

**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): September 19, 2022**

**Allakos Inc.**

(Exact name of Registrant as Specified in Its Charter)

<b>Delaware</b> <small>(State or Other Jurisdiction of Incorporation)</small>	<b>001-38582</b> <small>(Commission File Number)</small>	<b>45-4798831</b> <small>(IRS Employer Identification No.)</small>
<b>825 Industrial Road, Suite 500</b> <b>San Carlos, California</b> <small>(Address of Principal Executive Offices)</small>		<b>94070</b> <small>(Zip Code)</small>

**Registrant's Telephone Number, Including Area Code: 650 597-5002**

(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:

- 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 Act:**

<small>Title of each class</small>	<small>Trading Symbol(s)</small>	<small>Name of each exchange on which registered</small>
<b>Common Stock, par value \$0.001</b>	<b>ALLK</b>	<b>The Nasdaq Global Select Market</b>

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 1.01 Entry into a Material Definitive Agreement.**

On September 19, 2022, Allakos Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Jefferies LLC and Cowen and Company, LLC (the “Representatives”), as representatives of the underwriters listed therein (the “Underwriters”), relating to the issuance and sale in an underwritten registered direct offering (the “Registered Direct Offering”) by the Company of 29,882,000 shares (the “Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an offering price of \$5.02 per share. Gross proceeds from the Registered Direct Offering before deducting underwriting discounts and commissions and other offering expenses are expected to be approximately \$150 million. The Shares in the Registered Direct Offering were offered pursuant to a registration statement on Form S-3 (File No. 333-265085), which was declared effective by the Securities and Exchange Commission (the “SEC”) on May 31, 2022, as supplemented by a prospectus supplement filed with the SEC on September 19, 2022 pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the “Securities Act”).

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act, and other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties, including being qualified by confidential disclosures exchanged between the parties in connection with the execution of the Underwriting Agreement.

The foregoing summary of the Underwriting Agreement does not purport to be complete and is subject to, and qualified in its entirety by, the Underwriting Agreement, which is filed herewith as Exhibit 1.1 and incorporated herein by reference.

A copy of the opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation relating to the legality of the issuance and sale of the Shares offered in the Registered Direct Offering is attached as Exhibit 5.1 hereto.

**Item 7.01. Regulation FD Disclosure.**

On September 19, 2022, the Company issued a press release announcing the pricing of the Registered Direct Offering. The text of the press release is included as Exhibit 99.1 to this Form 8-K and is incorporated herein by reference.

**Item 8.01 Other Events.**

On September 19, 2022, the Company released an updated corporate presentation. A copy of the presentation is filed as Exhibit 99.2 to this Form 8-K and is incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit Number</u>	<u>Description</u>
1.1	<a href="#"><u>Underwriting Agreement, among the Company and Jefferies LLC and Cowen and Company, LLC, dated as of September 19, 2022.</u></a>
5.1	<a href="#"><u>Opinion of Wilson Sonsini Goodrich &amp; Rosati, Professional Corporation.</u></a>
23.1	<a href="#"><u>Consent of Wilson Sonsini Goodrich &amp; Rosati, Professional Corporation (included with the opinion filed as Exhibit 5.1).</u></a>
99.1	<a href="#"><u>Press Release announcing pricing of the offering, dated September 19, 2022.</u></a>
99.2	<a href="#"><u>Corporate Presentation, dated September 19, 2022.</u></a>
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 thereunto duly authorized.

Allakos Inc.

Date: September 19, 2022

By: /s/ H. Baird Radford, III

**H. Baird Radford, III**  
**Chief Financial Officer**

Allakos Inc.

29,882,000 Shares of Common Stock, par value \$0.001 per share

Underwriting Agreement

September 19, 2022

Jefferies LLC  
Cowen and Company, LLC  
As representatives (the "Representatives") of the several Underwriters  
named in Schedule I hereto,

c/o Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

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

Ladies and Gentlemen:

Allakos Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated in this agreement (this "Agreement"), to issue and sell to the Underwriters named in Schedule I hereto (the "Underwriters") an aggregate of 29,882,000 shares (the "Shares").

1. The Company represents and warrants to, and agrees with, each of the Underwriters that:

(a) A registration statement on Form S-3 (File No. 333-265085) (the "Initial Registration Statement") in respect of the Shares has been filed with the Securities and Exchange Commission (the "Commission"); the Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you have been declared effective by the Commission in such form; other than a registration statement, if any, increasing the size of the offering (a "Rule 462(b) Registration Statement"), filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Act"), which became effective upon filing, no other document with respect to the Initial Registration Statement or document incorporated by reference therein has been filed, or transmitted for filing, with the Commission (other than prospectuses filed pursuant to Rule 424(b) of the rules and regulations of the Commission under the Act, each in the form heretofore delivered to the Representatives); and no stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or any part thereof or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose or pursuant to Section 8A of the Act has been initiated or threatened by the Commission (the base prospectus filed as part of the Initial Registration Statement, in the form in which it has most recently been filed with the Commission on or prior to the date of this Agreement relating to the Shares, is hereinafter called the "Basic Prospectus"; any preliminary prospectus (including any preliminary prospectus supplement) relating to the Shares filed with the Commission pursuant to Rule 424(b) under the Act is hereinafter called a "Preliminary Prospectus"; the various parts of the Initial Registration Statement and the Rule 462(b) Registration Statement, if any, including all exhibits thereto and including any prospectus supplement relating to the Shares that is filed with the Commission and deemed by virtue of Rule 430B under the Act to be part of the Initial Registration Statement, each as amended at the time such part of the Initial Registration Statement became effective or such part of the Rule 462(b) Registration Statement, if any, became or hereafter becomes effective, are hereinafter collectively called the "Registration Statement"; the Basic Prospectus, as amended and supplemented immediately prior to the Applicable Time (as defined in Section 1(c) hereof), is hereinafter called the "Pricing Prospectus"; the form of the final prospectus relating to the Shares filed with the Commission pursuant to Rule 424(b) under the Act in accordance with Section 5(a) hereof is hereinafter called the "Prospectus"; any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Act is hereinafter called a "Section 5(d) Communication"; and any Section 5(d) Communication that is a written communication within the meaning of Rule 405 under the Act is hereinafter called a "Section 5(d) Writing;" any reference herein to the Basic Prospectus, the Pricing 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 under the Act, as of the date of such prospectus; any reference to any amendment or supplement to the Basic Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any post-effective amendment to the Registration Statement, any prospectus supplement relating to the Shares filed with the Commission pursuant to Rule 424(b) under the Act and any documents filed under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and incorporated therein, in each case after the date of the Basic Prospectus, such Preliminary Prospectus or the Prospectus, as the case may be; any reference to any amendment to the Registration Statement shall be deemed to refer to and include any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act after the effective date of the Registration Statement that is incorporated by reference in the Registration Statement; and any "issuer free writing prospectus" as defined in Rule 433 under the Act relating to the Shares is hereinafter called an "Issuer Free Writing Prospectus");

(b) (A) No order preventing or suspending the use of any Preliminary Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission, and (B) each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with the Underwriter Information (as defined in Section 9(b) of this Agreement);

(c) For the purposes of this Agreement, the "Applicable Time" is 6:30 a.m. (Eastern time) on the date of this Agreement. The Pricing Prospectus, as supplemented by the information listed on Schedule II(c) hereto, taken together (collectively, the "Pricing Disclosure Package"), as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Free Writing Prospectus does not conflict with the information contained in the Registration Statement, the Pricing Prospectus or the Prospectus and each Issuer Free Writing Prospectus, as supplemented by and taken together with the Pricing Disclosure Package, as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that this representation and warranty shall not apply to statements or omissions made in an Issuer Free Writing Prospectus in reliance upon and in conformity with the Underwriter Information;

(d) The documents incorporated by reference in the Pricing Prospectus and the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder, and none of such documents contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading; any further documents so filed and incorporated by reference in the Pricing Prospectus and the Prospectus or any further amendment or supplement thereto, when such documents become effective or are filed with the Commission, as the case may be, will conform in all material respects to the requirements of the Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; provided, however, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with the Underwriter Information; and no such documents were filed with the Commission since the Commission's close of business on the business day immediately prior to the date of this Agreement and prior to the execution of this Agreement, except as set forth on Schedule II(c) hereto;

(e) The Registration Statement conforms, and the Prospectus and any further amendments or supplements to the Registration Statement and the Prospectus will conform, in all material respects to the requirements of the Act and the rules and regulations of the Commission thereunder and do not and will not, as of the applicable effective date as to each part of the Registration Statement, as of the applicable filing date as to the Prospectus and any amendment or supplement thereto, and as of the Time of Delivery (as defined in Section 4 hereof), contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; provided, however, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with the Underwriter Information;

(f) The Company has not, since the date of the latest audited financial statements included or incorporated by reference in the Pricing Prospectus, (i) sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree or (ii) entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company or incurred any liability or obligation, direct or contingent, that is material to the Company, in each case otherwise than as set forth or contemplated in the Pricing Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Pricing Prospectus, there has not been (x) any change in the capital stock (other than as a result of (i) the exercise, if any, of stock options or the award, if any, of stock options or restricted stock in the ordinary course of business pursuant to the Company's equity plans that are described in the Pricing Prospectus and the Prospectus or (ii) the issuance, if any, of stock upon conversion of Company securities as described in the Pricing Prospectus and the Prospectus) or long-term debt of the Company or (y) any Material Adverse Effect (as defined below); as used in this Agreement, "Material Adverse Effect" shall mean any material adverse change or effect, or any development involving a prospective material adverse change or effect, in or affecting (i) the business, properties, general affairs, management, financial position, stockholders' equity or results of operations of the Company, except as set forth or contemplated in the Pricing Prospectus, or (ii) the ability of the Company to perform its obligations under this Agreement, including the issuance and sale of the Shares, or to consummate the transactions contemplated in the Pricing Prospectus and the Prospectus;

(g) Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included in the Registration Statement, the Pricing Disclosure Package and the Prospectus are not based on or derived from sources that are reliable and accurate in all material respects;

(h) The Company has good and marketable title to all personal property (other than with respect to Intellectual Property (as defined below), which is addressed exclusively in subsection (i) below owned by it, in each case free and clear of all liens, encumbrances and defects except such as are described in the Pricing Prospectus or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and any real property and buildings held under lease by the Company are held by it under, to the Company's knowledge, valid, subsisting and enforceable leases (subject to the effects of (i) bankruptcy, insolvency, fraudulent conveyance, fraudulent transfer, reorganization, moratorium or other similar laws relating to or affecting the rights or remedies of creditors generally; (ii) the application of general principles of equity; and (iii) applicable law and public policy with respect to rights to indemnity and contribution) with such exceptions as are not material and do not materially interfere with the use made and proposed to be made of such property and buildings by the Company;

(i) The Company owns or possesses sufficient rights to use all owned or in-licensed patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, domain names and other source indicators, copyrights and copyrightable works, know-how, trade secrets, systems, procedures, proprietary or confidential information and all other worldwide intellectual property, industrial property and proprietary rights (including all goodwill associated with the foregoing) (collectively, "Intellectual Property") material to the conduct of its business as presently conducted or currently proposed to be conducted in the Registration Statement, the Pricing Disclosure Package and the Prospectus. Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, to the knowledge of the Company, the Company has not materially infringed, misappropriated or otherwise violated any Intellectual Property of any person and the conduct of its business as presently conducted or as proposed to be conducted in the Registration Statement, the Pricing Disclosure Package and the Prospectus does not and will not infringe, misappropriate or otherwise violate any Intellectual Property of any person. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, or except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim (i) challenging the Company's rights in or to, or alleging the violation of any of the terms of, any of its Intellectual Property; (ii) alleging that the Company has infringed, misappropriated or otherwise violated or conflicted with any Intellectual Property of any third party; or (iii) challenging the validity, scope or enforceability of any Intellectual Property owned by or exclusively licensed to the Company. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, or except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (w) all Intellectual Property owned by or licensed to the Company (1) is, to the knowledge of the Company, valid and enforceable, (2) is solely owned by or, licensed or co-licensed by the Company, and (3) is owned free and clear of all liens, encumbrances, defects and other restrictions, and (x) to the knowledge of the Company, no third party has infringed, misappropriated or otherwise violated any Intellectual Property owned by or exclusively licensed to the Company. The Company has at all times taken reasonable steps in accordance with normal industry practice to protect and maintain the confidentiality of all material Intellectual Property the value of which to the Company is contingent, in whole or in part, upon maintaining the confidentiality thereof ("Trade Secret Information"). All founders, current and former employees, contractors, consultants and other parties involved in the development of material Intellectual Property for the Company have signed confidentiality and invention assignment agreements with the Company, pursuant to which the Company either (y) has obtained ownership of and is the exclusive owner of such material Intellectual Property, or (z) has obtained a valid right to exploit such material Intellectual Property, sufficient for the conduct of its business as currently conducted and as proposed in the Registration Statement, the Pricing Disclosure Package and the Prospectus to be conducted;

(j) The Company possesses all licenses, sub-licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are required for the ownership or lease of its property or the conduct of its businesses as currently conducted and described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, including, without limitation, from the U.S. Food and Drug Administration ("FDA"), except where the failure to possess or make the same would not, individually or in the aggregate, have a Material Adverse Effect; and except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not received notice of any revocation of any such license, sub-license, certificate, permit or authorization or has any reason to believe that any such license, sub-license, certificate, permit or authorization will not be renewed in the ordinary course;



(k) Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company is, and at all prior times has been, in compliance with all applicable data privacy and security laws and regulations, including, without limitation, as applicable, 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 European Union General Data Protection Regulation (“GDPR”) (EU 2016/679) (collectively, “Privacy Laws”). Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) the Company has in place, complies with, and takes appropriate steps reasonably designed to ensure compliance with its policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling and analysis of Personal Data (the “Policies”); (ii) the Company provides accurate notice of its applicable Policies to its customers, employees, third party vendors and representatives; and (iii) 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 omissions of the Company’s then-current privacy practices. “Personal Data” means (i) a natural person’s 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. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, none of such disclosures made or contained in any of the Policies have been inaccurate, misleading, deceptive or in violation of any Privacy Laws or Policies. The execution, delivery and performance of this Agreement or any other agreement referred to in this Agreement will not result in a breach of any Privacy Laws or Policies. The Company (i) has not received notice of any actual or potential liability of the Company under or relating to, or its 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 not currently conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to any governmental or regulatory demand, judgment or order under any Privacy Law; or (iii) is not a party to any order, decree, or agreement by, with, or under the authority of any governmental or regulatory authority that imposed any obligation or liability upon the Company under any Privacy Law.

(l) Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, or except as described in the Registration Statement and the Prospectus, (i)(x) there has been no security breach or attack or other compromise of any of the Company's information technology and computer systems, networks, hardware, software, Personal Data, or other confidential, regulated, or sensitive data (including any such data of its customers, employees, suppliers, vendors and any third party data maintained by or on behalf of the Company), equipment or technology ("IT Systems and Data"), and (y) the Company has not been notified of, and has no knowledge of any event or condition that would reasonably be expected to result in any security breach, attack or compromise to its IT Systems and Data, (ii) the Company has complied, and is presently in compliance with, all applicable laws, statutes or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority and all of its internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification and (iii) the Company has implemented backup and disaster recovery technology consistent with industry standards and practice.

(m) The Company (i) has operated and currently operates its business in compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any of the Company's product candidates, including, without limitation, requirements governing investigational drugs and devices under the U.S. Federal Food, Drug and Cosmetic Act and rules and regulations thereunder, regulations relating to Good Clinical Practices and Good Laboratory Practices, and the U.S. Animal Welfare Act and rules and regulations thereunder (collectively, "Applicable Laws"), except where the failure to so operate or be in compliance would not reasonably be expected to have a Material Adverse Effect, and (ii) have not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from the FDA, any court or arbitrator or governmental or other regulatory authority alleging or asserting non-compliance with (A) any Applicable Laws or (B) any permits required by any such Applicable Laws, except where such alleged or asserted non-compliance would not reasonably be expected to have a Material Adverse Effect;

(n) Any studies, tests and preclinical and clinical trials conducted by the Company and, to the knowledge of the Company, any studies, tests and preclinical and clinical trials conducted on behalf of the Company or in which the Company has participated, were, and if still pending are, being conducted in accordance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all applicable rules and regulations, including those of the FDA and comparable regulatory agencies outside of the United States, to which the Company is subject and, for studies submitted to regulatory authorities as a basis for regulatory approval and preclinical and clinical trials, current Good Clinical Practices and Good Laboratory Practices, except where the failure to be so conducted would not reasonably be expected to have a Material Adverse Effect; the descriptions of the results of such studies, tests and trials contained in the Registration Statement, the Pricing Prospectus and the Prospectus are, to the Company's knowledge, accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; except to the extent disclosed in the Registration Statement, the Pricing Prospectus and the Prospectus, the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test, or trial results described or referred to in the Registration Statement, the Pricing Prospectus and the Prospectus when viewed in the context in which such results are described and the clinical state of development; and, except to the extent disclosed in the Registration Statement, the Pricing Prospectus or the Prospectus, the Company has not received any notices or correspondence from the FDA or any other comparable federal, state, local or foreign governmental or regulatory authority requiring the termination or suspension of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company;

(o) To the Company's knowledge, the manufacturing facilities and operations of its suppliers and manufacturers are operated in compliance in all respects with all applicable statutes, rules, regulations and policies of the FDA and comparable regulatory agencies outside of the United States to which the Company is subject, except as would not reasonably be expected to have a Material Adverse Effect;

(p) Except as described in or expressly contemplated by the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has insurance covering its property, operations, personnel and businesses, including clinical trial insurance and business interruption insurance, which insurance is, in the Company's reasonable judgment, in amounts and insures against such losses and risks as are generally maintained by similarly situated companies and which the Company believes are reasonably adequate to protect the Company; and the Company has not (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) 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 at reasonable cost from similar insurers as may be necessary to continue its business;

(q) No material labor disturbance by or dispute with employees of the Company exists or, to the knowledge of the Company, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its principal suppliers or contractors, except as would not, individually or in the aggregate, have a Material Adverse Effect. The Company has not received any notice of cancellation or termination with respect to any collective bargaining agreement material to the Company;

(r) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b),(c),(m) or (o) of the Internal Revenue Code of 1986, as amended (the "Code")) would have any liability (each, a "Plan") has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code, except for noncompliance that would not reasonably be expected to result in material liability to the Company; (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 of the Code) applicable to such Plan; (iv) no Plan is, or is reasonably expected to be, in "at risk status" (within the meaning of Section 303(i) of ERISA) and no Plan that is a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA is in "endangered status" or "critical status" (within the meaning of Sections 304 and 305 of ERISA) (v) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, the fair market value of the assets of each such Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (vi) no "reportable event" (within the meaning of Section 4043(c) of ERISA and the regulations promulgated thereunder) has occurred or is reasonably expected to occur; (vii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and to the knowledge of the Company, nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification; (viii) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guarantee Corporation, in the ordinary course and without default) in respect of a Plan (including a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA); and (ix) none of the following events has occurred or is reasonably likely to occur: (A) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company's and its Controlled Group affiliates' most recently completed fiscal year; or (B) a material increase in the Company's "accumulated post-retirement benefit obligations" (within the meaning of Accounting Standards Codification Topic 715-60) compared to the amount of such obligations in the Company's most recently completed fiscal year, except in each case with respect to the events or conditions set forth in (i) through (ix) hereof, as would not, individually or in the aggregate, have a Material Adverse Effect;

(s) Except in each case as otherwise disclosed in the Pricing Prospectus and the Prospectus, the Company (x) has complied and is in compliance with all applicable federal, state, local and foreign laws, rules, regulations, requirements, decisions, judgments, decrees and orders relating to pollution, hazardous or toxic substances, wastes, pollutants, contaminants or the protection of human health or safety, the environment or natural resources (collectively, "Environmental Laws"); (y) has received and is in compliance with all permits, licenses, certificates or other authorizations or approvals required of it under any Environmental Laws to conduct its business; and (z) has not received notice of any actual or potential liability of the Company, or obligation of the Company under or relating to, or any actual or potential violation of, any Environmental Laws by the Company, including for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice, and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) except as described in each of the Pricing Disclosure Package and the Prospectus, (x) there is no proceeding that is pending, or that is known by the Company to be threatened or contemplated, against the Company under any Environmental Laws in which a governmental entity is also a party, other than such proceeding regarding which the Company reasonably believes no monetary sanctions of \$100,000 or more will be imposed, (y) the Company is not aware of any facts regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws or concerning hazardous or toxic substances or wastes, pollutants or contaminants, that individually or in the aggregate, would reasonably be expected to have a Material Adverse Effect, and (z) the Company does not anticipate material capital expenditures relating to any Environmental Laws;

(t) The Company does not have, and has not had, any subsidiaries;

(u) The Company has been (i) duly organized and is validly existing and in good standing under the laws of its jurisdiction of organization, with power and authority (corporate and other) to own its properties and conduct its business as described in the Pricing Prospectus, and (ii) duly qualified as a foreign corporation for the transaction of business and is in good standing under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, except, in the case of this clause (ii), where the failure to be so qualified or in good standing would not, individually or in the aggregate, have a Material Adverse Effect;

(v) The Company has an authorized capitalization as set forth in the Pricing Prospectus and all of the issued shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and conform in all material respects to the description of the Stock contained in the Pricing Disclosure Package and Prospectus;

(w) The unissued Shares to be issued and sold by the Company to the Underwriters hereunder have been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued and fully paid and non-assessable and will conform in all material respects to the description of the Stock contained in the Pricing Disclosure Package and the Prospectus; and the issuance of the Shares is not subject to any preemptive or similar rights that have not been duly waived;

(x) The issue and sale of the Shares and the compliance by the Company with this Agreement and the consummation by the Company of the transactions contemplated in this Agreement and the Pricing Prospectus will not conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, (A) any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject, except, in the case of this clause (A) for such defaults, breaches, or violations that would not, individually or in the aggregate, have a Material Adverse Effect, (B) the certificate of incorporation or by-laws (or other applicable organizational document) of the Company, or (C) any statute or any judgment, order, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its property, except, in the case of this clause (C) for such violations that would not, individually or in the aggregate, have a Material Adverse Effect; and no consent, approval, authorization, order, registration or qualification of or with any such court or governmental agency or body is required for the issue and sale of the Shares or the consummation by the Company of the transactions contemplated by this Agreement, except such as have been obtained under the Act, the approval by the Financial Industry Regulatory Authority ("FINRA") of the underwriting terms and arrangements, the approval for listing on the NASDAQ Global Select Market ("NASDAQ"), and such consents, approvals, authorizations, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Shares by the Underwriters;

(y) The Company is not (i) in violation of its certificate of incorporation or by-laws (or other applicable organizational document), (ii) in violation of any statute or any judgment, order, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its property, or (iii) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its property may be bound, except, in the case of the foregoing clauses (ii) and (iii), for such violations or defaults as would not, individually or in the aggregate, have a Material Adverse Effect;

(z) The statements set forth in the Pricing Prospectus and Prospectus under the caption "Description of Capital Stock", insofar as they purport to constitute a summary of the terms of the Stock, and under the captions "Material U.S. Federal Income Tax Considerations for Non-U.S. Holders", and "Underwriting", insofar as they purport to describe the provisions of the laws and documents referred to therein, are accurate, complete and fair in all material respects;

(aa) Other than as set forth in the Pricing Prospectus, there are no legal or governmental proceedings pending to which the Company is a party or of which any property of the Company is the subject which, if determined adversely to the Company (or such officer or director) would, individually or in the aggregate have a Material Adverse Effect; and, to the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others;

(bb) No relationship, direct or indirect, exists between the Company, on the one hand, and the directors, officers, or stockholders of the Company, on the other, that is required by the Act to be described in the Registration Statement and the Prospectus and that is not so described in such documents and in the Pricing Disclosure Package;

(cc) The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof, will not be an "investment company", as such term is defined in the Investment Company Act of 1940, as amended;

(dd) At the time of filing the Initial Registration Statement, and any post-effective amendment thereto, at the earliest time thereafter that the Company or any offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) under the Act) of the Shares, and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 under the Act;

(ee) There are (and prior to the Time of Delivery, will be) no debt securities or preferred stock issued or guaranteed by the Company that are rated by a "nationally recognized statistical rating organization", as such term is defined under Section 3(a)(62) under the Exchange Act;

(ff) Except as described in the Pricing Prospectus, the Company has not sold, issued, or distributed any shares of Stock during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulation D or S of, the Act, other than shares issued pursuant to employee benefit plans or other employee compensation plans or pursuant to outstanding options, rights or warrants;

(gg) Ernst & Young LLP, who have certified certain financial statements of the Company, are independent public accountants as required by the Act and the rules and regulations of the Commission thereunder;

(hh) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that (i) complies with the requirements of the Exchange Act applicable to the Company and (ii) has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, 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 (iii) is sufficient to provide reasonable assurance that (A) transactions are executed in accordance with management's general or specific authorization, (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets, (C) access to assets is permitted only in accordance with management's general or specific authorization and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and the Company is not aware of any material weaknesses in its internal control over financial reporting;

(ii) Since the date of the latest audited financial statements included or incorporated by reference in the Pricing Prospectus, there has been no change in the Company's internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting;

(jj) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act applicable to the Company; such disclosure controls and procedures have been designed to ensure that material information relating to the Company is made known to the Company's principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective;

(kk) The Company was and is in compliance with any applicable provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith that the Company was required to be in compliance with upon the effectiveness of the Registration Statement, including Section 402 related to loans;

(ll) The Company has all requisite rights, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken;

(mm) This Agreement has been duly authorized, executed and delivered by the Company;

(nn) Neither the Company nor its directors, officers, employees and affiliates, nor, to the knowledge of the Company, any agent or other person associated with or acting on behalf of the Company (i) has made, offered, promised or authorized or will make, offer, promise or authorize any unlawful contribution, gift, entertainment or other unlawful expense; (ii) has made, offered, promised or authorized or will make, offer, promise or authorize any direct or indirect unlawful payment; or (iii) has violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, the Bribery Act 2010 of the United Kingdom or any other applicable anti-bribery or anti-corruption law; the Company and its affiliates have conducted their businesses in compliance with applicable anti-bribery and anti-corruption laws and have instituted and maintain policies and procedures designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and the Company will not use, directly or indirectly, the proceeds of the offering and sale of the Shares in furtherance of an offer, payment, promise to pay or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-bribery or anti-corruption laws;

(oo) Except as described in the Pricing Prospectus and the Prospectus, the Company is not a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Shares;

(pp) No person has the right to require the Company to register any securities for sale under the Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Shares, except such rights that have been waived or complied with;

(qq) The Company has not taken, directly or indirectly, without giving effect to activities by the Underwriters or affiliate or agent of any Underwriter acting on behalf of such Underwriter, any action designed to or that would reasonably be expected to cause or result in any stabilization or manipulation of the price of the Shares;

(rr) The operations of the Company are and have been conducted at all times in compliance with the requirements of applicable anti-money laundering laws, including, but not limited to, the Bank Secrecy Act of 1970, as amended by the USA PATRIOT ACT of 2001, and the rules and regulations promulgated thereunder, and the applicable anti-money laundering laws of the various jurisdictions in which the Company conducts business (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 with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened;

(ss) Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company is, or is owned or controlled by one or more individuals or entities that is, currently the subject or the target of any sanctions administered or enforced by the U.S. Government, including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"), or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person," the European Union, Her Majesty's Treasury, the United Nations Security Council, or other relevant sanctions authority (collectively, "Sanctions"), nor located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Cuba, Iran, North Korea, Syria, the Crimea Region of Ukraine, the so-called Donetsk People's Republic, the so-called Luhansk People's Republic and any other Covered Region of Ukraine identified pursuant to Executive Order 14065 (each, a "Sanctioned Country"); and the Company will not directly or indirectly use the proceeds of the offering of the Shares hereunder, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company has not knowingly engaged in, is not now knowingly engaged in engage in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country;



(tt) The Company has paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof (after giving effect to any valid extensions with respect to the filing of tax returns), except where the failure to pay or file would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, or except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and except as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there are no tax deficiencies that have been, or would reasonably be expected to be, asserted against the Company or any of its property or assets and which would, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect;

(uu) The financial statements included in the Registration Statement, the Pricing Prospectus and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company at the dates indicated and the statement of operations, stockholders' equity and cash flows of the Company for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the periods involved. The supporting schedules, if any, present fairly in all material respects and in accordance with GAAP the information required to be stated therein. The selected financial data and the summary financial information included in the Registration Statement, the Pricing Prospectus and the Prospectus present fairly in all material respects the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included or incorporated by reference therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included in the Registration Statement, the Pricing Prospectus or the Prospectus under the Act or the rules and regulations promulgated thereunder. All disclosures contained in the Registration Statement, the Pricing Prospectus and the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Act, to the extent applicable;

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

2. Subject to the terms and conditions herein set forth, (a) the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at a purchase price per share of \$4.7188, the number of Shares set forth opposite the name of such Underwriter in Schedule I hereto.

3. Upon the authorization by you of the release of the Shares, the several Underwriters propose to offer the Shares for sale upon the terms and conditions set forth in the Pricing Prospectus and the Prospectus.

4. (a) The Shares to be purchased by each Underwriter hereunder, in definitive or book-entry form, and in such authorized denominations and registered in such names as the Representatives may request upon at least forty-eight hours' prior notice to the Company shall be delivered by or on behalf of the Company to the Representatives, through the facilities of the Depository Trust Company ("DTC"), for the account of such Underwriter, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of Federal (same-day) funds to the account specified by the Company to the Representatives at least forty-eight hours in advance. The Company will cause the certificates, if any, representing the Shares to be made available for checking and packaging at least twenty-four hours prior to the Time of Delivery (as defined below) at the office of DTC or its designated custodian (the "Designated Office"). The time and date of such delivery and payment shall be, with respect to the Shares, 9:30 a.m., New York City time, on September 21, 2022 or such other time and date as the Representatives and the Company may agree upon in writing. Such time and date for delivery of the Shares is herein called the "Time of Delivery."

(b) The documents to be delivered at the Time of Delivery by or on behalf of the parties hereto pursuant to Section 8 hereof, including the cross receipt for the Shares and any additional documents requested by the Underwriters pursuant to Section 8(l) hereof, will be delivered at the offices of Davis Polk & Wardwell LLP, 1600 El Camino Real, Menlo Park, CA 94025 (the "Closing Location"), and the Shares will be delivered at the Designated Office, all at the Time of Delivery. A meeting will be held telephonically at 5:00 p.m., New York City time, on the New York Business Day next preceding the Time of Delivery, at which meeting the final drafts of the documents to be delivered pursuant to the preceding sentence will be available for review by the parties hereto. For the purposes of this Section 4, "New York Business Day" shall mean each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in New York City are generally authorized or obligated by law or executive order to close.

5. The Company agrees with each of the Underwriters:

(a) To prepare the Prospectus in a form approved by you and to file such Prospectus pursuant to Rule 424(b) under the Act not later than the Commission's close of business on the second business day following the execution and delivery of this Agreement; to make no further amendment or any supplement to the Registration Statement, the Basic Prospectus or the Prospectus prior to the Time of Delivery which shall be disapproved by you promptly after reasonable notice thereof; to advise you, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any amendment or supplement to the Prospectus has been filed and to furnish you with copies thereof; to file promptly all other material required to be filed by the Company with the Commission pursuant to Rule 433(d) under the Act; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required in connection with the offering or sale of the Shares; to advise you, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus in respect of the Shares, of any notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus or suspending any such qualification, to promptly use its best efforts to obtain the withdrawal of such order; and in the event of any such issuance of a notice of objection, promptly to take such steps including, without limitation, amending the Registration Statement or filing a new registration statement, at its own expense, as may be necessary to permit offers and sales of the Shares by the Underwriters (references herein to the Registration Statement shall include any such amendment or new registration statement);

(b) If required by Rule 430B(h) under the Act, to prepare a form of prospectus in a form approved by you and to file such form of prospectus pursuant to Rule 424(b) under the Act not later than may be required by Rule 424(b) under the Act; and to make no further amendment or supplement to such form of prospectus which shall be disapproved by you promptly after reasonable notice thereof;

(c) If by the third anniversary (the "Renewal Deadline") of the initial effective date of the Registration Statement, any of the Shares remain unsold by the Underwriters, the Company will file, if it has not already done so and is eligible to do so, a new shelf registration statement relating to the Shares, in a form satisfactory to you and will use its best efforts to cause such registration statement to be declared effective within 180 days after the Renewal Deadline. The Company will take all other action necessary or appropriate to permit the public offering and sale of the Shares to continue as contemplated in the expired registration statement relating to the Shares. References herein to the Registration Statement shall include such new automatic shelf registration statement or such new shelf registration statement, as the case may be;

(d) Promptly from time to time to take such action as you may reasonably request to qualify the Shares for offering and sale under the securities laws of such jurisdictions as you may reasonably request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Shares, provided that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction or subject itself to taxation in any such jurisdiction in which it was not otherwise subject to taxation;

(e) Prior to 10:00 a.m., New York City time, on the New York Business Day next succeeding the date of this Agreement (or such later time as may be agreed by the Company and the Representatives) and from time to time, to furnish the Underwriters with written and electronic copies of the Prospectus in New York City in such quantities as you may reasonably request, and, if the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required at any time prior to the expiration of nine months after the time of issue of the Prospectus in connection with the offering or sale of the Shares and if at such time any event shall have occurred as a result of which the Prospectus as then amended or supplemented would include an 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 when such Prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is delivered, not misleading, or, if for any other reason it shall be necessary during such same period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Act or the Exchange Act, to notify you and upon your request to file such document and to prepare and furnish without charge to each Underwriter and to any dealer (whose name and address the Underwriters shall furnish to the Company) in securities as many written and electronic copies as you may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance; and in case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) in connection with sales of any of the Shares at any time nine months or more after the time of issue of the Prospectus, upon your request but at the expense of such Underwriter, to prepare and deliver to such Underwriter as many written and electronic copies as you may request of an amended or supplemented Prospectus complying with Section 10(a)(3) of the Act;

(f) To make generally available to its securityholders as soon as practicable (which may be satisfied by filing with the Commission's Electronic Data Gathering Analysis and Retrieval System ("EDGAR")), but in any event not later than sixteen months after the effective date of the Registration Statement (as defined in Rule 158(c) under the Act), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the Act and the rules and regulations of the Commission thereunder (including, at the option of the Company, Rule 158);

(g) During the period beginning from the date hereof and continuing to and including the date 90 days after the date of the Prospectus (the "Lock-Up Period"), not to (i) offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Act relating to, any securities of the Company that are substantially similar to the Shares, including but not limited to any options or warrants to purchase shares of Stock or any securities that are convertible into or exchangeable for, or that represent the right to receive, Stock or any such substantially similar securities, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing or (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise, without the prior written consent of Jefferies LLC and Cowen and Company, LLC; provided, however, that the foregoing restrictions shall not apply to (a) the Shares to be sold hereunder, (b) the issuance by the Company of shares of Common Stock upon the exercise or settlement of options pursuant to the Company's equity plans that are described in the Pricing Prospectus, or upon the conversion of convertible securities outstanding as of the date of this Agreement and as described in the Pricing Prospectus, (c) the issuance by the Company of shares of Common Stock or securities convertible into, exchangeable for or that represent the right to receive shares of Common Stock, in each case pursuant to the Company's stock plans that are described in the Pricing Prospectus, (d) the issuance by the Company of shares of Common Stock or securities convertible into, exchangeable for or that represent the right to receive shares of Common Stock in connection with (1) the acquisition by the Company of the business, technology, not less than a majority or controlling portion of the securities, property or other assets of another person or entity or pursuant to an employee benefit plan assumed by the Company in connection with such acquisition and the issuance of any such securities pursuant to any such agreement, or (2) the Company's bona fide commercial transactions (including joint ventures, commercial relationships or other strategic transactions) or (e) the filing of any registration statement on Form S-8 relating to securities granted or to be granted pursuant to the Company's stock plans that are described in the Pricing Prospectus or any assumed employee benefit plan contemplated by clause (d); provided that the aggregate number of shares of Common Stock that the Company may sell or issue or agree to sell or issue pursuant to clause (d) and, with respect to securities to be granted pursuant to any assumed employee benefit plan, pursuant to clause (e), shall not exceed 7.5% of the total number of shares of Common Stock outstanding immediately following the offering of the Shares contemplated by this Agreement; and provided, further, that in the case of clauses (c) through (e), each recipient of such securities shall execute and deliver to the Representatives, on or prior to the issuance of such securities, a lock-up agreement substantially to the effect set forth in Section 8(i) hereto;

(h) During a period of three years from the effective date of the Registration Statement, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act, to furnish to its stockholders as soon as practicable after the end of each fiscal year an annual report (including a balance sheet and statements of income, stockholders' equity and cash flows of the Company and its consolidated subsidiaries certified by independent public accountants) and, as soon as practicable after the end of each of the first three quarters of each fiscal year (beginning with the fiscal quarter ending after the effective date of the Registration Statement), to make available to its stockholders consolidated summary financial information of the Company and any subsidiaries for such quarter in reasonable detail (which information may be provided by filing on EDGAR);

(i) During a period of three years from the effective date of the Registration Statement, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act, to furnish to you copies of all reports or other communications (financial or other) furnished to stockholders, and to deliver to you as soon as they are available, copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange on which any class of securities of the Company is listed (such financial statements to be on a consolidated basis to the extent the accounts of the Company and any subsidiaries are consolidated in reports furnished to its stockholders generally or to the Commission), which information may be provided by filing on EDGAR;

(j) To pay the required Commission filing fees relating to the Shares within the time required by Rule 456(b)(1) under the Act without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) under the Act;

(k) To use the net proceeds received by it from the sale of the Shares pursuant to this Agreement in the manner specified in the Pricing Prospectus under the caption "Use of Proceeds";

(l) To use its best efforts to list for quotation the Shares on NASDAQ;

(m) Upon request of any Underwriter, to furnish, or cause to be furnished, to such Underwriter an electronic version of the Company's trademarks, servicemarks and corporate logo for use on the website, if any, operated by such Underwriter for the purpose of facilitating the on-line offering of the Shares (the "License"); provided, however, that the License shall be used solely for the purpose described above, is granted without any fee and may not be assigned or transferred; and

6. (a) The Company represents and agrees that, without the prior consent of the Representatives, it has not made and will not make any offer relating to the Shares that would constitute a "free writing prospectus" as defined in Rule 405 under the Act; each Underwriter represents and agrees that, without the prior consent of the Company and the Representatives, it has not made and will not make any offer relating to the Shares that would constitute a free writing prospectus required to be filed with the Commission; any such free writing prospectus the use of which has been consented to by the Company and the Representatives is listed on Schedule II(a) hereto;

(b) The Company has complied and will comply with the requirements of Rule 433 under the Act applicable to any Issuer Free Writing Prospectus, including timely filing with the Commission or retention where required and legending;

(c) The Company agrees that if at any time following issuance of an Issuer Free Writing Prospectus, any event occurred or occurs as a result of which such Issuer Free Writing Prospectus would conflict with the information in the Registration Statement, the Pricing Prospectus or the Prospectus or would include an 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 then prevailing, not misleading, the Company will give prompt notice thereof to the Representatives and, if requested by the Representatives, will prepare and furnish without charge to each Underwriter an Issuer Free Writing Prospectus or other document which will correct such conflict, statement or omission; provided, however, that this representation and warranty shall not apply to any statements or omissions in an Issuer Free Writing Prospectus made in reliance upon and in conformity with the Underwriter Information; and

(d) The Company represents and agrees that (i) it has not engaged in, or authorized any other person to engage in, any Section 5(d) Communications; and (ii) it has not distributed, or authorized any other person to distribute, any Section 5(d) Writings.

7. The Company covenants and agrees with the several Underwriters that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company's counsel and accountants in connection with the registration of the Shares under the Act and all other expenses in connection with the preparation, printing, reproduction and filing of the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, any Issuer Free Writing Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers; (ii) the cost of printing or producing any Agreement among Underwriters, this Agreement, any Blue Sky Memorandum, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Shares; (iii) all expenses in connection with the qualification of the Shares for offering and sale under state securities laws as provided in Section 5(d) hereof, including the documented fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with any Blue Sky survey; (iv) all fees and expenses in connection with listing the Shares on NASDAQ; (v) the filing fees incident to, and the reasonable and documented fees and disbursements of counsel for the Underwriters in connection with, any required review by FINRA of the terms of the sale of the Shares; (vi) the cost of preparing stock certificates; (vii) the cost and charges of any transfer agent or registrar; and (viii) all other costs and expenses incident to the performance of its obligations hereunder which are not otherwise specifically provided for in this Section 7; provided, however, that the amount payable by the Company pursuant to subsection (iii) and the reasonable fees and disbursements of counsel to the Underwriters described in subsection (v) of this Section 7 shall not exceed \$10,000 in the aggregate. It is understood, however, that, except as provided in this Section, and Sections 9 and 12 hereof, the Underwriters will pay all of their own costs and expenses, including the fees of their counsel, stock transfer taxes on resale of any of the Shares by them, and any advertising expenses connected with any offers they may make.

8. The obligations of the Underwriters hereunder, as to the Shares to be delivered at the Time of Delivery, shall be subject, in their discretion, to the condition that all representations and warranties and other statements of the Company herein are, at and as of the Applicable Time and the Time of Delivery, true and correct, the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act within the applicable time period prescribed for such filing by the rules and regulations under the Act and in accordance with Section 5(a) hereof; all 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 period prescribed for such filing by Rule 433; if the Company has elected to rely upon Rule 462(b) under the Act, the Rule 462(b) Registration Statement shall have become effective by 10:00 p.m., Washington, D.C. time, on the date of this Agreement; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission and no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act shall have been received; no stop order suspending or preventing the use of the Preliminary Prospectus, Prospectus or any Issuer Free Writing Prospectus shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to your reasonable satisfaction;

(b) Davis Polk & Wardwell LLP, counsel for the Underwriters, shall have furnished to you their written opinion and 10b-5 statement, dated the Time of Delivery, in form and substance satisfactory to you, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters;

(c) Wilson Sonsini Goodrich & Rosati, P.C. counsel for the Company, shall have furnished to you their written opinion and 10b-5 statement, dated the Time of Delivery, in form and substance satisfactory to you;

(d) Each of Morrison & Foerster LLP and Kilpatrick Townsend and Stockton LLP, intellectual property counsels for the Company, shall have furnished to you their written opinion, dated the Time of Delivery, in form and substance satisfactory to you;

(e) On the date of the Prospectus at a time prior to the execution of this Agreement, at 9:30 a.m., New York City time, on the effective date of any post-effective amendment to the Registration Statement filed subsequent to the date of this Agreement and also at the Time of Delivery, Ernst & Young LLP shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you, to the effect set forth in Annex I hereto;

(f) (i) The Company shall not have sustained since the date of the latest audited financial statements included or incorporated by reference in the Pricing Prospectus any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Pricing Prospectus, and (ii) since the respective dates as of which information is given in the Pricing Prospectus there shall not have been any change in the capital stock (other than as a result of (A) the vesting, exercise, or settlement of stock options, restricted stock units or other equity incentives pursuant to the Company's equity incentive plans, or (B) the repurchase of shares of capital stock pursuant to agreements providing for an option to repurchase or a right of first refusal on behalf of the Company and (C) the issuance by the Company of shares of capital stock upon the exercise of warrants outstanding on the date hereof, in each case as such equity incentive plans, outstanding equity incentives and agreements are described in the Pricing Prospectus and the Prospectus) or long-term debt of the Company or any change or effect, or any development involving a prospective change or effect, in or affecting (x) the business, properties, general affairs, management, financial position, stockholders' equity or results of operations of the Company, except as set forth or contemplated in the Pricing Prospectus and the Prospectus, or (y) the ability of the Company to perform its obligations under this Agreement, including the issuance and sale of the Shares, or to consummate the transactions contemplated in the Pricing Prospectus and the Prospectus, the effect of which, in any such case described in clause (i) or (ii), is in your judgment so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares being delivered at the Time of Delivery on the terms and in the manner contemplated in the Pricing Prospectus and the Prospectus;



(g) On or after the Applicable Time there shall not have occurred any of the following: (i) a suspension or material limitation in trading in securities generally on NASDAQ; (ii) a suspension or material limitation in trading in the Company's securities on NASDAQ; (iii) a general moratorium on commercial banking activities declared by either Federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) the outbreak or escalation of hostilities involving the United States or the declaration by the United States of a national emergency or war or (v) the occurrence of any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in your judgment makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares on the terms and in the manner contemplated in the Pricing Prospectus and the Prospectus;

(h) The Company shall have obtained and delivered to the Underwriters executed copies of an agreement from each member of the Company's board of directors, each executive officer of the Company and holders affiliated with Alta Partners VIII, LP and RiverVest Venture Fund III, L.P., substantially to the effect set forth in Annex II hereto;

(i) The Company shall have complied with the provisions of Section 5(e) hereof with respect to the furnishing of prospectuses on the New York Business Day next succeeding the date of this Agreement;

(j) You shall have received at the Time of Delivery satisfactory evidence of the good standing of the Company in its jurisdiction of organization and its good standing in such other jurisdictions as you may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions; and

(k) The Company shall have furnished or caused to be furnished to you at the Time of Delivery certificates of officers of the Company satisfactory to you as to the accuracy of the representations and warranties of the Company herein at and as of the Time of Delivery, as to the performance by the Company of all of its obligations hereunder to be performed at or prior to the Time of Delivery and as to such other matters as you may reasonably request.

All opinions, letters, certificates and evidence mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

9. (a) The Company will indemnify and hold harmless each Underwriter, the directors, officers, employees, affiliates and agents of each Underwriter and each person who controls any Underwriter within the meaning of either the Act or the Exchange Act, and regulations promulgated thereunder, against any losses, claims, damages or liabilities, joint or several, to which they or any of them may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, any Issuer Free Writing Prospectus, any "roadshow" as defined in Rule 433(h) under the Act (a "roadshow"), any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Act, 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 will reimburse each such indemnified party for any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim as such expenses are incurred; *provided, however*, that the Company shall 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 an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in conformity with the Underwriter Information;

(b) Each Underwriter will indemnify and hold harmless the Company against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus; any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or any roadshow, 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, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, the Basic Prospectus; any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or any roadshow, in reliance upon and in conformity with the Underwriter Information; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending any such action or claim as such expenses are incurred. As used in this Agreement with respect to an Underwriter and an applicable document, "Underwriter Information" shall mean the written information furnished to the Company by such Underwriter through the Representatives expressly for use therein; it being understood and agreed upon that the only such information furnished by any Underwriter consists of the following information in the Prospectus furnished on behalf of each Underwriter: the concession figure appearing in the fifth paragraph under the caption "Underwriting," and the information contained in the thirteenth, fourteenth, fifteenth and seventeenth paragraphs under the caption "Underwriting" beginning with the words "The underwriters have advised us . . .";

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) of this Section 9 of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; provided that the failure to notify the indemnifying party shall not relieve it from any liability that it may have under the preceding paragraphs of this Section 9 except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided further that the failure to notify the indemnifying party shall not relieve it from any liability that it may have to an indemnified party otherwise than under the preceding paragraphs of this Section 9. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal expenses of other counsel or any other expenses, in each case subsequently incurred by such indemnified party, in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party;

(d) If the indemnification provided for in this Section 9 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Shares. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party 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 the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this subsection (d) were determined by *pro rata* allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint; and

(e) The obligations of the Company under this Section 9 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of the Act and each affiliate of any Underwriter; and the obligations of the Underwriters under this Section 9 shall be in addition to any liability which the respective Underwriters may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company (including any person who, with his or her consent, is named in the Registration Statement as about to become a director of the Company) and to each person, if any, who controls the Company within the meaning of the Act.

10. (a) If any Underwriter shall default in its obligation to purchase the Shares which it has agreed to purchase hereunder at the Time of Delivery, you may in your discretion arrange for you or another party or other parties to purchase such Shares on the terms contained herein. If within thirty-six hours after such default by any Underwriter you do not arrange for the purchase of such Shares, then the Company shall be entitled to a further period of thirty-six hours within which to procure another party or other parties satisfactory to you to purchase such Shares on such terms. In the event that, within the respective prescribed periods, you notify the Company that you have so arranged for the purchase of such Shares, or the Company notifies you that it has so arranged for the purchase of such Shares, you or the Company shall have the right to postpone the Time of Delivery for a period of not more than seven days, in order to effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees to file promptly any amendments or supplements to the Registration Statement or the Prospectus which in your opinion may thereby be made necessary. The term "Underwriter" as used in this Agreement shall include any person substituted under this Section with like effect as if such person had originally been a party to this Agreement with respect to such Shares;

(b) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased does not exceed one-eleventh of the aggregate number of all the Shares, then the Company shall have the right to require each non-defaulting Underwriter to purchase the number of shares which such Underwriter agreed to purchase hereunder and, in addition, to require each non-defaulting Underwriter to purchase its pro rata share (based on the number of Shares which such Underwriter agreed to purchase hereunder) of the Shares of such defaulting Underwriter or Underwriters for which such arrangements have not been made; but nothing herein shall relieve a defaulting Underwriter from liability for its default; and

(c) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate number of such Shares which remains unpurchased exceeds one-eleventh of the aggregate number of all the Shares to be purchased, or if the Company shall not exercise the right described in subsection (b) above to require non-defaulting Underwriters to purchase Shares of a defaulting Underwriter or Underwriters, then this Agreement shall thereupon terminate, without liability on the part of any non-defaulting Underwriter or the Company, except for the expenses to be borne by the Company and the Underwriters as provided in Section 7 hereof and the indemnity and contribution agreements in Section 9 hereof; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

11. The respective indemnities, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Underwriter or any controlling person of any Underwriter, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Shares.

12. If this Agreement shall be terminated pursuant to Section 10 hereof, the Company shall not then be under any liability to any Underwriter except as provided in Sections 7 and 9 hereof; but, if for any other reason, the Shares are not delivered by or on behalf of the Company as provided herein, the Company will reimburse the Underwriters through you for all out-of-pocket expenses approved in writing by you, including fees and disbursements of counsel, reasonably incurred by the Underwriters in making preparations for the purchase, sale and delivery of the Shares, but the Company shall then be under no further liability to any Underwriter except as provided in Sections 7 and 9 hereof.

13. In all dealings hereunder, the Representatives shall act on behalf of each of the Underwriters, and the parties hereto shall be entitled to act and rely upon any statement, request, notice or agreement on behalf of any Underwriter made or given by you jointly.

All statements, requests, notices and agreements hereunder shall be in writing, and if to the Underwriters shall be delivered or sent by mail, telex or facsimile transmission to you as the Representatives at (a) Jefferies LLC, 520 Madison Avenue, New York, New York 10022, Attention: General Counsel and (b) Cowen and Company, LLC, Attention: Head of Equity Capital Markets (fax: (646) 562-1249), with a copy to the General Counsel (fax: (646) 562-1124); and if to the Company shall be delivered or sent by mail, telex or facsimile transmission to the address of the Company set forth in the Registration Statement, Attention: Secretary; provided, however, that any notice to an Underwriter pursuant to Section 9(c) hereof shall be delivered or sent by mail, telex or facsimile transmission to such Underwriter at its address set forth in its Underwriters' Questionnaire, or telex constituting such Questionnaire, which address will be supplied to the Company by you upon request; provided, however, that notices under subsection 5(g) shall be in writing, and if to the Underwriters shall be delivered or sent by mail, telex or facsimile transmission to you as the representatives at (a) Jefferies LLC, 520 Madison Avenue, New York, New York 10022, Attention: General Counsel and (b) Cowen and Company, LLC, Attention: Head of Equity Capital Markets (fax: (646) 562-1249), with a copy to the General Counsel (fax: (646) 562-1124). Any such statements, requests, notices or agreements shall take effect upon receipt thereof.

In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the underwriters to properly identify their respective clients.

14. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Sections 9 and 11 hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Shares from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

15. Time shall be of the essence of this Agreement. As used herein, the term "business day" shall mean any day when the Commission's office in Washington, D.C. is open for business.

16. The Company acknowledges and agrees that (i) the purchase and sale of the Shares pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other, and does not constitute a recommendation, investment advice, or solicitation of any action by the Underwriters, (ii) in connection therewith and with the process leading to such transaction each Underwriter is acting solely as a principal and not the agent or fiduciary of the Company, (iii) no Underwriter has assumed an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement, (iv) the Company has consulted its own legal and financial advisors to the extent it deemed appropriate and (v) none of the activities of the Underwriters in connection with the transactions contemplated herein constitutes a recommendation, investment advice or solicitation of any action by the Underwriters with respect to any entity or natural person. The Company agrees that it will not claim that the Underwriters, or any of them, has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

17. 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.

**18. This Agreement and any transaction contemplated by this Agreement shall be governed by and construed in accordance with the laws of the State of New York without regard to principles of conflict of laws that would result in the application of any other law than the laws of the State of New York. The Company agrees that any suit or proceeding arising in respect of this Agreement or any transaction contemplated by this Agreement will be tried exclusively in the U.S. District Court for the Southern District of New York or, if that court does not have subject matter jurisdiction, in any state court located in The City and County of New York and the Company agrees to submit to the jurisdiction of, and to venue in, such courts.**

19. The Company and each of the Underwriters 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.

20. This Agreement may be executed by any one or more of the parties hereto in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. federal E-SIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

21. Notwithstanding anything herein to the contrary, the Company is authorized to disclose to any persons the U.S. federal and state income tax treatment and tax structure of the potential transaction and all materials of any kind (including tax opinions and other tax analyses) provided to the Company relating to that treatment and structure, without the Underwriters imposing any limitation of any kind. However, any information relating to the tax treatment and tax structure shall remain confidential (and the foregoing sentence shall not apply) to the extent necessary to enable any person to comply with securities laws. For this purpose, "tax structure" is limited to any facts that may be relevant to that treatment.

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

(a) 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.

(b) 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.

(c) As used in this section:

"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.

*[Signature Page Follows]*



If the foregoing is in accordance with your understanding, please sign and return to us five counterparts hereof, and upon the acceptance hereof by you, on behalf of each of the Underwriters, this letter and such acceptance hereof shall constitute a binding agreement between each of the Underwriters and the Company. It is understood that your acceptance of this letter on behalf of each of the Underwriters is pursuant to the authority set forth in a form of Agreement among Underwriters, the form of which shall be submitted to the Company for examination upon request, but without warranty on your part as to the authority of the signers thereof.

Very truly yours,

ALLAKOS INC.

By: /s/ H. Baird Radford, III

Name: H. Baird Radford, III

Title: Chief Financial Officer

Accepted as of the date hereof:

Jefferies LLC

By: /s/ Michael Brinkman

Name: Michael Brinkman

Title: Managing Director

Cowen and Company, LLC

By: /s/ Tanya Joseph

Name: Tanya Joseph

Title: Managing Director

On behalf of each of the Underwriters

*[Signature Page to the Underwriting Agreement]*

	<u>Underwriter</u>	<u>Firm Shares to be Purchased</u>
Jefferies LLC		11,952,800
Cowen and Company, LLC		9,711,650
LifeSci Capital LLC		8,217,550
Total		<u>29,882,000</u>

Schedule 1-1

**SCHEDULE II**

(a) Issuer Free Writing Prospectuses not included in the Pricing Disclosure Package:

None

(b) Additional Documents Incorporated by Reference:

None

(c) Information other than the Pricing Prospectus that comprise the Pricing Disclosure Package:

The public offering price per share for the Shares is \$5.02.

The number of Shares purchased by the Underwriters is 29,882,000.

Issuer Free Writing Prospectuses: None

Schedule 2-1

FORM OF COMFORT LETTER

FORM OF LOCK-UP AGREEMENT

, 2022

Jefferies LLC  
Cowen and Company, LLC

c/o Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

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

Re: Allakos Inc. - Lock-Up Agreement (this "Lock-Up Agreement").

Ladies and Gentlemen:

The undersigned understands that you, as representatives (the "Representatives"), propose to enter into an Underwriting Agreement on behalf of the several Underwriters named in Schedule I to such agreement (collectively, the "Underwriters"), with Allakos Inc., a Delaware corporation (the "Company"), providing for a public offering (the "Public Offering") of shares of the Common Stock of the Company, par value \$0.001 per share (the "Shares") pursuant to a Registration Statement on Form S-3 (such Registration Statement, including the documents incorporated by reference therein and any prospectus supplement relating to the Shares, the "Registration Statement") filed or to be filed with the Securities and Exchange Commission (the "SEC").

In consideration of the agreement by the Underwriters to offer and sell the Shares, and of other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the undersigned agrees that, during the period beginning from the date of this Lock-Up Agreement and continuing to and including the date 60 days after the date set forth on the final prospectus supplement (the "Prospectus Supplement") used to sell the Shares (the "Lock-Up Period"), subject to the exceptions set forth in this Lock-Up Agreement, the undersigned will not offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of ("Transfer") any shares of Common Stock of the Company, or any options or warrants to purchase any shares of Common Stock of the Company, or any securities convertible into, exchangeable for or that represent the right to receive shares of Common Stock of the Company (collectively, the "Equity Securities"), whether now owned or hereinafter acquired, owned directly by the undersigned (including holding as a custodian) or with respect to which the undersigned has beneficial ownership within the rules and regulations of the SEC (collectively the "Undersigned's Shares"). In addition, the undersigned also agrees that it will not, during the Lock-Up Period, without the prior written consent of Jefferies LLC and Cowen and Company, LLC on behalf of the Underwriters, make any demand for or exercise any right with respect to, the registration of any of the Undersigned's Shares. Notwithstanding the foregoing or any other agreement or waiver to which the undersigned is a party, the undersigned may make a demand under any registration rights agreement with the Company described in the Prospectus Supplement for, and exercise its rights under any such registration rights agreement with respect to, the registration after the expiration of the Lock-Up Period of Equity Securities that does not require the filing of a registration statement or any public announcement or activity regarding the registration by the undersigned, the Company or any third party during the Lock-Up Period (and no such public announcement or activity shall be voluntarily made or taken during the Lock-Up Period). The foregoing restrictions are expressly agreed to preclude the undersigned from engaging in any hedging or other transaction which is designed to or which reasonably could be expected to lead to or result in a sale or disposition of the Undersigned's Shares even if such Shares would be disposed of by someone other than the undersigned. Such prohibited hedging or other transactions would include without limitation any short sale or any purchase, sale or grant of any right (including without limitation any put or call option) with respect to any of the Undersigned's Shares or with respect to any security that includes, relates to, or derives any significant part of its value from such Shares.

Notwithstanding the foregoing, the undersigned may:

(a) Transfer the Undersigned's Shares:

- (i) as a *bona fide* gift or gifts, including without limitation to a charitable organization or educational institution, or for *bona fide* estate planning purposes;
- (ii) to any member of the undersigned's immediate family or to any trust or other legal entity for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or if the undersigned is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust, provided that any such Transfer shall not involve a disposition for value;
- (iii) by will, other testamentary document or the laws of intestate succession;
- (iv) in connection with a sale of the Undersigned's Shares acquired in the Public Offering or in open market transactions on or after the Public Offering;

(v) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, member, partner, partnership, limited liability company, trust or other business entity that is an affiliate (as defined in Rule 405 as promulgated by the SEC under the Securities Act of 1933, as amended) of the undersigned, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the undersigned or affiliates of the undersigned (including, for the avoidance of doubt, where the undersigned is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership), or (B) as part of a distribution, transfer or disposition by the undersigned to its or its affiliates' directors, officers, employees, managers, managing members, members, stockholders, partners, beneficiaries (or the estates thereof) or other equity holders;

(vi) (a) surrender or forfeiture to the Company of shares of Common Stock of the Company in connection with the "net" or "cashless" exercise or settlement of stock options, other rights to purchase shares of Common Stock or other awards expiring during the Lock-Up Period (collectively, the "Expiring Awards") or for the payment of tax withholdings or remittance payments due as a result of the vesting, settlement, or exercise of such Expiring Awards, in all such cases, pursuant to an equity incentive plan, stock purchase plan or other employee benefit plan described in the Registration Statement and the Prospectus Supplement, or (b) surrender or forfeiture to the Company of shares of Common Stock of the Company upon the conversion of a convertible security of the Company described in the Registration Statement and the Prospectus Supplement in order to cover withholding tax obligations in connection with such conversion;

(vii) to the Company in connection with any contractual arrangement in effect on the date of the Prospectus Supplement that provides for the repurchase of the undersigned's Equity Securities by the Company in connection with the termination of the undersigned's service with the Company;

(viii) in connection with the conversion of any convertible security into shares of Common Stock in a manner consistent with the description of such securities contained in the Prospectus Supplement, provided that for the avoidance of doubt such shares of Common Stock shall remain subject to the provisions of this Lock-Up Agreement;

(ix) to a nominee or custodian of a person or entity to whom a Transfer would be permissible under (i), (ii), (iii) or (v) above;



(x) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction that is approved by the board of directors of the Company and made to all holders of the Company's capital stock on substantially the same terms for holders of a majority of the voting power of the Company's outstanding shares of capital stock involving a Change of Control of the Company, provided that in the event that such tender offer, merger, consolidation or other similar transaction is not completed, the Undersigned's Shares shall remain subject to the provisions of this Lock-Up Agreement;

(xi) by operation of law, including pursuant to orders of a court, a qualified domestic order or in connection with a divorce settlement;

(xii) with the prior written consent of Jefferies LLC and Cowen and Company, LLC on behalf of the Underwriters; or

(xiii) pursuant to a trading plan adopted pursuant to Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") prior to the date hereof, provided that (A) in the case of (i), (ii), (iii), (v), (ix) and (xi) above, it shall be a condition to the Transfer or distribution that the donee, transferee or distributee, as the case may be, agrees in writing to be bound by the restrictions set forth herein, (B) in the case of (i), (ii), (iii), (iv) and (v) above, no filing under Section 16 of the Exchange Act or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Common Stock shall be required or shall be voluntarily made during the Lock-Up Period (other than a required filing on Form 5, Schedule 13G (or Schedule 13G/A) or Schedule 13F), (C) in the case of (vi) above, if the undersigned is required to file a report under Section 16 of the Exchange Act during the Lock-Up Period, the undersigned shall include a statement in any such report to the effect that such report relates to the circumstances described in (vi) above, (D) in the case of (i), (ii), (iii), (v) and (ix) above, it shall be a condition to the Transfer or distribution that such Transfer or distribution does not involve a disposition for value, (E) in the case of (vii) above, no filing under Section 16 of the Exchange Act, or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Common Stock shall be voluntarily made during the Lock-Up Period and, if the undersigned is required to file a report under Section 16 of the Exchange Act during the Lock-Up Period, the undersigned shall include a statement in such report to the effect that such Transfer is to the Company in connection with the repurchase of shares of Common Stock, as the case may be.

(b) receive from the Company shares of Common Stock in connection with the exercise of options or other rights granted under a stock incentive plan or other equity award plan, which plan is described in the Registration Statement; or

(c) enter into a written plan meeting the requirements of Rule 10b5-1 under the Exchange Act after the date of this Lock-Up Agreement relating to the sale of the Undersigned's Shares, provided that (i) the securities subject to such plan may not be Transferred until after the expiration of the Lock-Up Period and (ii) no public announcement or filing under the Exchange Act shall be voluntarily made regarding the establishment of such plan during the Lock-Up Period.

For purposes of this Lock-Up Agreement, "immediate family" shall mean any relationship by blood, current or former marriage, domestic partnership or adoption, not more remote than first cousin. For purposes of this Lock-Up Agreement, "Change of Control" shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction) in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an Underwriter pursuant to the Public Offering), of the Company's voting securities if, after such transfer such person or group of affiliated persons would hold a majority of the outstanding voting securities of the Company (or the surviving entity).

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 except in compliance with the foregoing restrictions.

Notwithstanding anything to the contrary contained herein, this Lock-Up Agreement will automatically terminate and the undersigned shall automatically, and without any action on the part of any other party, be released from all obligations hereunder upon the earliest to occur, if any, of (i) the Company's advising the Representatives in writing prior to the execution of the Underwriting Agreement that it has determined not to proceed with the Public Offering, (ii) the termination of the Underwriting Agreement (other than the provisions thereof which survive termination) prior to payment for and delivery of the Shares to be sold thereunder, or (iii) October 31, 2022, in the event that the Underwriting Agreement has not been executed by such date.

In the event that any Representative withdraws from or declines to participate in the Public Offering, all references to the Representatives contained in this Lock-Up Agreement shall be deemed to refer to the remaining Representatives that continue to participate in the Public Offering (the "Remaining Representatives"), and, in such event, any written consent, waiver or notice given or delivered in connection with this Lock-Up Agreement by the Remaining Representatives shall be deemed to be sufficient and effective for all purposes under this Lock-Up Agreement.

The undersigned hereby consents to receipt of this Lock-Up Agreement in electronic form and understands and agrees that execution and delivery of this Lock-Up Agreement by facsimile transmission, electronic mail (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., [www.docusign.com](http://www.docusign.com)) or other electronic transmission is legal, valid and binding for all purposes.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the offering of the securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate.

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

Very truly yours,

\_\_\_\_\_  
Exact Name of Shareholder

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Title

**WILSON  
SONSINI**Wilson Sonsini Goodrich & Rosati  
Professional Corporation650 Page Mill Road  
Palo Alto, California 94304-1050O: 650.493.9300  
F: 650.493.6811

September 19, 2022

Allakos Inc.  
825 Industrial Road, Suite 500  
San Carlos, California 94070**Re: Underwritten Registered Direct Offering of Allakos Inc.**

Ladies and Gentlemen:

We have acted as counsel to Allakos Inc., a Delaware corporation (the "**Company**"), in connection with the registration of the offer and sale of up to 29,882,000 shares (the "**Shares**") of the Company's common stock, \$0.001 par value per share, pursuant to the Company's shelf Registration Statement on Form S-3 (Registration No. 333-265085), filed with the Securities and Exchange Commission (the "**Commission**") on May 19, 2022, under the Securities Act of 1933, as amended, and declared effective on May 31, 2022 (the "**Registration Statement**").

The offering and sale of the Shares is being made pursuant to that certain underwriting agreement, dated September 19, 2022, by and among the Company and Jefferies LLC and Cowen and Company, LLC, as representatives of the several underwriters named therein (the "**Underwriting Agreement**").

We have examined copies of the Underwriting Agreement, the Registration Statement, the base prospectus that forms a part thereof (the "**Base Prospectus**") and the prospectus supplement thereto related to the offering of the Shares, which prospectus supplement is dated as of the date hereof (the "**Prospectus Supplement**") and, together with the Base Prospectus, the "**Prospectus**"). We have also examined instruments, documents and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed; (iv) that the Underwriting Agreement has been duly authorized and validly executed and delivered by the parties thereto (other than the Company); (v) that the Shares will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement and the Prospectus; and (vi) the legal capacity of all natural persons.

Based on and subject to the foregoing, we are of the opinion that the Shares have been duly authorized by the Company and, when issued and delivered by the Company against payment therefor in accordance with the terms of the Underwriting Agreement, will be validly issued, fully paid and nonassessable.

We express no opinion as to the laws of any state or jurisdiction other than the federal laws of the United States of America and the General Corporation Law of the State of Delaware.

AUSTIN BEIJING BOSTON BOULDER BRUSSELS HONG KONG LONDON LOS ANGELES NEW YORK PALO ALTO  
SALT LAKE CITY SAN DIEGO SAN FRANCISCO SEATTLE SHANGHAI WASHINGTON, DC WILMINGTON, DE

We express no opinion as to (i) the effect of any bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium or other similar laws relating to or affecting the rights of creditors generally, (ii) rights to indemnification and contribution which may be limited by applicable law or equitable principles, or (iii) the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, the effect of judicial discretion and the possible unavailability of specific performance, injunctive relief or other equitable relief, and the limitations on rights of acceleration, whether considered in a proceeding in equity or at law.

We hereby consent to the filing of this opinion as an exhibit to the Company's Current Report on Form 8-K filed on or about the date hereof for incorporation by reference into the Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus and in any amendment or supplement thereto. In giving such consent, we do not believe that we are "experts" within the meaning of such term as used in the Securities Act of 1933, as amended, or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Very truly yours,

/s/ Wilson Sonsini Goodrich & Rosati

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation

**Allakos Announces Pricing of \$150 Million Underwritten Offering of Common Stock**

SAN CARLOS, Calif., September 19, 2022 (GLOBE NEWSWIRE) – Allakos Inc. (Nasdaq: ALLK), a biotechnology company developing lirentelimab (AK002) and AK006 for the treatment of allergic and inflammatory diseases, today announced the pricing of an underwritten offering of 29,882,000 shares of its common stock at an offering price of \$5.02 per share. Investors who have agreed to purchase shares in the offering include Logos Capital, Alta Partners, Braidwell LP, BVF Partners L.P., Commodore Capital, Deep Track Capital, Frazier Life Sciences, New Enterprise Associates (NEA), RTW Investments, L.P., Surveyor Capital (a Citadel Company), TCGX, and Vivo Capital. Before deducting the underwriting discounts and commissions and estimated offering expenses, the company expects to receive total gross proceeds of approximately \$150 million. All of the shares are to be sold by the company. The offering is expected to close on or about September 21, 2022, subject to satisfaction of customary closing conditions.

Jefferies is acting as the lead book-running manager and Cowen and LifeSci Capital are acting as joint book-running managers for the offering.

The shares are being offered by the company pursuant to a Registration Statement on Form S-3 previously filed and declared effective by the SEC. A prospectus supplement and accompanying prospectus relating to the offering will also be filed with the SEC. These documents can be accessed for free through the SEC's website at [www.sec.gov](http://www.sec.gov).

When available, a copy of the prospectus supplement and the accompanying prospectus relating to the offering may also be obtained from:

Jefferies LLC, Attention: Equity Syndicate Prospectus Department, 520 Madison Avenue, New York, NY 10022, by email at [Prospectus\\_Department@jefferies.com](mailto:Prospectus_Department@jefferies.com), or by telephone at (877) 821-7388; or

Cowen and Company, LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, Attn: Prospectus Department, by email at [PostSaleManualRequests@broadridge.com](mailto:PostSaleManualRequests@broadridge.com) or by telephone at (833) 297-2926.

LifeSci Capital LLC, Attention: Syndicate Prospectus Department, 250 West 55th Street, 34th Floor, New York, NY 10019, by email at [compliance@lifescicapital.com](mailto:compliance@lifescicapital.com), or by telephone at (646) 876-5059.

This press release does not constitute an offer to sell or a solicitation of an offer to buy, nor will there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation, or sale would be unlawful before registration or qualification under the securities laws of that state or jurisdiction.

**Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 as contained in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Such forward-looking statements include, but are not limited to, the ability and timing for the closing of the offering. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from current expectations and beliefs, including but not limited to: general economic and market conditions; satisfaction of customary closing conditions related to the offering; and other risks. Information regarding the foregoing and additional risks may be found in the section entitled "Risk Factors" set forth in Allakos' most recent Annual Report on Form 10-K filed with the SEC on March 1, 2022, Allakos' Quarterly Report on Form 10-Q filed with the SEC on August 4, 2022, and future reports to be filed with the SEC. These documents contain and identify important factors that could cause the actual results for Allakos to differ materially from those contained in Allakos' forward-looking statements. Any forward-looking statements contained in this press release speak only as of the date hereof, and Allakos specifically disclaims any obligation to update any forward-looking statement, except as required by law. These forward-looking statements should not be relied upon as representing Allakos' views as of any date subsequent to the date of this press release.

###

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Source: Allakos Inc.

**Investor Contact:**

Adam Tomasi, President and COO

Alex Schwartz, VP Strategic Finance and Investor Relations  
ir@allakos.com

**Media Contact:**

Denise Powell

denise@redhousecomms.com





# Corporate Presentation

September 2022

Developing Therapeutic Antibodies  
Targeting Allergic, Inflammatory and  
Proliferative Disease



# Disclaimer

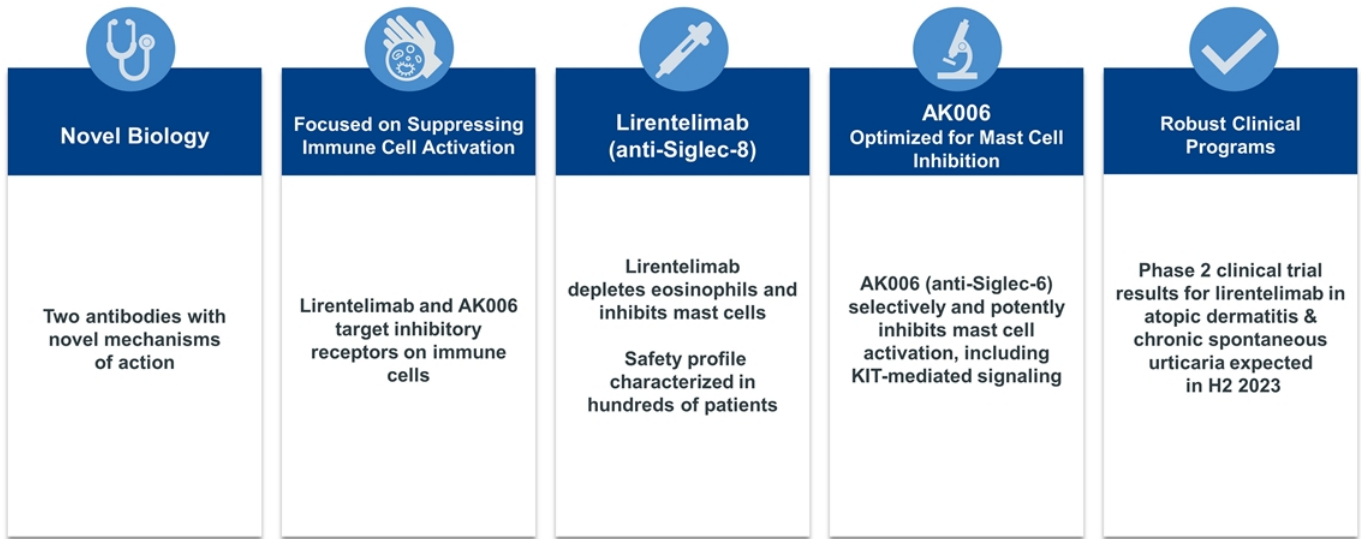
This presentation contains forward-looking statements. All statements other than statements of historical fact contained in this presentation, including statements regarding the financial position of Allakos Inc. ("Allakos," the "Company," "we" or "our"); business strategy; plans and objectives for future operations; our expectations regarding the potential benefits, activity, effectiveness and safety of our product candidates; our expectations with regard to the initiation, design, timing and results of our clinical studies, preclinical studies and research and development programs, including the timing and availability of data from such studies; our preclinical, clinical and regulatory development plans for our product candidates, including the timing or likelihood of regulatory filings and approvals for our product candidates; the size of the market opportunity for our product candidates in the diseases we are targeting; and our expectations with regard to our ability to acquire, discover and develop additional product candidates and advance such product candidates into, and successfully complete, clinical studies, are forward-looking statements. Allakos has based these forward-looking statements on its estimates and assumptions and its current expectations and projections about future events. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "target," "should," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. The Company may not actually achieve the plans, intentions, or expectations disclosed in these forward-looking statements, and you should not place undue reliance on these forward-looking statements. The forward-looking statements included in this presentation speak only as of the date of this presentation and are subject to a number of risks, uncertainties, and assumptions, including, but not limited to: the Company's stages of clinical drug development; the Company's ability to timely complete clinical trials for, and if approved, commercialize lirentelimab (AK002), the Company's ability to timely initiate clinical trials for AK006; the Company's ability to obtain required regulatory approvals for its clinical trials; uncertainties related to the enrollment of patients in its clinical trials; the Company's ability to demonstrate sufficient safety and efficacy of its product candidates in its clinical trials; uncertainties related to the success of later-stage clinical trials, regardless of the outcomes of preclinical testing and early-stage trials; Allakos' ability to obtain regulatory approvals to market its product candidates; market acceptance of the Company's product candidates; uncertainties related to the projections of the size of patient populations suffering from some of the diseases the Company is targeting; the Company's ability to advance additional product candidates beyond AK002; the Company's ability to obtain additional capital to finance its operations; general economic and market conditions; and other risks described in the "Risk Factors" section included in our periodic filings that we have made and will make with the Securities and Exchange Commission ("SEC"). In addition, Allakos operates in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for Allakos' management to predict all risks, nor can Allakos assess the impact of all factors on its business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements that Allakos may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this presentation are inherently uncertain and may not occur, and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Accordingly, you should not rely upon forward-looking statements as predictions of future events. Allakos does not undertake any obligation to update or revise any forward-looking statements, to conform these statements to actual results or to make changes in Allakos' expectations, except as required by law.

**Accuracy of Data:** This presentation contains statistical data based on independent industry publications or other publicly available information, as well as other information based on Allakos' internal sources. We have not independently verified the accuracy or completeness of the data contained in these industry publications and other publicly available information. Accordingly, Allakos makes no representations as to the accuracy or completeness of that data.

**Additional Information:** The Company has filed and will file Current Reports on Form 8-K, Quarterly Reports on Form 10-Q, and Annual Reports on Form 10-K, and other documents with the SEC. You should read these documents for more complete information about the Company. You may get these documents for free by visiting EDGAR on the SEC website at [www.sec.gov](http://www.sec.gov).

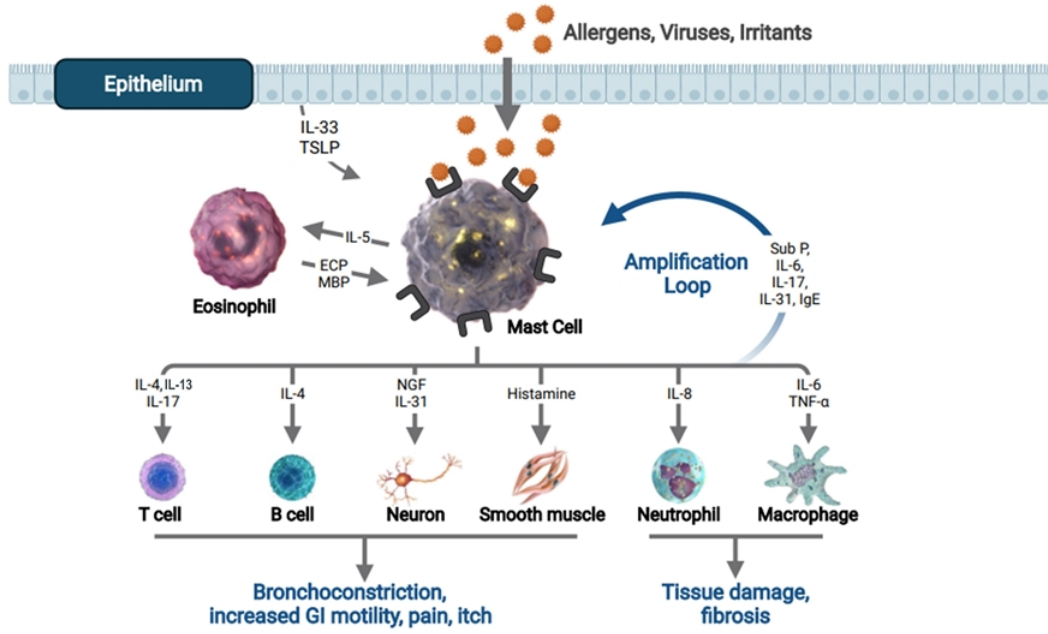
This presentation concerns products that are under clinical investigation and which have not yet been approved for marketing by the U.S. Food and Drug Administration. It is currently limited by federal law to investigational use, and no representation is made as to its safety or effectiveness for the purposes for which it is being investigated.

# Novel Targets for the Treatment of Inflammatory Diseases



Liraelimab is an investigational medicine that is being studied for the treatment of atopic dermatitis and chronic spontaneous urticaria. Its efficacy and safety risk profile have not been established and it has not been approved by the FDA or other health authority for any use.

# Mast Cells and Eosinophils Are Key Drivers of Inflammatory Disease





# Allakos Pipeline

Antibody Program	Indication	Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Milestone
Active Lirontelimab (AK002) Trials	Atopic Dermatitis	[Progress bar]					Initiated; Topline expected 2H 2023
	Chronic Spontaneous Urticaria	[Progress bar]					Initiated; Topline expected 2H 2023
AK006 (Anti-Siglec-6)	Inflammatory Diseases	[Progress bar]					Expected initiation of Phase 1 trial in 1H 2023 in healthy volunteers
AK007 (Undisclosed Target)	Immuno-Oncology	[Progress bar]					Ongoing

# Significant Opportunity Exists to Treat Inflammation & Immunology

	Rheumatoid Arthritis	Psoriasis	Ulcerative Colitis	Crohn's Disease	Asthma	Atopic Dermatitis	Chronic Spontaneous Urticaria	Eosinophilic Gastrointestinal Disorders
2021 Estimated WW Sales	~\$30 bn	~\$24 bn	~\$8 bn	~\$14 bn	~\$8 bn	~\$5 bn	~\$1.5 bn	TBD*
U.S. Prevalence Moderate-to Severe	1 million	1.2 million	350 thousand	700 thousand	≥1 million	6.6 million	1.7 million	500 thousand – 2 million
Market Maturity	← Mature		More Mature			Less Mature	Immature	
FDA Approved Targeted Agents	TNF-α: 6 IL-6R: 3 JAK: 3 IL-1R: 1 CD20: 1 CD86: 1	TNF-α: 4 IL-17: 3 IL-23: 3 IL12/IL-23: 1 PDE-4: 1	TNF-α: 4 α4β7: 1 JAK: 1 IL12/IL-23: 1 S1P: 1	TNF-α: 4 α4β7: 2 IL12/IL-23: 1	IgE: 1 IL-5: 3 IL-4/IL-13: 1 TSLP: 1	IL-4/IL-13: 1 IL-13: 1 JAK: 2	IgE: 1	IL-4/IL-13: 1

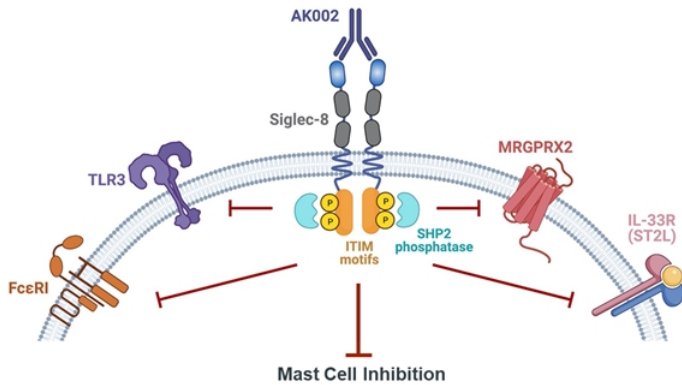
Current Lirentelimab Clinical Development



\* the first EoE drug was approved in May 2022.

# Lirentelimab: Siglec-8 mAb That Depletes Eosinophils and Inhibits Mast Cells

# Lirentelimab: Siglec-8 mAb That Depletes Eosinophils and Inhibits Mast Cells



## Lirentelimab shows eosinophil depletion and mast cell inhibition in humans:

- Rapid and sustained depletion of eosinophils via ADCC
- Inhibition of mast cell activation via multiple stimuli including IL-33, TSLP, IgE, MRGPRX-2, TLR and others

## Human safety profile characterized with both IV & SC options

## First-in-class mechanism of action may allow differentiation in multiple therapeutic areas

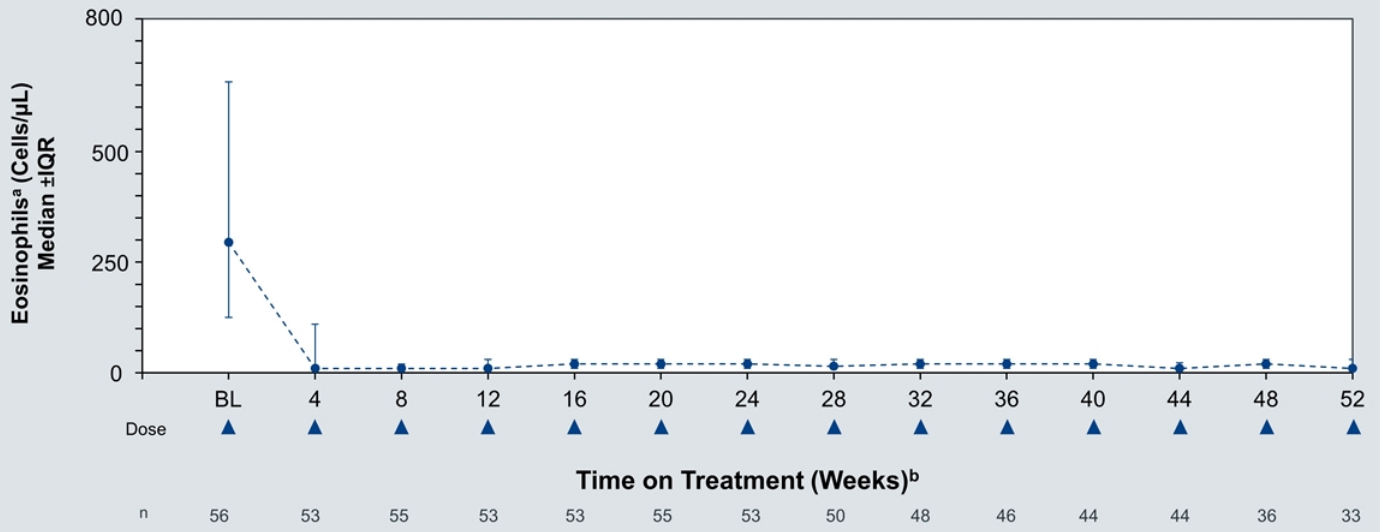
## Development is focused on diseases with strong scientific rationale and significant market opportunities:

- Atopic Dermatitis and Chronic Spontaneous Urticaria with additional opportunities existing in EGIDs, ISM, Asthma and other chronic inflammatory diseases



# Sustained Depletion of Blood Eosinophil Counts

Phase 2 ENIGMA1 Study and Open-Label Extension



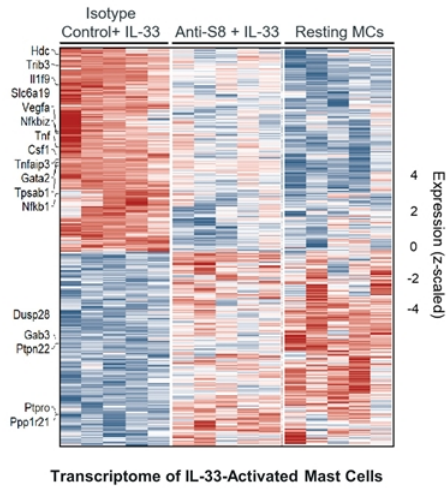
SOURCE: Dellon ES, et al. New England Journal of Medicine. 2020;383:1624-1634.

a. Blood eosinophils collected just prior to each infusion

b. Inclusive of Lirentelimab exposure during the open-label portion of the Phase 2 ENIGMA 1 study

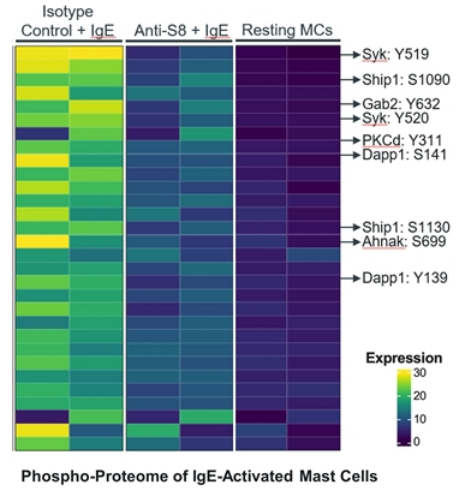
# Lirentelimab Broadly Inhibits Mast Cell Activation

## Lirentelimab Inhibits IL-33-Mediated Mast Cell Activation



SOURCE: Schanin, J et al. Mucosal Immunology. 2020: 366-376

## Lirentelimab Inhibits IgE-Mediated Mast Cell Activation



SOURCE: Korver, W et al. Frontiers in Immunology 2022: 833728

# Lirentelimab for Chronic Spontaneous Urticaria

# Phase 2a Chronic Urticaria Study

## Study Design

- Open-label study in patients with Chronic Urticaria (CU)
- Uncontrolled CU (UCT <12) at the time of enrollment
- Diagnosis of CU for at least three months, refractory to antihistamine treatment on 1 to 4x labeled dosage
- 45 patients – 4 cohorts
  - Omalizumab-naïve Chronic Spontaneous Urticaria (CSU)
  - Omalizumab-refractory CSU<sup>1</sup>
  - Cholinergic urticaria
  - Symptomatic Dermographism
- 6 monthly doses
- 0.3 mg/kg starting lirenlimab dose; increased to 1.0 mg/kg (dose 2 and 3); if UCT <12, increased to 3.0 mg/kg (dose 4, 5, and 6)

## Endpoints

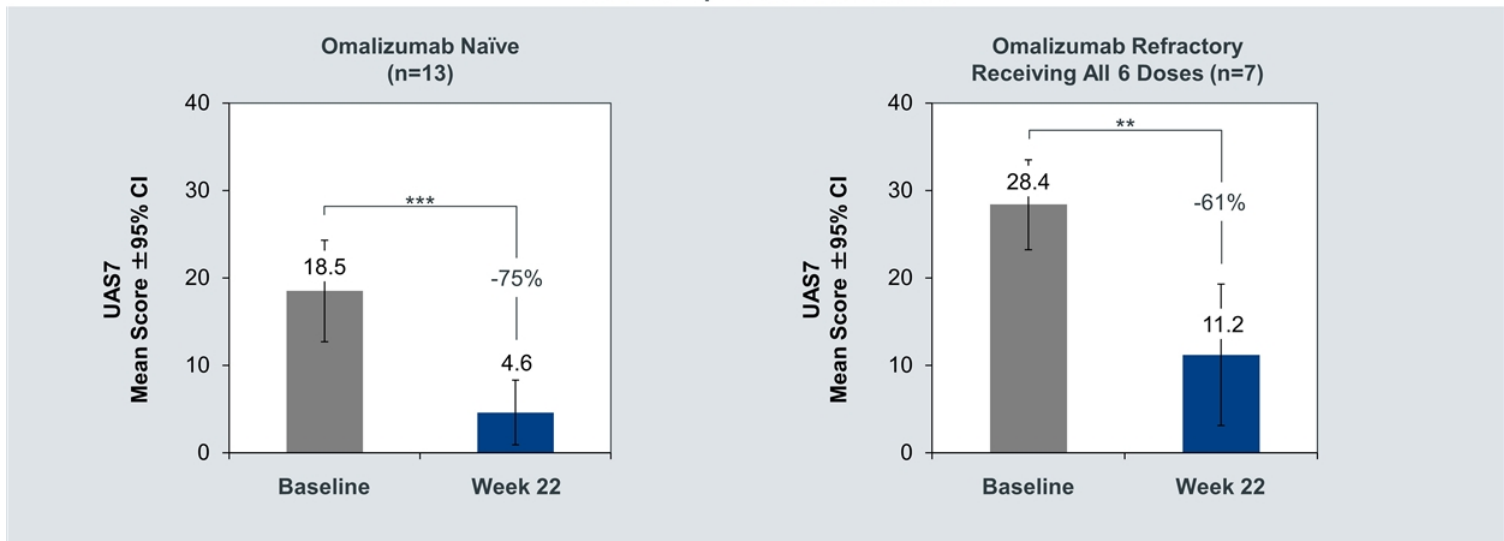
- **Primary Endpoint**
  - Change in Urticaria Control Test (UCT) Week 22 from Baseline
- **Key Secondary Endpoints**
  - Change in UAS7 (for CSU patients)
  - Safety and tolerability

1.) Patients in the omalizumab refractory cohort had urticaria symptoms despite treatment with up to 600 mg (2x highest labeled dose) omalizumab for an average duration of 10 months.

SOURCE: Altrichter S et al. J Allergy Clin Immunol. 2022 Sep;150(3):736-737

# Symptom Improvement by UAS7 with Lirentelimab in CSU

## Chronic Spontaneous Urticaria



UAS7 is a validated patient-reported outcome recording the intensity of pruritus (Weekly Itch Severity Score) and the number of wheals (Weekly Hives Severity Score); weekly score range is 0 to 21. UAS7 total scores range from 0 to 42, with lower scores representing fewer symptoms (UAS7 0 = no itch or wheals; UAS7 42 = maximal itch and wheals).

SOURCE: Altrichter S et al. J Allergy Clin Immunol. 2022 Sep;150(3):736-737

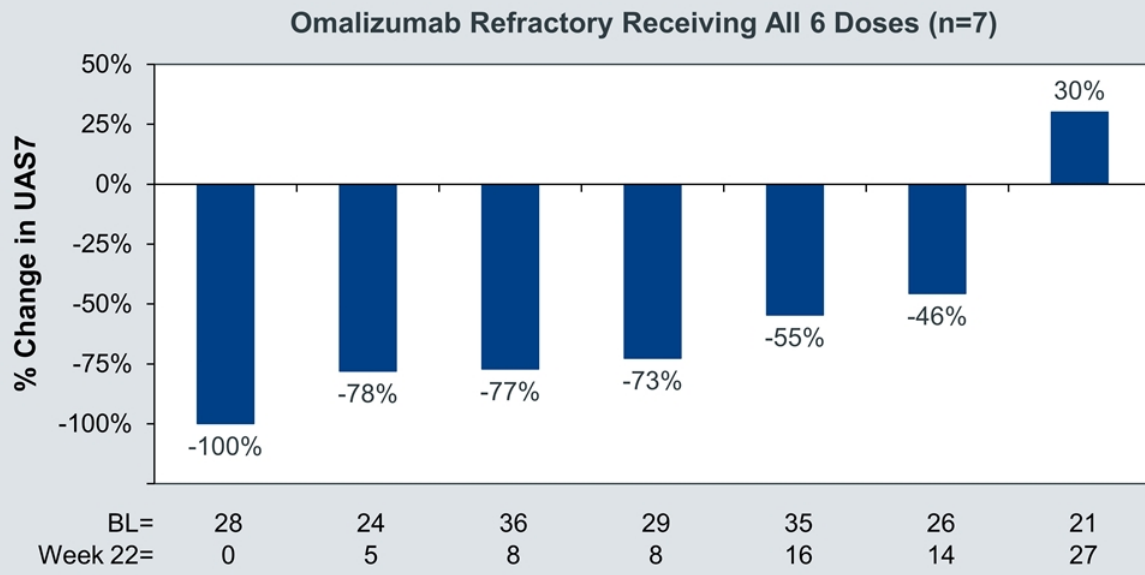
# Lirentelimab UAS7 Response in Omalizumab Naïve CSU

Endpoint	Baseline	Omalizumab Naïve Week 22
Average UAS7 Score	18.5	4.6 (-75%)
Patients with UAS7 ≤ 6	0 (0%)	8/13 (62%)
Patients with UAS7 = 0	0 (0%)	7/13 (54%)
Patients with ISS7 = 0	0 (0%)	7/13 (54%)
Patients with HSS7 = 0	0 (0%)	10/13 (77%)

UAS7 is a validated patient-reported outcome recording the intensity of pruritus (Weekly Itch Severity Score) and the number of wheals (Weekly Hives Severity Score); each as weekly score range is 0 to 21  
UAS7 total scores range from 0 to 42, with lower scores representing fewer symptoms (UAS7 0 = no itch or wheals; UAS7 42 = maximal itch and wheals).

SOURCE: Altrichter S et al. J Allergy Clin Immunol. 2022 Sep;150(3):736-737

# Lirentelimab UAS7 Response in Omalizumab Refractory CSU



SOURCE: Altrichter S et al. J Allergy Clin Immunol. 2022 Sep;150(3):736-737

# High UCT Response Rate Observed in Multiple Forms of Urticaria

Indication	UCT Baseline	UCT Week 22	UCT Complete Responders
Chronic Spontaneous Urticaria			
– Naïve (n=13)	3.2	14.2	92%
– Xolair Refractory (n=7) <sup>1</sup>	3.1	11.4	57%
Cholinergic Urticaria (n=11)	5.4	11.8	82%
Symptomatic Dermographism (n=10)	5.7	9.1	40%

Urticaria Control Test (UCT) is a validated 4-item questionnaire that asks patients to retrospectively score four items, on a scale from 0 to 4, the impact of urticaria symptoms on morbidity, quality of life, quality of treatment, and overall disease control over the previous 4 Weeks. UCT ranges 0 to 16 (0=worst possible). UCT complete response:  $\geq 3$ -point improvement from baseline and score  $\geq 12$ .

1.) Xolair refractory patients who received all 6 doses  
SOURCE: Altrichter S et al. J Allergy Clin Immunol. 2022 Sep;150(3):736-737; Altrichter S, et al. EAACI 2019 Presentation.





# Phase 2b Chronic Spontaneous Urticaria Study

## Study Design

- Multi-center, randomized, DB, placebo-controlled
- Active moderate-to-severe symptoms
- CSU diagnosis with onset  $\geq 6$  months prior to screening
- Diagnosis of CSU refractory to antihistamines
  - Presence of itch and hives despite current use of antihistamines
  - UAS7 score  $\geq 16$  and HSS7 score  $\geq 8$  at baseline
- Includes patients with prior biologics treatment
- 110 adult patients (1:1 randomization)
  - 300 mg Q2W subcutaneous lircatelimab (n=55)
  - Placebo (n=55)

## Endpoints

- **Primary Endpoint**
  - Change from baseline in UAS7 at week 12
- **Key Secondary Endpoints**
  - Absolute change in ISS7
  - Absolute change in HSS7
  - Proportion of patients with UAS7=0

# Biologics for Chronic Spontaneous Urticaria

Drug Name	MOA	UAS7 Response				Opportunity
Xolair® (omalizumab)	Anti-IgE mAb	Dose Group <sup>1</sup>	150 mg	300 mg	Placebo	<ul style="list-style-type: none"> <li>&gt;50% of patients continue to have symptoms</li> <li>Black box for anaphylaxis<sup>1</sup></li> </ul>
		UAS7	-14.4 (-48%)	-20.8 (-66%)	-8.0 (-26%)	
		UAS7=0	15%	36%	9%	
Dupixent® (dupilumab)	Anti IL-4/IL-13R mAb	Dose Group <sup>2</sup>		300 mg	Placebo	<ul style="list-style-type: none"> <li>Q2W dosing</li> <li>No improvement in Xolair failures<sup>3</sup></li> </ul>
		UAS7		-20.5 (-65%)	-12.0 (-37%)	
CDX-0159	Anti KIT mAb	Dose Group <sup>4</sup>	1.5 mg/kg	3.0 mg/kg	Placebo	<ul style="list-style-type: none"> <li>c-Kit expressed on hematopoietic stem cells, melanocytes, CNS and germ cells<sup>5</sup></li> </ul>
		UAS7	-18.1 (-67%)	-22.7 (-75%)	-14.3 (-36%)	
		UAS7=0	57%	44%	17%	

SOURCE:1.) Xolair Label; UAS7 scores are calculated change from baseline and percentage change; 2.) Sanofi PR 7/29/21 3.) Sanofi PR 2/18/22 4.) Celldex Presentation 6/30/22 5.) N.F. Russkamp et al. Experimental Hematology 2021;95:31-45

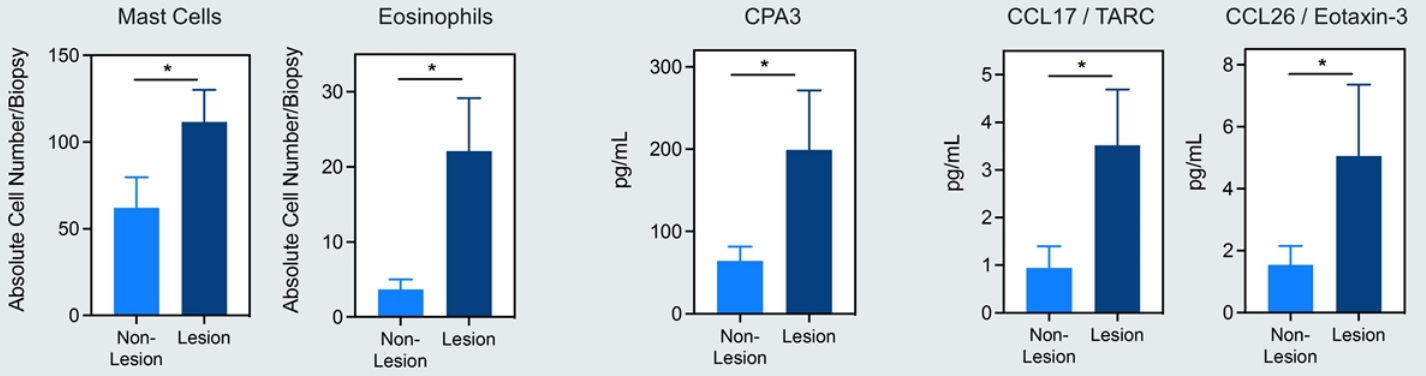
# Lirentelimab for Atopic Dermatitis

# Biopsies of Atopic Dermatitis Lesions Show Evidence of Mast Cell and Eosinophil Activity

## Immune Cell Numbers

## Mast Cell Activation

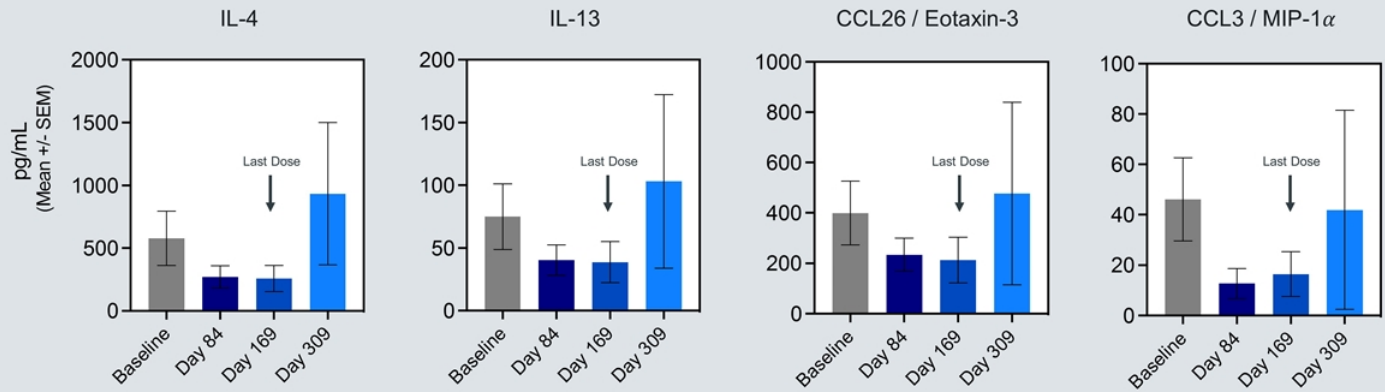
## Disease Biomarkers



SOURCE: Youngblood, BA et al JCI Insights 2019; 126219; Schanin, J et al Mucosal Immunology 2020; 366-376

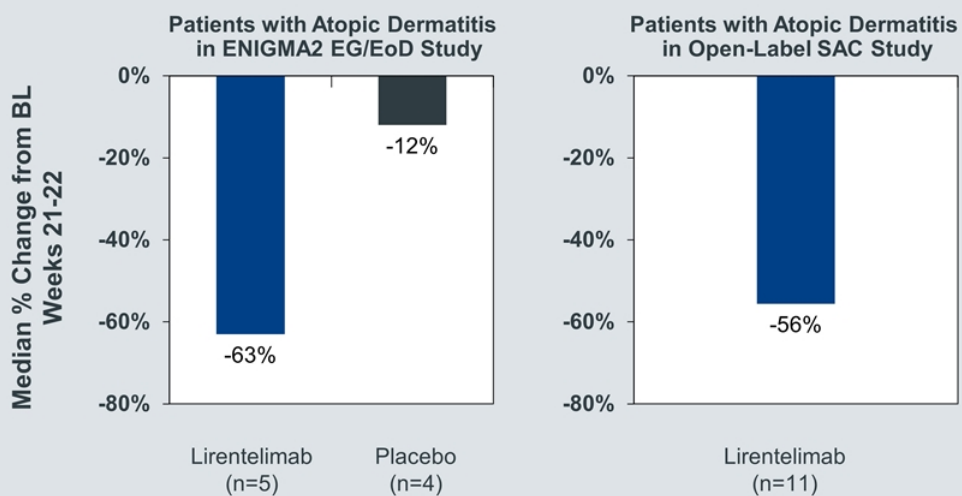
# Lirentelimab Reduced Clinically-Relevant Cytokines in Phase 1 Severe Allergic Conjunctivitis Study

## Ocular Inflammation via Tear Cytokines



SOURCE: Anesi, S. et al. Journal of Allergy and Clinical Immunology 2022

# Lirentelimab Improved Atopic Dermatitis Symptoms in ENIGMA2 and SAC Studies



Patients with comorbid atopic dermatitis filled in a daily global disease severity questionnaire on a ten-point scale (scale of 0 to 10).

SOURCE: ENIGMA2 data on file, Post-hoc exploratory analysis; SAC Study prospective analysis from Anesi, S. et al. Journal of Allergy and Clinical Immunology 2022



# Phase 2 Atopic Dermatitis Study Design

## Study Design

- Multi-center, randomized, DB, placebo-controlled
- Chronic disease that has been present  $\geq 3$  years
  - EASI score  $\geq 16$
  - Involvement of  $\geq 10\%$  of body surface area
  - IGA score  $\geq 3$
  - Inadequate control by topical treatments
- Includes patients with prior biologics treatment
- 130 adult patients (1:1 randomization)
  - 300 mg Q2W subcutaneous lircatelimab (n=65)
  - Placebo (n=65)

## Endpoints

- **Primary Endpoint**
  - Proportion of patients who achieve eczema area and severity index (EASI)-75 at week 14
- **Key Secondary Endpoints**
  - Percent change in EASI from baseline to week 14
  - Proportion of patients who achieve an IGA score of 0 or 1 AND a  $\geq 2$ -point improvement in Investigator Global Assessment (IGA) at week 14

# Atopic Dermatitis Landscape

Drug Name	MOA	EASI-75 Response	IGA Response	Opportunity
Dupixent® (dupilumab)	Anti IL-4/IL-13R mAb	44% – 51% vs. 12 – 15% placebo <sup>1</sup>	36 – 38% vs. 9 – 10% placebo <sup>1</sup>	<ul style="list-style-type: none"> <li>&gt;50% of patients continue to have symptoms</li> <li>Conjunctivitis in ~26%<sup>2</sup></li> <li>Q2W dosing<sup>1</sup></li> </ul>
Adbry™ (tralokinumab)	Anti IL-13 mAb	25% – 33% vs. 10% – 13% placebo <sup>3</sup>	16 – 21% vs. 7 – 9% placebo <sup>3</sup>	<ul style="list-style-type: none"> <li>&gt;50% of patients continue to have symptoms</li> <li>Conjunctivitis in ~10%<sup>3</sup></li> <li>Q2W dosing<sup>3</sup></li> </ul>
Lebrikizumab	Anti IL-13 mAb	51% – 59% vs. 16% – 18% placebo <sup>4</sup>	33% – 43% vs. 11% – 13% placebo <sup>4</sup>	<ul style="list-style-type: none"> <li>&gt;50% of patients continue to have symptoms</li> <li>Conjunctivitis in ~10%<sup>4</sup></li> <li>Q2W dosing<sup>4</sup></li> </ul>
Rinvoq® (upadacitinib)	JAK Inhibitor	60% – 80% vs. 13% – 16% placebo <sup>5</sup>	39% – 62% vs. 5% – 8% placebo <sup>5</sup>	<ul style="list-style-type: none"> <li>Black box warnings for: major cardiac events, infections, malignancies<sup>5</sup></li> </ul>
Cibinqo™ (abrocitinib)	JAK Inhibitor	40% – 62% vs. 10% – 12% placebo <sup>5</sup>	24% – 44% vs. 8% – 9% placebo <sup>6</sup>	<ul style="list-style-type: none"> <li>Black box warnings for: major cardiac events, infections, malignancies<sup>6</sup></li> </ul>

SOURCE:1.) Dupixent Label 2.) Halling A et al. J Am Acad Dermatol. 2021 Jan;84(1):139-147.3.) Adbry Label 4.) Eli Lilly PR 3/26/22 5.) Rinvoq Label 6.) Cibinqo Label

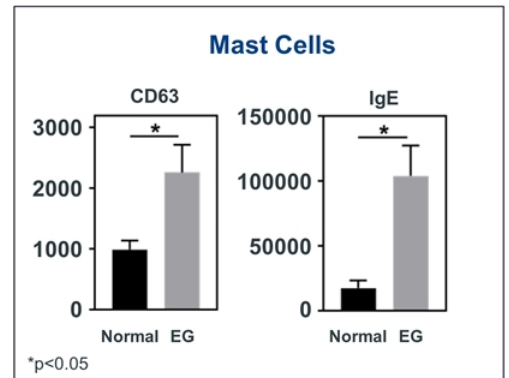
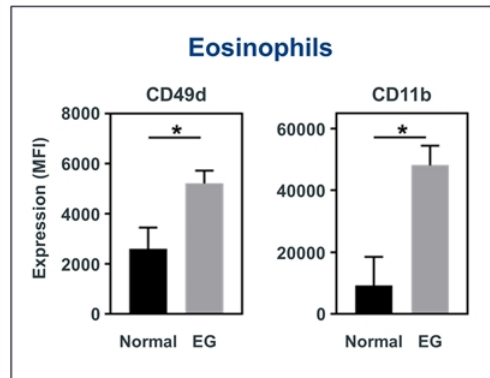
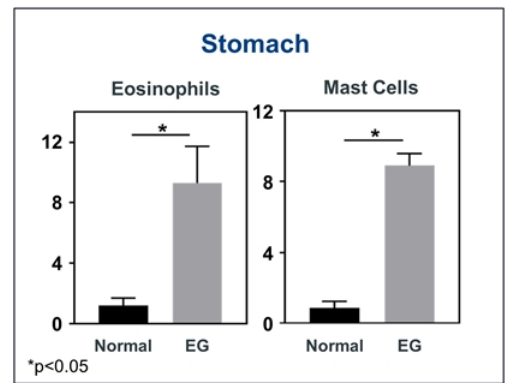
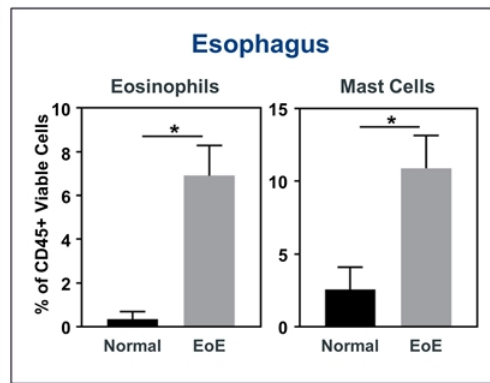


# Lirentelimab for Eosinophilic Gastrointestinal Disorders

# EGID Biopsies Have Elevated and Activated Eosinophils & Mast Cells

Eosinophils and mast cells both appear to play a pathogenic role in EGIDs

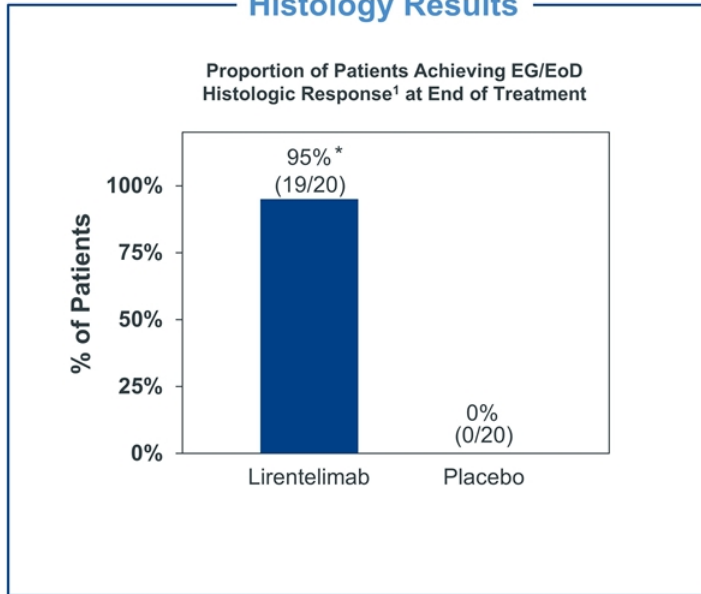
Lirentelimab is a novel investigational therapy that directly targets eosinophils and mast cells



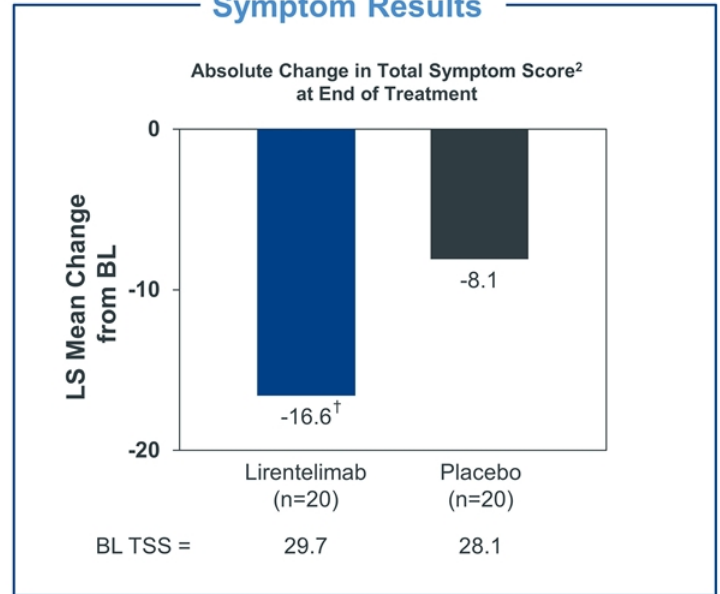
SOURCE: Youngblood B, et al. JCI Insights. 2019

# ENIGMA1 Phase 2: ITT Results (Using Phase 3 Endpoints)

## Histology Results



## Symptom Results



ENIGMA1 Phase 2 primary endpoint was mean percent change in gastroduodenal eosinophils, symptomatic endpoint was percentage change in TSS-8

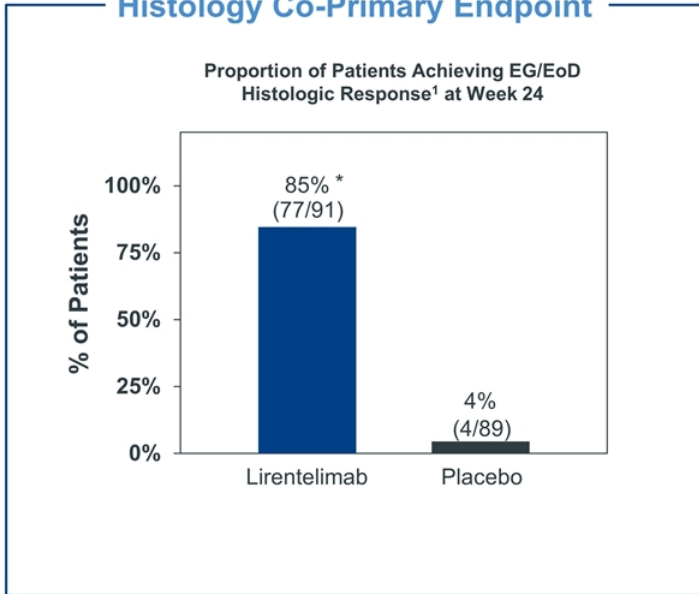
1.) Eosinophil response criteria: mean  $\leq 4$  eos/hpf of top 5 gastric hpf and/or  $\leq 15$  eos/hpf of top 3 duodenal hpf

2.) TSS6 Symptoms: abdominal pain, nausea, early satiety, loss of appetite, bloating, abdominal cramping each rated on a ten-point scale (scale of 0 to 10)

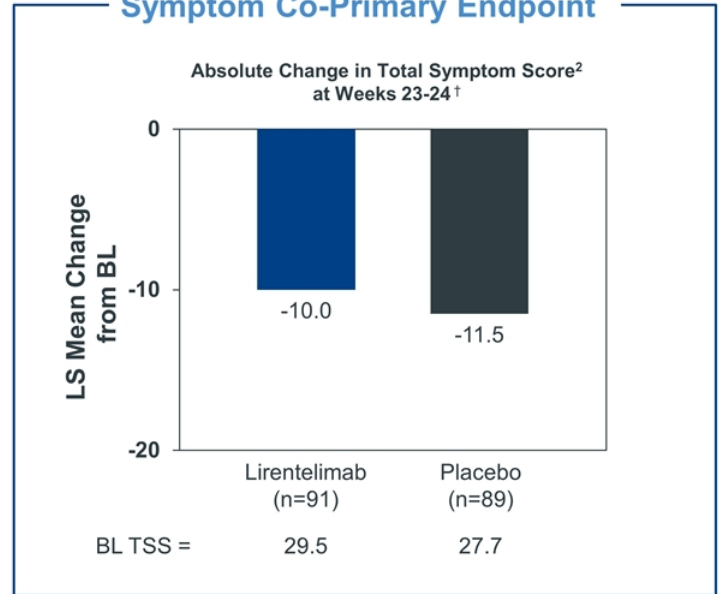
\* Difference from placebo p-values  $< 0.0001$  derived using Fisher's Exact Test; <sup>†</sup> Difference from placebo p-values 0.0162 derived from ANCOVA model

# ENIGMA2 Phase 3: Co-Primary Endpoints

## Histology Co-Primary Endpoint



## Symptom Co-Primary Endpoint



1.) Eosinophil response criteria: mean  $\leq 4$  eos/hpf of top 5 gastric hpf's and/or  $\leq 15$  eos/hpf of top 3 duodenal hpf's

2.) TSS6 Symptoms: abdominal pain, nausea, early satiety, loss of appetite, bloating, abdominal cramping each rated on a ten-point scale (scale of 0 to 10)

\* Difference from placebo p-values  $< 0.0001$  derived using Fisher's Exact Test; † LS Means derived from ANCOVA model



# Lirentelimab for Eosinophilic Gastrointestinal Disorders

- Despite positive Phase 2 results (ENIGMA 1), the Phase 3 study in EG and/or EoD (ENIGMA2) and Phase 3 study in EoD (EoDyssey) achieved histologic co-primary endpoints but missed symptomatic co-primary endpoints.
- Post-hoc analyses suggest that certain non-eosinophilic/non-mast cell driven conditions, with similar symptom presentation as EG/EoD could confound the patient reported symptomatic endpoint (e.g., non-eosinophilic/non-mast cell driven esophageal disorders or active irritable bowel syndrome).
- Phase 2/3 study in EoE (KRYPTOS) achieved histologic co-primary endpoint but missed symptomatic co-primary endpoint. During 3Q22, FDA provided feedback consistent with the Final EoE Guidance for Industry.
- Currently, Allakos is not planning to conduct additional studies in eosinophilic gastrointestinal diseases, but may do so in the future.

# Lirentelimab Safety



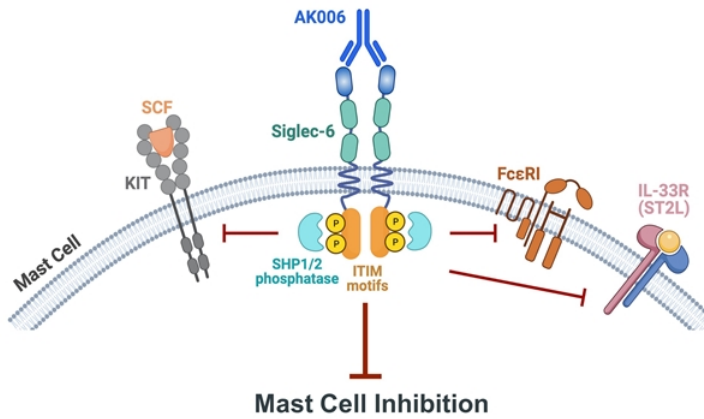
# Safety Summary

- Intravenous (IV) lirentelimab has been administered in >750 patients, and with >300 patients exposed to one year
  - Most common adverse event has been infusion-related reactions (IRR)
    - IRRs commonly associated with IV administered ADCC antibodies
  - No long-term safety findings to date
- Subcutaneous (SC) lirentelimab will be used in all future studies
  - SC lirentelimab in healthy volunteers was well tolerated (n=36)
    - No injection site reaction or injection reactions
    - No treatment related adverse events
    - No serious adverse events

# AK006: Siglec-6 mAb that Selectively and Potently Inhibits Mast Cells



# AK006: Siglec-6 mAb That Inhibits and Depletes Mast Cells

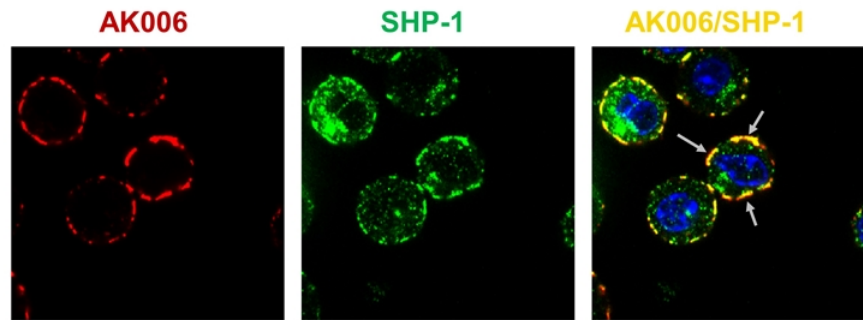
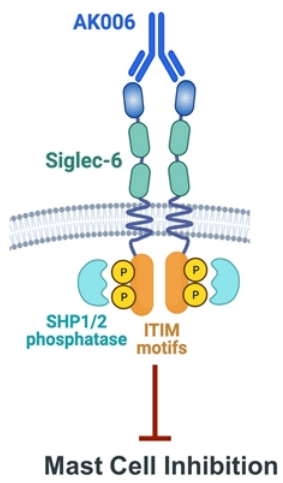


**AK006 is a humanized IgG1 agonistic Siglec-6 mAb that selectively inhibits mast cells and reduces their numbers:**

- Represents the first mast cell-specific antibody in development
- Inhibition of both IgE-dependent and IgE-independent mast cell activation
- Reduction of mast cells via Fc-dependent mechanism

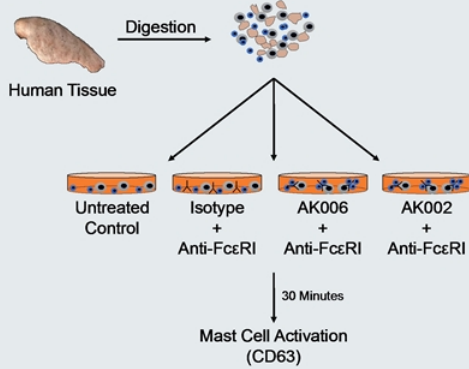
**First-in-human study planned 1H 2023**

# AK006 Associates with Inhibitory Molecules

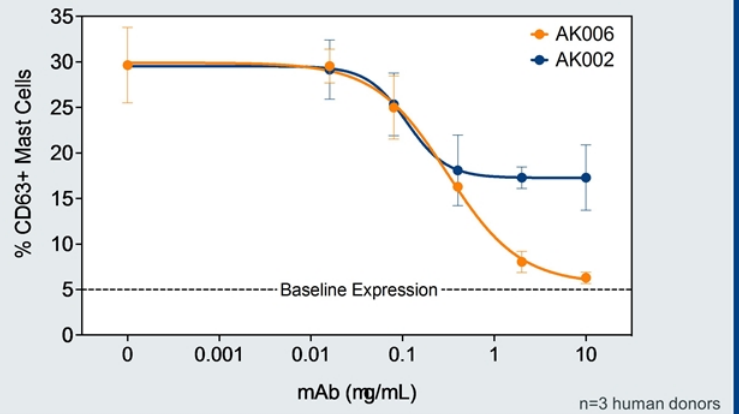


# AK006 Inhibits Mast Cell Activation in Human Tissues

## Human Tissue Mast Cell Activation Assay

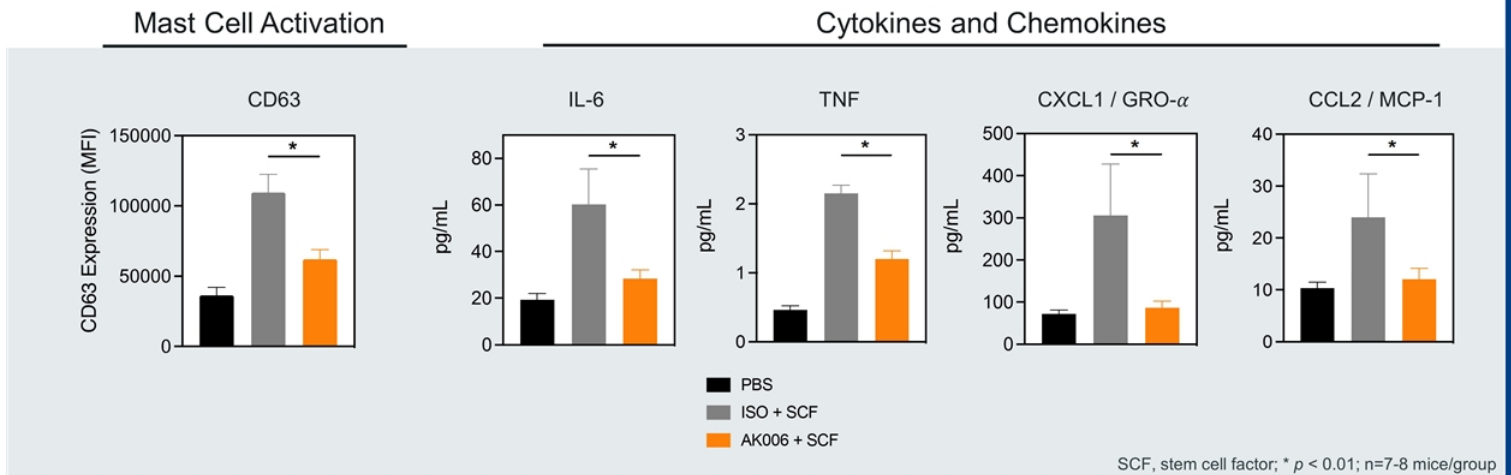


## IgE-Activated Human Tissue Mast Cells



AK006 inhibits IgE-mediated mast cell activation

# AK006 Inhibits KIT-Mediated Mast Cell Activation in Siglec-6 Transgenic Mice

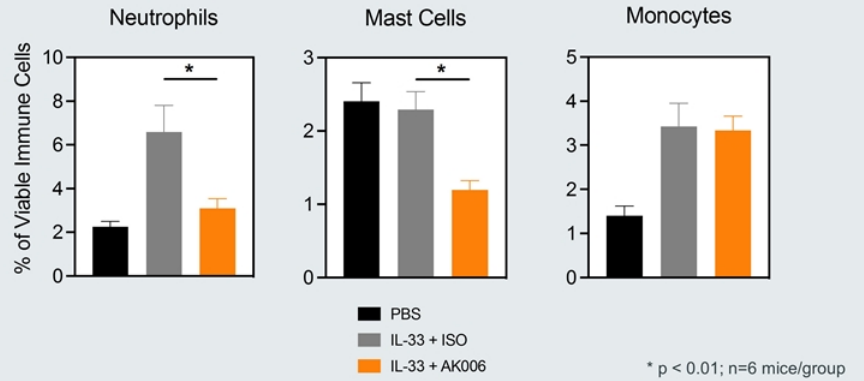
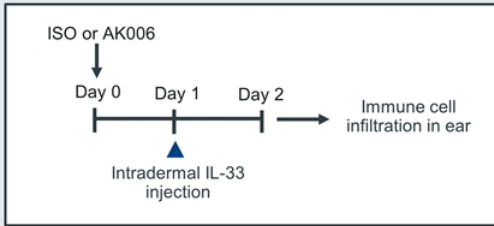


AK006 inhibits KIT-mediated mast cell activation

# AK006 Reduces IL-33-Mediated Skin Inflammation in Siglec-6 Transgenic Mice

## Immune Cell Infiltration in Skin

### IL-33-driven Skin Inflammation Model

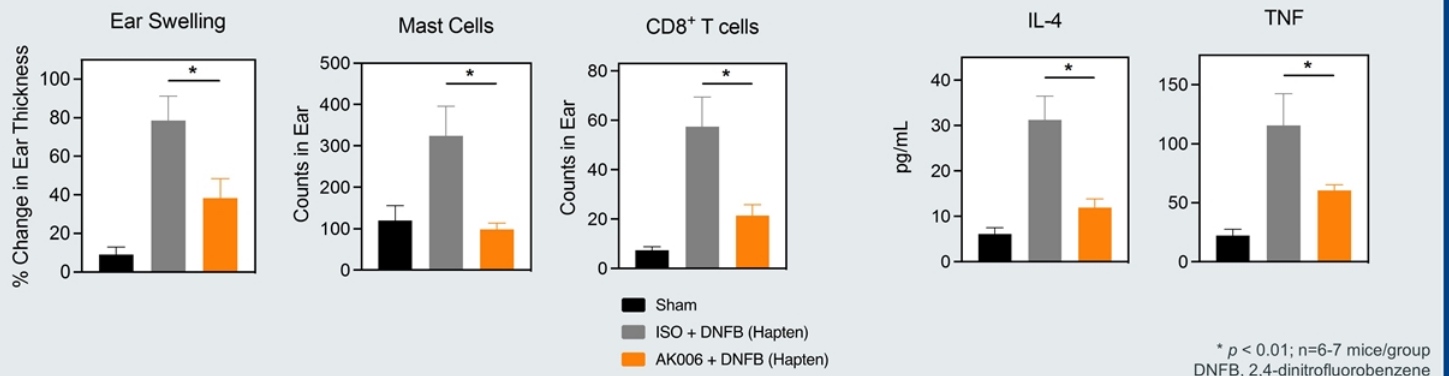


AK006 inhibits IL-33-mediated inflammation via MC inhibition and reduction

# AK006 Inhibits Allergic Contact Dermatitis in Siglec-6 Transgenic Mice

## Skin Inflammation

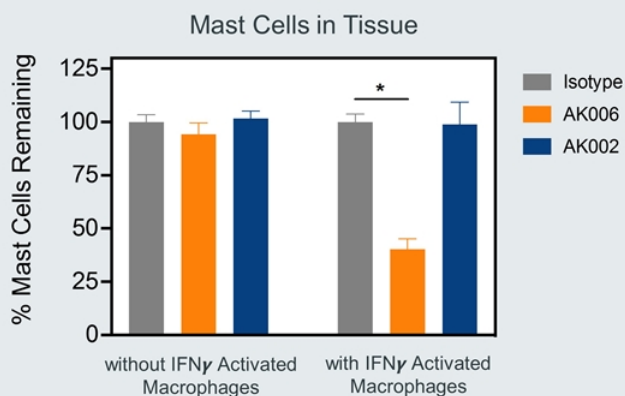
## Cytokines in Ex Vivo-Cultured Ears



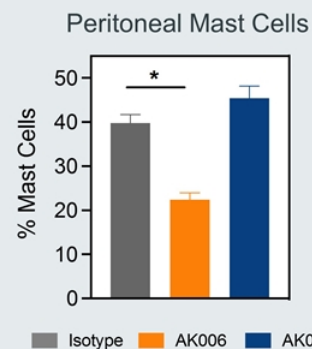
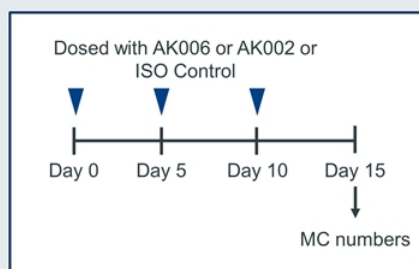
AK006 reduces skin inflammation in mice

# AK006 Reduces Human Tissue Mast Cells

## Ex Vivo Human Tissue Mast Cells



## Dosing Study in Humanized Mice



\* p < 0.01; (left) n=3 human donors; (right) n=8-10 mice/group

AK006 inhibits mast cells and reduces mast cell numbers in preclinical studies

# Financial Overview & Key Milestones





# Balance Sheet and IP Protection

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Cash, Cash Equivalents and Investments in Marketable Securities as of June 30, 2022	\$212.4 M
Common Shares Outstanding	54.8 M

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**First lirentelimab U.S patent to expire in 2035 without extensions**



**Manufacturing lirentelimab at 17K liter scale**