Commission an automatic shelf registration statement, as defined in Rule 405 (file number of which is set forth in Schedule II hereto) on Form S-3, including a related Base Prospectus, for registration under the Act of the offering and sale of the Securities. Such Registration Statement, including any amendments thereto filed prior to the Execution Time, became effective upon filing. The Company may have filed with the Commission, as part of an amendment to the Registration Statement or pursuant to Rule 424(b), one or more preliminary prospectus supplements relating to the Securities, each of which has previously been furnished to you. The Company will file with the Commission a final prospectus supplement relating to the Securities in accordance with Rule 424(b). As filed, such final prospectus supplement shall contain all information required by the Act and the rules thereunder and, except to the extent the Representatives shall agree in writing to a modification, shall be in all substantive respects in the form furnished to you prior to the Execution Time or, to the extent not completed at the Execution Time, shall, except as otherwise required by law and after consultation with the Representatives, contain only such specific additional information and other changes (beyond that contained in the latest Preliminary Prospectus) as the Company has advised you, prior to the Execution Time, will be included or made therein. The Registration Statement, at the Execution Time, 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.

(b) On each Effective Date, the Registration Statement did, and when the Prospectus is first filed in accordance with Rule 424(b) and on the Closing Date (as defined herein) and on any date on which Option Securities are purchased, if such date is not the Closing Date (a "settlement date"), the Prospectus (and any supplement thereto) will comply in all material respects with the applicable requirements of the Act and the rules thereunder; on each Effective Date, at the Execution Time and on the Closing Date, the Registration Statement 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 pursuant to Rule 424(b) and on the Closing Date and any settlement date, the Prospectus (together with any supplement thereto) 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 or on behalf of any Underwriter through the Representatives specifically for inclusion in the Registration Statement or the Prospectus (or any supplement thereto), it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8 hereof.

(c) (i) The Disclosure Package and the price to the public, the number of Underwritten Securities and the number of Option Securities to be included on the cover page of the Prospectus, when taken together as a whole, and (ii) each electronic road show, when taken together as a whole with the Disclosure Package and the price to the public, the number of Underwritten Securities and the number of Option Securities to be included on the cover page of the Prospectus, does 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 any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by or on behalf of any Underwriter consists of the information described as such in Section 8 hereof.

(d) (i) At the time of filing the Registration Statement and (ii) as of the Execution Time (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.

(e) [Intentionally left blank.]

(f) [Intentionally left blank.]

(g) Each Issuer Free Writing Prospectus does not include any information that conflicts with the information contained in the Registration Statement on file at the time of issuance of such Issuer Free Writing Prospectus, including any document incorporated by reference therein 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 any Underwriter through the Representatives specifically for use therein, it being understood and agreed that the only such information furnished by or on behalf of any Underwriter consists of the information described as such in Section 8 hereof.

(h) Acceleron Securities Corp., a Massachusetts corporation and Acceleron Holding Ltd., a Bermuda limited company (the "Subsidiaries"), are the Company's subsidiaries. Each of the Company and the Subsidiaries has been duly incorporated and is validly existing as a corporation in good standing 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 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.

(i) All the outstanding shares of capital stock of the Company and Subsidiaries have been duly and validly authorized and issued and are fully paid and non-assessable, and, the Securities have been duly and validly authorized, and, when issued and delivered to and paid for by the Underwriters pursuant to this Agreement, will be fully paid and non-assessable. 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 free and clear of any perfected security interest or any other security interests, claims, liens or encumbrances.

(j) 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 Preliminary Prospectus contains in all material respects the same description of the foregoing matters contained in the Prospectus); and the statements in the Preliminary Prospectus and the Prospectus under the headings "Risk Factors — Risks Related to Our Intellectual Property", "Business — Our Strategic Partnerships", "Business — Government Regulation", "Business — Intellectual Property", "Legal Proceedings", "Description of Capital Stock," and "Material United States Federal Income and Estate Tax Considerations for Non-U.S. Holders," 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.

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

(l) The Company is not and, after giving effect to the offering and sale of the Securities 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.

(m) 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 under the Act and such as may be required under the blue sky laws of any jurisdiction in connection with the purchase and distribution of the Securities by the Underwriters in the manner contemplated herein and in the Disclosure Package and the Prospectus.

(n) Neither the issue and sale of the Securities 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 the Subsidiaries pursuant to (i) the charter or by-laws of the Company or the 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 the Subsidiaries are 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 the Subsidiaries of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company, the Subsidiaries or any of its or their properties.

(o) No holders of securities of the Company have rights to the registration of such securities under the Registration Statement, except as have been waived or satisfied.

(p) The consolidated historical financial statements and schedules of the Company and the Subsidiaries included in the Preliminary Prospectus, the Prospectus and the Registration Statement present fairly the financial condition, results of operations and cash flows of the Company and the Subsidiaries as of the dates and for the periods indicated, comply as to form with the applicable accounting requirements of the Act and have been prepared in conformity with generally accepted accounting principles applied on a consistent basis throughout the periods involved (except as otherwise noted therein). The selected financial data set forth under the caption "Selected Financial Data" contained in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 and incorporated by reference into the Registration Statement fairly present, on the basis stated in the Preliminary Prospectus, the Prospectus and the Registration Statement, the information included therein.

(q) No action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company, the Subsidiaries or its or their property is pending or, to the knowledge of the Company or the Subsidiaries, threatened that is likely to have a Material Adverse Effect whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(r) The Company and the Subsidiaries own or lease all such properties as are necessary to the conduct of their operations as presently conducted in all material respects.

(s) Neither the Company nor the Subsidiaries are 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 of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company, the Subsidiaries or any of its or their properties, as applicable, except in the case of clauses (ii) and (iii) as would not reasonably be expected to have a Material Adverse Effect.

(t) Ernst & Young LLP, who have certified certain financial statements of the Company and delivered their report with respect to the audited consolidated financial statements and schedules incorporated by reference in the Disclosure Package and the Prospectus, are independent public accountants with respect to the Company within the meaning of the Act and the applicable published rules and regulations thereunder.

(u) There are no transfer taxes or other similar fees or charges under 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 Securities.

(v) Each of the Company and the Subsidiaries 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, whether or not arising from transactions in the ordinary course, 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, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(w) No labor problem or dispute with the employees of the Company or the Subsidiaries exists or, to the knowledge of the Company or the Subsidiaries, is threatened or imminent, and neither the Company nor the Subsidiaries are aware of any existing or imminent labor disturbance by the employees, principal suppliers, contractors or customers, that could have a Material Adverse Effect, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(x) Each of the Company and the 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 the Subsidiaries or its or their respective businesses, assets, employees, officers and directors are in full force and effect; the Company and the Subsidiaries are in compliance with the terms of such policies and instruments in all material respects; there are no claims by the Company or the 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 the Subsidiaries have been refused any insurance coverage sought or applied for; and neither the Company nor any of the Subsidiaries have 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, whether or not arising in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(y) The Company and the Subsidiaries possess all licenses, certificates, permits and other authorizations issued by all applicable authorities necessary to conduct their respective businesses, and neither the Company nor the Subsidiaries have 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).

(z) Except as described in the Registration Statement, the Disclosure Package and the Prospectus, and except as would not, individually or in the aggregate, result in a Material Adverse Effect: (i) the Company, the Subsidiaries and, to the Company's knowledge, its Collaborator are and have been in compliance with statutes, laws, ordinances, rules and regulations applicable to the Company, the Subsidiaries and its Collaborator for the ownership, testing, development, manufacture, packaging, processing, use, labeling, storage, or disposal of any product manufactured by or on behalf of the Company or the Subsidiaries or out-licensed by the Company or the Subsidiaries, including without limitation, the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 301, et seq., the Public Health Service Act, 42 U.S.C. § 262, the federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)), the civil False Claims Act (31 U.S.C. § 3729 et seq.), the criminal False Claims Law (42 U.S.C. § 1320a-7b(a)), the Civil Monetary Penalties Law (42 U.S.C. § 1320a-7a), the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. § 1320d et seq.), as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (42 U.S.C. § 17921 et seq.) the exclusion laws (42 U.S.C. § 1320a-7), Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), and the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, including, without limitation, the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), and the regulation promulgated pursuant to such laws, and comparable state laws, and all other local, state, federal, national, supranational, and foreign laws (collectively, "Applicable Laws"); (ii) the Company, the Subsidiaries and, to the Company's knowledge, its Collaborator, possess all licenses, certificates, approvals, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws and/or for the ownership of its properties or the conduct of the business of the Company and the Subsidiaries as described in the Registration Statement, the Disclosure Package and the Prospectus (collectively, "Authorizations") and such Authorizations are valid and in full force and effect and the Company, the Subsidiaries and, to the Company's knowledge, its Collaborator are not in violation of any term of any such Authorizations; (iii) neither the Company, the Subsidiaries nor, to the Company's knowledge, its Collaborator, has received any written notice of adverse finding, warning letter or other written correspondence or notice from the U.S. Food and Drug Administration ("FDA") or any other Governmental Entity alleging or asserting noncompliance with any Applicable Laws or Authorizations; (iv) neither the Company nor the Subsidiaries have received written notice of any ongoing claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Entity or third party alleging that any product, operation or activity is in violation of any Applicable Laws or Authorizations or has any knowledge that any such Governmental Entity or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, nor, to the best of the Company's knowledge, has there been any noncompliance with or violation of any Applicable Laws by the Company, the Subsidiaries or its Collaborator that could reasonably be expected to require the issuance of any such written notice or result in an investigation, corrective action, or enforcement action by FDA or similar Governmental Entity; (v) the Company, the Subsidiaries and, to the Company's knowledge, its Collaborator has not received written notice that any Governmental Entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations or has any knowledge that any such Governmental Entity has threatened or is considering such action; (vi) the Company, the Subsidiaries and, to the Company's knowledge, its Collaborator has filed, obtained, maintained or submitted all 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, correct and not misleading on the date filed (or were corrected or supplemented by a subsequent submission); and (vii) neither the Company, the Subsidiaries nor, to the Company's knowledge, its Collaborator, have either voluntarily or involuntarily, initiated, conducted or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, post sale warning, "dear doctor" letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to the Company's knowledge, no third-party has initiated or conducted any such notice or action. To the Company's knowledge, none of the Company, the Subsidiaries, or any of their respective directors, officers, employees or agents, has made, or caused the making of, any false statements on, or material omissions from, any other records or documentation prepared or maintained to comply with the requirements of the FDA or any other Governmental Entity. Pursuant to the Company's agreements with the Collaborator, the Company has requested and received from the Collaborator copies that are identified as being true copies of originals of submissions made by the Collaborator to the FDA pertaining to any sotatecept investigational new drug application (the "IND") as well as related correspondence between the FDA and the Collaborator.

(aa) The clinical studies and tests conducted by the Company, the Subsidiaries, or to the knowledge of the Company or the Subsidiaries, by its Collaborator or on behalf of the Company or the Subsidiaries, have been and, if still pending, are being conducted in all material respects pursuant to all Applicable Laws and Authorizations; the descriptions of the results of such clinical studies and tests contained in the Registration Statement, the Disclosure Package and the Prospectus are accurate and complete in all material respects and fairly present the data derived from such clinical studies and tests; except to the extent disclosed in the Registration Statement, the Disclosure Package and the Prospectus, neither the Company nor the Subsidiaries are aware of any clinical studies or tests, the results of which the Company or the Subsidiaries believe reasonably call into question the research, nonclinical or clinical study or test results described or referred to in the Registration Statement, the Disclosure Package and the Prospectus when viewed in the context in which such results are described; and neither the Company nor the Subsidiaries have received any written notices or correspondence from any Governmental Entity requiring the termination, suspension or material modification of any clinical study or test conducted by or on behalf of the Company or the Subsidiaries.

(bb) The Company and the Subsidiaries own, possess, license or otherwise have sufficient rights to use, on reasonable terms, 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 business of the Company and the Subsidiaries as now conducted or as proposed in the Prospectus to be conducted. Except as set forth in the Preliminary Prospectus and the Prospectus under the caption "Business — Intellectual Property," (a) there are no rights of third parties to any material Intellectual Property; (b) there is no material infringement by third parties of any such Intellectual Property; (c) there is no pending or, to the knowledge of the Company or the Subsidiaries, threatened action, suit, proceeding or claim by others challenging the rights of the Company or the Subsidiaries in or to any such Intellectual Property, and neither the Company nor the Subsidiaries are aware of any facts which would form a reasonable basis for any such claim; (d) there is no pending or, to the knowledge of the Company or the Subsidiaries, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, and neither the Company nor the Subsidiaries are aware of any facts which would form a reasonable basis for any such claim; (e) there is no pending or, to the knowledge of the Company or the Subsidiaries, threatened action, suit, proceeding or claim by others that the Company or the Subsidiaries infringes or otherwise violates any patent, trademark, copyright, trade secret or other proprietary rights of others, and neither the Company nor the Subsidiaries are aware of any act which would form a reasonable basis for any such claim; (f) to the knowledge of the Company or the Subsidiaries, there is no U.S. patent which contains claims that dominate or may dominate any Intellectual Property described in the Disclosure Package and the Prospectus as being owned by or licensed to the Company or the Subsidiaries or that interferes with the issued claims of any such Intellectual Property; and (g) there is no prior art of which the Company or the Subsidiaries are aware that may render any U.S. patent held by the Company or the Subsidiaries invalid or any U.S. patent application held by the Company or the Subsidiaries unpatentable which has not been disclosed to the U.S. Patent and Trademark Office.

(cc) [Intentionally left blank.]

(dd) Neither the Company nor the Subsidiaries (i) have any material lending or other relationship with any bank or lending affiliate of the Representatives and (ii) intend to use any of the proceeds from the sale of the Securities hereunder to repay any outstanding debt owed to any affiliate of the Representatives.

(ee) The Company maintains 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 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 internal controls over financial reporting are effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and the Company is not aware of any material weakness in their internal controls over financial reporting.

(ff) The Company maintains "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.

(gg) The Company has not taken, directly or indirectly, without giving effect to activities by the underwriters, 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 Securities.

(hh) The Company and the Subsidiaries are (i) in compliance with any and all applicable foreign, 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 ("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 where such non-compliance with Environmental Laws, failure to receive required permits, licenses or other approvals, or liability would not, individually or in the aggregate, have a Material Adverse Effect, whether or not arising from transactions in the ordinary course of business, 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 the Subsidiaries have been named as a "potentially responsible party" under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

(ii) 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 the 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, whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(jj) 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; (ii) an audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other federal or state governmental agency or any foreign regulatory agency with respect to the employment or compensation of employees by the Company or the 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 the Subsidiaries that could 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 or the Subsidiaries as compared to the amount of such contributions made in the most recently completed fiscal year of the Company or the 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 or the Subsidiaries as compared to the amount of such obligations in the most recently completed fiscal year of the Company or the 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 the 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 the Subsidiaries may have any liability.

(kk) None of the Company, the Subsidiaries or, to the knowledge of the Company or the Subsidiaries, any director, officer, agent, employee or affiliate of the Company or the Subsidiaries, is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder, any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption law (collectively, the “Anti-Corruption Laws”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any foreign or domestic government official or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office, in contravention of the Anti-Corruption Laws; and the Company, the Subsidiaries and, to the knowledge of the Company or the Subsidiaries, its respective affiliates have conducted their businesses in compliance with the Anti-Corruption Laws and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(ll) The operations of the Company and the 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 the Subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or the Subsidiaries, threatened.

(mm) None of the Company, the Subsidiaries or, to the knowledge of the Company or the Subsidiaries, any director, officer, agent, employee or affiliate of the Company or the Subsidiaries (i) is currently subject to any sanctions administered or imposed by the United States (including any administered or enforced by the Office of Foreign Assets Control of the U.S. Treasury Department (“OFAC”)) or (ii) 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 person in any manner that will result in a violation of any economic sanctions imposed by the United States (including any administered or enforced by OFAC, 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, or the United Kingdom (including sanctions administered or controlled by Her Majesty’s Treasury) (collectively, “Sanctions” and such persons, “Sanction Persons”) by, or could result in the imposition of Sanctions against, any person (including any person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(nn) None of the Company, the Subsidiaries or, to the knowledge of the Company or the Subsidiaries, any director, officer, agent, employee or affiliate of the Company or the Subsidiaries, is a person that is, or is 50% or more owned or otherwise controlled by a person that is: (i) the subject of any Sanctions; or (ii) 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 (currently, Cuba, Iran, North Korea, Sudan, and Syria) (collectively, “Sanctioned Countries” and each, a “Sanctioned Country”).

(oo) Except as has been disclosed to the Underwriters or is not material to the analysis under any Sanctions, neither the Company nor the Subsidiaries have 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 3 years, nor does the Company nor the Subsidiaries have any plans to increase its dealings or transactions with Sanctioned Persons, or with or in Sanctioned Countries.

(pp) 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 bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants, except as would not reasonably be expected to have a Material Adverse Effect. 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, in each case at a level customary for similarly situated companies within the industry, and there have been no material 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 material 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, in each case except where failure to comply would have a Material Adverse Effect.

(qq) The Company and its Subsidiaries are in material compliance with all applicable data privacy and security laws and regulations, including, without limitation, the Health Insurance Portability and Accountability Act ("HIPAA"), as amended by the Health Information Technology for Economic and Clinical Health Act (the "HITECH Act") (42 U.S.C. Section 17921 et seq.); and the Company and its Subsidiaries have taken all necessary actions to comply with the European Union General Data Protection Regulation ("GDPR") (EU 2016/679) (collectively, "Privacy Laws"). To ensure compliance with the Privacy Laws, the Company and its Subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling and analysis of Personal Data (the "Policies"). The Policies provide accurate and sufficient notice of the Company's then-current privacy practices relating to its subject matter and such Policies do not contain any material omissions of the Company's then-current privacy practices. "Personal Data" means (i) a natural persons' name, street address, telephone number, email address, photograph, social security number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) Protected Health Information as defined by HIPAA; (iv) "personal data" as defined by GDPR; and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. Neither the Company nor any of its Subsidiaries, (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposed any obligation or liability under any Privacy Law.

Any certificate signed by any officer of the Company and delivered to the Representatives or counsel for the Underwriters in connection with the offering of the Securities shall be deemed a representation and warranty by the Company, as to matters covered thereby, to each Underwriter.

2. Purchase and Sale.

(a) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company agrees to sell to each Underwriter, and each Underwriter agrees, severally and not jointly, to purchase from the Company, at the purchase price set forth in Schedule II hereto, the number of the Underwritten Securities set forth opposite such Underwriter's name in Schedule I hereto.

(b) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to 729,729 Option Securities at the same purchase price per share as the Underwriters shall pay for the Underwritten Securities, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Underwritten Securities but not payable on the Option Securities. Said option may be exercised in whole or in part at any time on or before the 30th day after the date of the Prospectus upon written or telegraphic notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are exercising the option and the settlement date. The number of Option Securities to be purchased by each Underwriter shall be the same percentage of the total number of Option Securities to be purchased by the several Underwriters as such Underwriter is purchasing of the Underwritten Securities, subject to such adjustments as you in your absolute discretion shall make to eliminate any fractional shares.

3. Delivery and Payment. Delivery of and payment for the Underwritten Securities and the Option Securities (if the option provided for in Section 2(b) hereof shall have been exercised on or before the second Business Day immediately preceding the Closing Date) shall be made on the date and at the time specified in Schedule II hereto, or at such time on such later date not more than three Business Days after the foregoing date as the Representatives shall designate, which date and time may be postponed by agreement between the Representatives and the Company or as provided in Section 9 hereof (such date and time of delivery and payment for the Securities being herein called the "Closing Date"). Delivery of the Securities shall be made to the Representatives for the respective accounts of the several Underwriters against payment by the several Underwriters through the Representatives of the purchase price thereof to or upon the order of the Company by wire transfer payable in same-day funds to an account specified by the Company. Delivery of the Underwritten Securities and the Option Securities shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

If the option provided for in Section 2(b) hereof is exercised after the second Business Day immediately preceding the Closing Date, the Company will deliver the Option Securities (at the expense of the Company) to the Representatives, at 383 Madison Avenue, New York, New York 10179, on the date specified by the Representatives (which shall be within three Business Days after exercise of said option) for the respective accounts of the several Underwriters, against payment by the several Underwriters through the Representatives of the purchase price thereof to or upon the order of the Company by wire transfer payable in same-day funds to an account specified by the Company. If settlement for the Option Securities occurs after the Closing Date, the Company will deliver to the Representatives on the settlement date for the Option Securities, and the obligation of the Underwriters to purchase the Option Securities shall be conditioned upon receipt of, supplemental opinions, certificates and letters confirming as of such date the opinions, certificates and letters delivered on the Closing Date pursuant to Section 6 hereof.

4. Offering by Underwriters. It is understood that the several Underwriters propose to offer the Securities for sale to the public as set forth in the Prospectus.

5. Agreements. The Company agrees with the several Underwriters that:

(a) Prior to the termination of the offering of the Securities, the Company will not file any amendment of the Registration Statement or supplement (including the Prospectus or any Preliminary Prospectus) to the Base Prospectus unless the Company has furnished you a copy for your review prior to filing and will not file any such proposed amendment or supplement to which you reasonably object. The Company will cause the Prospectus, properly completed, and any supplement thereto to be filed in a form approved by the Representatives with the Commission pursuant to the applicable paragraph of Rule 424(b) within the time period prescribed and will provide evidence satisfactory to the Representatives of such timely filing. The Company will promptly advise the Representatives (i) when the Prospectus, and any supplement thereto, shall have been filed (if required) with the Commission pursuant to Rule 424(b), (ii) when, prior to termination of the offering of the Securities, 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 Securities for sale in any jurisdiction or the institution or threatening of any proceeding for such purpose. 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 prior to the filing of the Prospectus pursuant to Rule 424(b), 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 to make the statements therein in the light of the circumstances under which they were made at such time not misleading, the Company will (i) notify promptly the Representatives 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 you in such quantities as you may reasonably request.

(c) If, at any time when a prospectus relating to the Securities is required to be delivered under the Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172), 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 to make the statements therein in the light of the circumstances under which they were made or the circumstances then prevailing not misleading, or if it shall be necessary to amend the Registration Statement or supplement the Prospectus to comply with the Act or the rules thereunder, the Company promptly will (i) notify the Representatives of any such event; (ii) prepare and file with the Commission, subject to the second sentence of paragraph (a) of this Section 5, an amendment or supplement which will correct such statement or omission or effect such compliance; and (iii) supply any supplemented Prospectus to you in such quantities as you may reasonably request.

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

(e) The Company will furnish to the Representatives and counsel for the Underwriters, without charge, signed copies of the Registration Statement (including exhibits thereto) and to each other Underwriter a copy of the Registration Statement (without exhibits thereto) and, so long as delivery of a prospectus by an Underwriter or dealer may be required by the Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172), as many copies of each Preliminary Prospectus, the Prospectus and each Issuer Free Writing Prospectus and any supplement thereto as the Representatives 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 Securities for sale under the laws of such jurisdictions as the Representatives may designate and will maintain such qualifications in effect so long as required for the distribution of the Securities; 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 Securities, in any jurisdiction where it is not now so subject.

(g) The Company will not, without the prior written consent of the Representatives, offer, sell, contract to sell, pledge, or otherwise dispose of, (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the Company or any affiliate of the Company (except as permitted by the lock-up letter described in Section 6(l) hereof) or any person in privity with the Company or any affiliate of the Company) directly or indirectly, including the filing (or participation in the filing) of a registration statement with the Commission in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act, 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, for a period of 60 days after the date of the Underwriting Agreement, provided, however, that the Company may (i) issue and sell Common Stock pursuant to any employee stock option plan, stock ownership plan or dividend reinvestment plan of the Company in effect at the Execution Time, (ii) issue Common Stock issuable upon the conversion of securities or the exercise of warrants outstanding at the Execution Time; (iii) file one or more registration statements on Form S-8; and (iv) issue shares of Common Stock or securities convertible into Common Stock representing in the aggregate no more than 5% of the Company's issued and outstanding shares of Common Stock following the Closing Date to one or more counterparties in connection with the consummation of a credit facility, strategic partnership, joint venture, collaboration or the acquisition or license of any business products or intellectual property, provided, however, that the recipients of any such securities agree to be bound by a lock-up agreement in substantially the form of Exhibit A hereto.

(h) [Intentionally left blank.]

(i) The Company will not 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 Securities.

(j) The Company agrees to pay the costs and expenses relating to the following matters: (i) the preparation, printing or reproduction and filing with the Commission of the Registration Statement (including financial statements and exhibits thereto), each Preliminary Prospectus, 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, each Preliminary Prospectus, 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 Securities; (iii) the preparation, printing, authentication, issuance and delivery of certificates for the Securities, including any stamp or transfer taxes in connection with the original issuance and sale of the Securities; (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 Securities; (v) the registration of the Securities under the Exchange Act and the listing of the Securities on the Nasdaq Global Market; (vi) any registration or qualification of the Securities 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 Underwriters relating to such registration and qualification); (vii) any filings required to be made with the Financial Industry Regulatory Authority, Inc. ("FINRA") (including filing fees and the reasonable fees and expenses of counsel for the Underwriters relating to such filings, with such fees and expenses of counsel not to exceed \$15,000); (viii) the transportation and other expenses incurred by or on behalf of Company representatives in connection with presentations to prospective purchasers of the Securities provided, that the Company shall only be responsible for one-half of the cost of any aircraft chartered in connection with the road show; (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; and (x) all other costs and expenses incident to the performance by the Company of its obligations hereunder.

(k) The Company agrees that, unless it has or shall have obtained the prior written consent of the Representatives, and each Underwriter, severally and not jointly, 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 Securities 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 III hereto and any electronic road show. Any such free writing prospectus consented to by the Representatives or the Company is hereinafter referred to as a "Permitted Free Writing Prospectus." The Company agrees that (x) it has treated and will treat, as the case may be, each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus and (y) 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.

6. Conditions to the Obligations of the Underwriters. The obligations of the Underwriters to purchase the Underwritten Securities and the Option Securities, as the case may be, shall be subject to the accuracy of the representations and warranties on the part of the Company contained herein as of the Execution Time, the Closing Date and any settlement date pursuant to Section 3 hereof, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder and to the following additional conditions:

(a) The Prospectus, and any supplement thereto, have been filed in the manner and within the time period required by Rule 424(b); any material required to be filed by the Company pursuant to Rule 433(d) under the 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 Ropes & Gray LLP, counsel for the Company, to have furnished to the Representatives their opinion and negative assurance letter, dated the Closing Date and addressed to the Representatives, substantially in the form attached hereto as Exhibits B-1 and B-2.

(c) The Company shall have requested and caused White & Case LLP, intellectual property counsel for the Company, to have furnished to the Representatives their opinion, dated the Closing Date and addressed to the Representatives, substantially in the form attached hereto as Exhibit C.

(d) [Intentionally left blank.]

(e) The Representatives shall have received from Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel for the Underwriters, such opinion or opinions, dated the Closing Date and addressed to the Representatives, with respect to the issuance and sale of the Securities, the Registration Statement, the Disclosure Package, the Prospectus (together with any supplement thereto) and other related matters as the Representatives 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.

(f) The Company shall have furnished to the Representatives a certificate of the Company, signed by the Chairman of the Board or the President and the principal financial or accounting officer of the Company, dated the Closing Date, to the effect that the signers of such certificate have carefully examined the Registration Statement, the Disclosure Package, the Prospectus and any amendment or supplement thereto, as well as each electronic road show used in connection with the offering of the Securities, and this Agreement and that:

(i) the representations and warranties of the Company in this Agreement are true and correct on and as of the Closing Date with the same effect as if made on the Closing 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 the Closing 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 and the Prospectus (exclusive of any supplement thereto), there has been no Material Adverse Effect, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto).

(g) The Company shall have requested and caused Ernst & Young LLP to have furnished to the Representatives, at the Execution Time and at the Closing Date, letters, dated respectively as of the Execution Time and as of the Closing Date, in form and substance satisfactory to the Representatives, confirming that they are independent accountants within the meaning of the Act and the Exchange Act and the applicable rules and regulations adopted by the Commission thereunder and that they have performed a review of the unaudited interim financial information of the Company for the three-month period ended March 31, 2020 and as at March 31, 2020, in accordance with PCAOB UAU 722 and in substantially the form attached hereto as Exhibit D.

(h) Subsequent to the Execution Time, there shall not have been (i) any change or decrease other than the changes specified in the letter or letters referred to in paragraph (g) 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 whether or not arising from transactions in the ordinary course of business, except as set forth in or contemplated in the Disclosure Package and the Prospectus (exclusive of any supplement thereto) the effect of which, in any case referred to in clause (i) or (ii) above, is, in the sole judgment of the Representatives, so material and adverse as to make it impractical or inadvisable to proceed with the offering or delivery of the Securities as contemplated by the Registration Statement (exclusive of any amendment thereof), the Disclosure Package and the Prospectus (exclusive of any amendment or supplement thereto).

(i) Prior to the Closing Date, the Company shall have furnished to the Representatives such further information, certificates and documents as the Representatives may reasonably request.

(j) Subsequent to the Execution Time, 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 3(a)(62) under the Exchange 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.

(k) The Securities shall have been listed and admitted and authorized for trading on the Nasdaq Global Market, and satisfactory evidence of such actions shall have been provided to the Representatives.

(l) At the Execution Time, the Company shall have furnished to the Representatives a letter substantially in the form of Exhibit A hereto from each officer and director of the Company addressed to the Representatives.

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 Representatives and counsel for the Underwriters, this Agreement and all obligations of the Underwriters hereunder may be canceled at, or at any time prior to, the Closing Date by the Representatives. Notice of such cancellation shall be given to the Company in writing or by telephone or facsimile confirmed in writing.

The documents required to be delivered by this Section 6 shall be delivered at the office of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel for the Underwriters, at One Financial Center, Boston, MA 02111, on the Closing Date.

7. Reimbursement of Underwriters' Expenses. If the sale of the Securities provided for herein is not consummated because any condition to the obligations of the Underwriters set forth in Section 6 hereof is not satisfied, because of any termination pursuant to Section 10 hereof or because of any refusal, inability or failure on the part of the Company to perform any agreement herein or comply with any provision hereof other than by reason of a default by any of the Underwriters, the Company will reimburse the Underwriters severally through J.P. Morgan Securities LLC on demand for all accountable expenses (including reasonable fees and disbursements of counsel) that shall have been incurred by them in connection with the proposed purchase and sale of the Securities.

8. Indemnification and Contribution.

(a) The Company agrees to indemnify and hold harmless each Underwriter, the directors, officers, employees and agents of each Underwriter and each person who controls any Underwriter within the meaning of either the 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 Act, the Exchange Act or other 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 or in any amendment thereto, or in the Base Prospectus, any Preliminary Prospectus, the Prospectus, or any other preliminary prospectus supplement relating to the Securities, 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 to make the statements therein not misleading, and agrees to reimburse each such indemnified party, as incurred, for any 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 or on behalf of any Underwriter through the Representatives specifically for inclusion therein. This indemnity agreement will be in addition to any liability which the Company may otherwise have.

(b) Each Underwriter severally and 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 Act or the Exchange Act, to the same extent as the foregoing indemnity from the Company to each Underwriter, but only with reference to written information relating to such Underwriter furnished to the Company by or on behalf of such Underwriter through the Representatives specifically for inclusion in the documents referred to in the foregoing indemnity. This indemnity agreement will be in addition to any liability which any Underwriter may otherwise have. The Company acknowledges that the statements set forth (i) in the last paragraph of the cover page regarding delivery of the Securities and under the heading "Underwriting", (ii) the list of Underwriters and their respective participation in the sale of the Securities, (iii) the sentences related to concessions and reallowances and (iv) the paragraph related to stabilization, syndicate covering transactions and penalty bids in the Preliminary Prospectus and the Prospectus constitute the only information furnished in writing by or on behalf of the several Underwriters for inclusion in the Preliminary Prospectus, the Prospectus or any Issuer Free Writing Prospectus.

(c) Promptly after receipt by an indemnified party under this Section 8 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 8, 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 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 any Underwriter and all persons who control such underwriter within the meaning of the Exchange Act or the Act, and no more than three such separate counsel for all Underwriters) 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 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 includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding.

(d) In the event that the indemnity provided in paragraph (a), (b) or (c) of this Section 8 is unavailable to or insufficient to hold harmless an indemnified party for any reason, the Company and the Underwriters severally 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 one or more of the Underwriters may be subject in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and by the Underwriters on the other from the offering of the Securities; provided, however, that in no case shall any Underwriter (except as may be provided in any agreement among underwriters relating to the offering of the Securities) be responsible for any amount in excess of the underwriting discount or commission applicable to the Securities purchased by such Underwriter hereunder. If the allocation provided by the immediately preceding sentence is unavailable for any reason, the Company and the Underwriters 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 the Underwriters 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 the Underwriters shall be deemed to be equal to the total underwriting discounts and commissions, in each case as set forth on the cover page of the Prospectus. 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 Underwriters 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 the Underwriters 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 person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 8, each person who controls an Underwriter within the meaning of either the Act or the Exchange Act and each director, officer, employee and agent of an Underwriter shall have the same rights to contribution as such Underwriter, and each person who controls the Company within the meaning of either the 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).

9. Default by an Underwriter. If any one or more Underwriters shall fail to purchase and pay for any of the Securities agreed to be purchased by such Underwriter or Underwriters hereunder and such failure to purchase shall constitute a default in the performance of its or their obligations under this Agreement, the remaining Underwriters shall be obligated severally to take up and pay for (in the respective proportions which the amount of Securities set forth opposite their names in Schedule I hereto bears to the aggregate amount of Securities set forth opposite the names of all the remaining Underwriters) the Securities which the defaulting Underwriter or Underwriters agreed but failed to purchase; provided, however, that in the event that the aggregate amount of Securities which the defaulting Underwriter or Underwriters agreed but failed to purchase shall exceed 10% of the aggregate amount of Securities set forth in Schedule I hereto, the remaining Underwriters shall have the right to purchase all, but shall not be under any obligation to purchase any, of the Securities, and if such nondefaulting Underwriters do not purchase all the Securities, this Agreement will terminate without liability to any nondefaulting Underwriter or the Company. In the event of a default by any Underwriter as set forth in this Section 9, the Closing Date shall be postponed for such period, not exceeding five Business Days, as the Representatives shall determine in order that the required changes in the Registration Statement and the Prospectus or in any other documents or arrangements may be effected. Nothing contained in this Agreement shall relieve any defaulting Underwriter of its liability, if any, to the Company and any nondefaulting Underwriter for damages occasioned by its default hereunder.

10. Termination. This Agreement shall be subject to termination in the absolute discretion of the Representatives, by notice given to the Company prior to delivery of and payment for the Securities, 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 the Nasdaq Global Market or trading in securities generally on the New York Stock Exchange or the Nasdaq Global Market 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 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 sole judgment of the Representatives, impractical or inadvisable to proceed with the offering or delivery of the Securities as contemplated by the Preliminary Prospectus or the Prospectus (exclusive of any supplement thereto).

11. Representations and Indemnities to Survive. The respective agreements, representations, warranties, indemnities and other statements of the Company or its officers and of the Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of the officers, directors, employees, agents or controlling persons referred to in Section 8 hereof, and will survive delivery of and payment for the Securities. The provisions of Sections 7 and 8 hereof shall survive the termination or cancellation of this Agreement.

12. Recognition of the U.S. Special Resolution Regimes.

(i) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(ii) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 12:

“BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

“Covered Entity” means any of the following:

- (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);
- (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or
- (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

“Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

“U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

13. Notices. All communications hereunder will be in writing and effective only on receipt, and, if sent to the Representatives, will be mailed, delivered or telefaxed to J.P. Morgan Securities LLC, 383 Madison Avenue, New York, New York 10179, Attention: Equity Syndicate Desk, Fax: 212-622-8358; SVB Leerink LLC, One Federal Street, 37th Floor, Boston, Massachusetts 02119, Attention: John I. Fitzgerald, Esq., Fax: 617-918-4664; and Cowen and Company, LLC, 599 Lexington Avenue, New York, New York 10022, Attention: Head of Equity Capital Markets, Fax: 646-562-1249 with a copy to the General Counsel, Fax: 646-562-1130; or, if sent to the Company, will be mailed, delivered or telefaxed to 617-547-1043 and confirmed to it at 128 Sidney Street, Cambridge, MA 02139, attention of the Legal Department.

14. 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.

15. No fiduciary duty. The Company hereby acknowledges that (a) the purchase and sale of the Securities pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the Underwriters and any affiliate through which it may be acting, on the other, (b) the Underwriters are acting as principal and not as an agent or fiduciary of the Company and (c) the Company's engagement of the Underwriters 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 any of the Underwriters has advised or is currently advising the Company on related or other matters). The Company agrees that it will not claim that the Underwriters 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.

16. Integration. This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

17. Applicable Law. This 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.

18. 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 or the transactions contemplated hereby.

19. Counterparts. This 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.

20. Headings. The section headings used herein are for convenience only and shall not affect the construction hereof.

21. Definitions. The terms that follow, when used in this Agreement, shall have the meanings indicated.

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

"Base Prospectus" shall mean the base prospectus referred to in paragraph 1(a) above contained in the Registration Statement at the Execution Time.

"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.

"Collaborator" shall mean Bristol-Myers Squibb Company, limited to its activities or operations on behalf of the Company or related to the business of the Company.

"Commission" shall mean the Securities and Exchange Commission.

"Disclosure Package" shall mean, as of 6:30 p.m. Eastern Time on June 30, 2020 (i) the Base Prospectus, (ii) the most recent Preliminary Prospectus that is generally distributed to investors and used to offer the Securities, including any document that is incorporated by reference therein, (iii) the Issuer Free Writing Prospectuses, if any, identified in Schedule III hereto, and (iv) 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 of the Commission 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.

“Governmental Entity” shall mean any national, federal, state, county, municipal, local or foreign government, or any political subdivision, court, body, agency or regulatory authority thereof, and any Person exercising executive, legislative, judicial, regulatory, taxing or administrative functions of or pertaining to any of the foregoing.

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

“Material Adverse Effect” shall mean a circumstance 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 on the condition (financial or otherwise), prospects, earnings, business or properties of the Company.

“Preliminary Prospectus” shall mean any preliminary prospectus supplement to the Base Prospectus referred to in paragraph 1(a) above which is used prior to the filing of the Prospectus, together with the Base Prospectus.

“Prospectus” shall mean the final prospectus supplement relating to the Securities that is first filed pursuant to Rule 424(b) after the Execution Time, together with the Base Prospectus.

“Registration Statement” shall mean the registration statement referred to in paragraph 1(a) above, including exhibits and financial statements and any prospectus supplement relating to the Securities 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 prior to the Closing Date, shall also mean such registration statement as so amended.

“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 Act.

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 several Underwriters.

Very truly yours,

Accelaron Pharma Inc.

By: /s/ Habib Dable

Name: Habib Dable

Title: President and Chief Executive Officer

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

J.P. Morgan Securities LLC
SVB Leerink LLC
Cowen and Company, LLC

By: J.P. Morgan Securities LLC

By: /s/ Nader Sohraby

Name: Nader Sohraby

Title: Associate

By: SVB Leerink LLC

By: /s/ Jon Civitarese

Name: Jon Civitarese

Title: Managing Director

By: Cowen and Company, LLC

By: /s/ E. James Streater, III

Name: E. James Streater, III

Title: Managing Director

For themselves and the other several Underwriters named in Schedule I to the foregoing Agreement.

SCHEDULE I

Underwriters	Number of Underwritten Securities to be Purchased
J.P. Morgan Securities LLC	1,654,054
SVB Leerink LLC	875,676
Cowen and Company, LLC	875,676
Barclays Capital Inc.	535,135
Credit Suisse Securities (USA) LLC	535,135
Piper Sandler & Co.	340,541
H.C. Wainright & Co.	48,647
Total	4,864,864

SCHEDULE II

Underwriting Agreement dated June 30, 2020

Registration Statement No. 333-220522

Representatives:

J.P. Morgan Securities LLC
SVB Leerink LLC
Cowen and Company, LLC

Title, Purchase Price and Description of Securities:

Title: Common Stock

Number of Underwritten Securities to be sold by the Company: 4,864,864 shares of Common Stock

Number of Option Securities to be sold by the Company: 729,729 shares of Common Stock

Price per Share to Public (include accrued dividends, if any): \$92.50

Price per Share to the Underwriters: \$88.10625

Other provisions: N/A

Closing Date, Time and Location: July 6, 2020 at 10:00 a.m. Eastern Time at the offices of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, Massachusetts 02111.

Type of Offering: Firm commitment follow-on offering

SCHEDULE III

Schedule of Free Writing Prospectuses included in the Disclosure Package

None.

Acceleron Pharma Inc.
Public Offering of Common Stock

June ___, 2020

J.P. Morgan Securities LLC
383 Madison Avenue
New York, New York 10179SVB Leerink LLC
One Federal Street, 37th Floor
Boston, Massachusetts 02119Cowen and Company, LLC
599 Lexington Avenue
New York, New York 10022

Ladies and Gentlemen:

This letter is being delivered to you in connection with the proposed Underwriting Agreement (the "Underwriting Agreement"), between Acceleron Pharma Inc., a Delaware corporation (the "Company"), and J.P. Morgan Securities LLC, SVB Leerink LLC and Cowen and Company, LLC (collectively, the "Representatives"), as representatives of the underwriters named therein (the "Underwriters"), relating to an underwritten public offering of Common Stock, \$0.001 par value (the "Common Stock"), of the Company (the "Offering"). Capitalized terms used herein but not defined shall have the respective meanings assigned to them in the Underwriting Agreement.

In order to induce you and the other Underwriters to enter into the Underwriting Agreement, the undersigned will not, without the prior written consent of J.P. Morgan Securities LLC, SVB Leerink LLC and Cowen and Company, LLC, offer, sell, contract to sell, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise), by the undersigned or any affiliate of the undersigned or any person in privity with the undersigned or any affiliate of the undersigned), directly or indirectly, including the filing (or participation in the filing) of a registration statement with the Securities and Exchange Commission in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations of the Securities and Exchange Commission promulgated thereunder with respect to, any shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for, such capital stock (any such capital stock or securities being referred to herein as "Company Securities"), or publicly announce an intention to effect any such transaction, for a period from the date hereof until 60 days after the date of the Underwriting Agreement (the "Restricted Period"), other than (i) shares of Common Stock disposed of as bona fide gifts or transfers of Company Securities by will or intestacy where (x) each recipient agrees in writing to be bound by the same restrictions in place for the undersigned pursuant to this letter for the duration of the Restricted Period and (y) no filing under Section 13 or Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of the Common Stock shall be required or shall be voluntarily made by the undersigned during the Restricted Period; (ii) exercise of options to purchase shares of Common Stock or the receipt of shares of Common Stock upon the vesting of restricted stock awards disclosed in the Prospectus (as defined in the Underwriting Agreement) or any related transfer of shares of Common Stock to the Company (x) deemed to occur upon the cashless exercise of such options or (y) for the purpose of paying the exercise price of such options or for paying taxes due as a result of the exercise of such options or as a result of the vesting of such options or any other equity incentive awards granted under a stock incentive plan of the Company existing as of the date hereof and described in the Prospectus, it being understood that (x) all shares of Common Stock received upon such exercise or transfer will remain subject to the restrictions of this agreement during the Restricted Period and (y) that any filing under Section 13 or Section 16(a) of the Exchange Act made during the Restricted Period shall clearly indicate in the footnotes thereto that (A) the filing relates to the circumstances described above and (B) no Company Securities were sold by the undersigned; (iii) transfers of Company Securities to any affiliate (as such term is defined in Rule 405 of the Securities Act of 1933, as amended), limited partners, general partners, limited liability company members or stockholders of the undersigned or, if the undersigned is an entity, to any wholly-owned subsidiary of such entity, *provided* that in each case (x) the recipient agrees in writing to be bound by the same restrictions in place for the undersigned pursuant to this letter for the duration of the Restricted Period, and (y) no filing under Section 13 or Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of the Company Securities shall be required or shall be voluntarily made by the undersigned or the transferee during the Restricted Period; (iv) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that such plan does not provide for the transfer of shares of Common Stock during the restricted period specified in this letter and no filing or other public announcement shall be required or shall be voluntarily made during the Restricted Period; (v) transfers pursuant to a trading plan established prior to the date hereof pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock by the undersigned, provided, that (x) any filing under Section 13 or Section 16(a) of the Exchange Act made during the Restricted Period shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described above and (y) the undersigned does not otherwise voluntarily effect any public filing or report during the Restricted Period; (vi) transfers of Company Securities pursuant to a sale of, or an offer to purchase, 100% of the outstanding shares of Common Stock that is after the date of the Underwriting Agreement and is approved by the Company's board of directors, whether pursuant to a merger, tender offer or otherwise, to a third party or group of third parties, provided that in the event that such merger, tender offer or other transaction is not completed, the Company Securities shall remain subject to the restrictions set forth herein.

The foregoing restrictions shall not apply to transactions relating to shares of Common Stock acquired by the undersigned in open market transactions subsequent to the closing of the Offering, *provided* that no filing under Section 13 or Section 16(a) of the Exchange Act shall be required or shall be voluntarily made by the undersigned in connection with subsequent sales of Common Stock or other securities acquired in open market purchases. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the undersigned's shares of Common Stock except in compliance with the foregoing restrictions.

The undersigned understands that the Company and the Representatives are relying upon this agreement in proceeding toward consummation of the Offering. The undersigned further understands that this agreement is irrevocable and shall be binding upon the undersigned's heirs, legal representatives, successors and assigns.

This agreement shall automatically terminate upon the earliest to occur, if any, of (i) the date that the Company advises the Representatives, in writing, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Offering, (ii) the date of termination of the Underwriting Agreement if prior to the closing of the Offering, or (iii) August 31, 2020 if the Offering has not been completed by such date.

[Remainder of page intentionally left blank]

Yours very truly,

(Name of Officer, Director or Shareholder - Please Print)

(Signature)

(Name of Signatory if Shareholder is an entity - Please Print)

(Title of Signatory if Shareholder is an entity - Please Print)

Address:



ROPES & GRAY LLP
PRUDENTIAL TOWER
800 BOYLSTON STREET
BOSTON, MA 02199-3600
WWW.ROPESGRAY.COM

July 1, 2020

Accelaron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139

Re: Registration Statement on Form S-3 (File No. 333-220522)

Ladies and Gentlemen:

We have acted as counsel to Accelaron Pharma Inc., a Delaware corporation (the "Company"), in connection with issuance and sale of up to 5,594,593 shares of the common stock, \$0.001 par value (the "Shares"), of the Company pursuant to the above-referenced registration statement (the "Registration Statement"), filed by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933 (the "Securities Act"). The Shares are being sold pursuant to an underwriting agreement, dated June 30, 2020 (the "Underwriting Agreement"), by and among the Company and the underwriters named therein.

In connection with this opinion letter, we have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Delaware General Corporation Law.

Based upon and subject to the foregoing, we are of the opinion that the Securities have been duly authorized and, when issued and delivered pursuant to the Underwriting Agreement against payment of the consideration set forth therein, will be validly issued, fully paid and non-assessable.

We hereby consent to your filing this opinion as an exhibit to the Registration Statement and to the use of our name therein and in the related prospectus under the caption "Legal Matters." In giving such consent, we do not thereby 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 thereunder.

Very truly yours,

/s/ Ropes & Gray LLP

Ropes & Gray LLP

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the various expenses, other than any underwriting discounts and commissions, in connection with the sale and distribution of the securities being registered.

Securities and Exchange Commission Registration Fee	\$	68,000
Printing and engraving expenses	\$	75,000
Legal fees and expenses	\$	220,000
Accounting fees and expenses	\$	90,000
Transfer agent and registrar fees	\$	5,000
Miscellaneous	\$	7,000
Total	\$	465,000
