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

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**FORM 8-K**

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

Date of Report (Date of earliest event reported): August 3, 2020

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**ACHIEVE LIFE SCIENCES, INC.**

(Exact name of Registrant as Specified in Its Charter)

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Delaware  
(State or Other Jurisdiction  
of Incorporation)

033-80623  
(Commission  
File Number)

95-4343413  
(IRS Employer  
Identification No.)

1040 West Georgia, Suite 1030  
Vancouver, B.C., Canada  
(Address of Principal Executive Offices)

V6E 4H1  
(Zip Code)

Registrant's Telephone Number, Including Area Code: (604) 210-2217

N/A

(Former Name or Former Address, if Changed Since Last Report)

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

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

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

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of exchange on which registered</u>
Common Stock, par value \$0.001 per share	ACHV	The NASDAQ Capital Market

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

Emerging growth company

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

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**Item 1.01 Entry into a Material Definitive Agreement**

On August 3, 2020, Achieve Life Sciences, Inc. (“*Achieve*”) entered into an underwriting agreement (the “*Underwriting Agreement*”) with Lake Street Capital Markets, LLC (the “*Underwriter*”), pursuant to which Achieve agreed to issue and sell an aggregate of (a) 476,187 shares of its common stock (the “*Shares*”) and (b) pre-funded warrants to purchase 142,857 shares of its common stock (the “*Pre-Funded Warrants*”) to the Underwriters (the “*Offering*”). The Shares will be sold at the public offering price of \$10.50 per share. The Pre-Funded Warrants will be sold at a public offering price of \$10.499 per Pre-Funded Warrant, which represents the per share public offering price for the Shares less a \$0.001 per share exercise price for each such Pre-Funded Warrant. Pursuant to the Underwriting Agreement, Achieve has also granted the Underwriters a 30-day option to purchase up to an additional 92,856 shares of its common stock. The Underwriting Agreement contains customary representations and warranties, conditions to closing, termination provisions and indemnification obligations, including for liabilities under the Securities Act of 1933, as amended. The Offering is being made pursuant to the shelf registration statement on Form S-3 (File No. 333-229019) that was filed by Achieve with the Securities and Exchange Commission (“*SEC*”) on December 26, 2018, and declared effective by the SEC on February 11, 2019, and a related prospectus supplement.

The Pre-Funded Warrants are exercisable at any time after the date of issuance. A holder of Pre-Funded Warrants may not exercise the warrant if the holder, together with its affiliates, would beneficially own more than 9.99% of the number of shares of common stock outstanding immediately after giving effect to such exercise. A holder of Pre-Funded Warrants may increase or decrease this percentage, but not in excess of 19.99%, by providing at least 61 days’ prior notice to Achieve.

Achieve estimates that net proceeds from the Offering will be approximately \$5.9 million, after deducting underwriting discounts and commissions and estimated Offering expenses, and assuming no exercise of the Underwriters’ option to purchase additional shares. Achieve intends to use the net proceeds from the Offering, together with its existing cash, cash equivalents and marketable securities, to fund clinical research and development, and for general working capital. Achieve expects the Offering to close on August 6, 2020, subject to the satisfaction of customary closing conditions.

The Underwriting Agreement is filed as Exhibit 1.1 to this report and the foregoing description of the terms of the Underwriting Agreement is qualified in its entirety by reference to such exhibit. The Pre-Funded Warrant is filed as Exhibit 4.1 to this report and the foregoing description of the terms of the Pre-Funded Warrants is qualified in its entirety by reference to such exhibit. A copy of the opinion of Fenwick & West LLP, relating to the validity of the securities offered in connection with the Offering, is filed with this Current Report on Form 8-K as Exhibit 5.1.

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## ITEM 9.01 Financial Statements and Exhibits

### (d) Exhibits

Exhibit No.	Description
1.1	<a href="#">Underwriting Agreement dated August 3, 2020</a>
4.1	<a href="#">Form of Pre-Funded Warrant</a>
5.1	<a href="#">Opinion of Fenwick &amp; West LLP</a>
23.1	<a href="#">Consent of Fenwick &amp; West LLP (included in Exhibit 5.1)</a>

### Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and other federal securities laws. Any statements contained herein that do not describe historical facts, including, but not limited to, statements regarding the expected net proceeds of the Offering and the anticipated use of proceeds of the Offering, are forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those discussed in such forward-looking statements. Such risks and uncertainties include, among others, the risks identified in Achieve's filings with the SEC, including its Quarterly Report on Form 10-Q for the three months ended March 31, 2020, filed with the SEC on May 14, 2020, the prospectus supplement related to the Offering, and subsequent filings with the SEC. Any of these risks and uncertainties could materially and adversely affect Achieve's results of operations, which would, in turn, have a significant and adverse impact on Achieve's stock price. Achieve cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. Achieve undertakes no obligation to update publicly any forward-looking statements to reflect new information, events or circumstances after the date they were made or to reflect the occurrence of unanticipated events.

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**SIGNATURES**

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

Date: August 4, 2020

**Achieve Life Sciences, Inc.**

By: /s/ John Bencich

**John Bencich**  
**Chief Financial Officer**

## ACHIEVE LIFE SCIENCES, INC.

## UNDERWRITING AGREEMENT

August 3, 2020

Lake Street Capital Markets, LLC  
920 2nd Avenue S, Suite 700  
Minneapolis, MN 55402

Ladies and Gentlemen:

Achieve Life Sciences, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell an aggregate of 476,187 shares ("Firm Shares") of the Company's common stock, \$0.001 par value per share ("Shares") and pre-funded warrants to purchase 142,857 Shares at an exercise price of \$0.001 per Share (the "Pre-funded Warrants"), to the several underwriters (such underwriters, for whom Lake Street Capital Markets, LLC ("Lake Street" or the "Representative") is acting as representative, the "Underwriters" and each an "Underwriter"). Such Firm Shares and Pre-funded Warrants are hereinafter collectively called the "Firm Securities." The shares of Common Stock issuable upon exercise of the Warrants are herein referred to as the "Warrant Shares." The Company has also agreed to grant to the Representative on behalf of the Underwriters an option (the "Option") to purchase up to an additional 92,856 Shares (the "Option Shares" and, together with the Firm Shares, the Pre-funded Warrants and the Warrant Shares, the "Securities") on the terms set forth in Section 1(b) hereof. The offering of the Securities is hereinafter called the "Offering".

The Company confirms as follows its agreement with each of the Underwriters:

1. Agreement to Sell and Purchase.

(a) *Purchase of Firm Securities.* On the basis of the representations, warranties and agreements of the Company contained herein and subject to all the terms and conditions of this Agreement, the Company agrees to sell to the Underwriters, severally and not jointly, and the Underwriters, severally and not jointly, agree to purchase from the Company, the Firm Securities at a purchase price (the "Purchase Price") (prior to discount and commissions) of \$10.50 for one Firm Share and \$10.499 for one Pre-funded Warrant (or \$9.8175 for one Firm Share and \$9.8166 for one Pre-funded Warrant net of discount and commissions).

(b) *Purchase of Option Shares.* Subject to all the terms and conditions of this Agreement, the Company grants to the Representative on behalf of the Underwriters the Option to purchase, severally and not jointly, all or less than all of the Option Shares. The purchase price (net of discount and commissions) to be paid for each Option Share will be the same Purchase Price (net of discount and commissions) allocated to the Firm Shares. The Option may be exercised in whole or in part at any time on or before the 30th day after the date

of this Agreement, upon written notice (the “Option Notice”) by the Representative to the Company no later than 12:00 noon, New York City time, at least two and no more than five business days before the date specified for closing in the Option Notice (the “Option Closing Date”) setting forth the aggregate number of Option Shares to be purchased and the time and date for such purchase. Upon exercise of the Option, the Company will become obligated to convey to the Underwriters, and the Underwriters will become obligated to purchase, in each case subject to the terms and conditions set forth herein, the number of Option Shares specified in the Option Notice. If any Option Shares are to be purchased, each Underwriter agrees, severally and not jointly, to purchase the number of Option Shares (as adjusted by the Representative in such manner as it deems advisable to avoid fractional securities) that bears the same proportion to the number of Firm Securities to be purchased by it as set forth on Schedule A opposite such Underwriter’s name as the total number of Option Shares to be purchased bears to the total number of Firm Securities.

2. Delivery and Payment.

(a) *Closing.* Delivery of the Firm Securities shall be made to the Representative through the facilities of the Depository Trust Company (“DTC”) for the respective accounts of the Underwriters against payment of the Purchase Price by wire transfer of immediately available funds to the order of the Company. Such payment shall be made at 10:00 a.m., New York City time, on the third business day (the fourth business day, should the Offering be priced after 4:00 p.m., New York City Time) after the date of this Agreement or at such time on such other date, not later than ten business days after such date, as may be agreed upon by the Company and the Representative (such date is hereinafter referred to as the “Closing Date”).

(b) *Option Closing.* To the extent the Option is exercised, delivery of the Option Shares against payment by the Underwriters of the purchase price for such securities (in the manner and at the location specified above) shall take place at the time and date (which may be the Closing Date, but not earlier than the Closing Date) specified in the Option Notice.

(c) *Electronic Transfer.* Electronic transfer of the Securities shall be made at the time of purchase in such names and in such denominations as the Representative shall specify.

(d) *Tax Stamps.* The cost of original issue tax stamps, if any, in connection with the issuance and delivery of the Securities by the Company to the Underwriters shall be borne by the Company. The Company shall pay and hold each Underwriter and any subsequent holder of the Securities harmless from any and all liabilities with respect to or resulting from any failure or delay in paying United States federal and state and foreign stamp and other transfer taxes, if any, which may be payable or determined to be payable in connection with the original issuance, sale and delivery to such Underwriter of the Securities.

3. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, the several Underwriters, as of the date hereof and as of the Closing Date and as of each Option Closing Date, except as otherwise indicated, as follows:

(a) *Compliance with Registration Requirements.* The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) a registration statement on Form S-3 (File No. 333-239939) under the Securities Act of 1933, as amended (the “Act”) and the rules and regulations of the Commission thereunder (the “Rules and Regulations”), and such amendments to such registration statement (including post effective amendments) as may have been required to the date of this Agreement and a preliminary prospectus supplement or “red herring” pursuant to Rule 424(b) under the Securities Act. Such registration statement, as amended (including any post effective amendments), has been declared effective by the Commission. Such registration statement, including amendments thereto (including post effective amendments thereto) as of the latest time of effectiveness thereof (the “Effective Time”), the exhibits and any schedules thereto and the documents and information otherwise deemed to be a part thereof or included therein by the Securities Act or otherwise pursuant to the Rules and Regulations, is herein called the “Registration Statement.” If the Company has filed or files an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the “Rule 462 Registration Statement”), then any reference herein to the term Registration Statement shall include such Rule 462 Registration Statement.

(b) The Company is filing with the Commission pursuant to Rule 424 under the Securities Act a final prospectus supplement relating to the Securities to a form of prospectus included in the Registration Statement. The form of prospectus included in the Registration Statement at the time it was declared effective, as it may have been amended, modified or supplemented and filed with the Commission after such effective date and prior to the date hereof pursuant to Rule 424(b)(3), is hereinafter called the “Base Prospectus,” and such final prospectus supplement, as filed, along with the Base Prospectus, is hereinafter called the “Final Prospectus.” Such Final Prospectus and any preliminary prospectus supplement or “red herring” relating to the Securities in the form in which they shall be filed with the Commission pursuant to Rule 424(b) under the Securities Act (including the Base Prospectus as so supplemented) is hereinafter called a “Prospectus.”

(c) For purposes of this Agreement, all references to the Registration Statement, the Rule 462 Registration Statement, the Base Prospectus, the Final Prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“EDGAR”). All references in this Agreement to amendments or supplements to the Registration Statement, the Rule 462 Registration Statement, the Base Prospectus, the Final Prospectus or the Prospectus shall be deemed to mean and include the subsequent filing of any document under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), that is deemed to be incorporated therein by reference therein or otherwise deemed by the Rules and Regulations to be a part thereof.

(d) *Effectiveness of Registration.* The Company has responded to all requests, if any, of the Commission for additional or supplemental information with respect to the Registration Statement. No stop order suspending the effectiveness of the Registration Statement or any Rule 462 Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the knowledge of the Company, are threatened by the Commission.

(e) *Accuracy of Registration Statement.* Each of the Registration Statement, any Rule 462 Registration Statement and any post-effective amendment thereto, at the time it became effective, when any document filed under the Exchange Act was or is filed and at all subsequent times, complied and will comply in all material respects with the Act and the Rules and Regulations, and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading. The Prospectus, as amended or supplemented, as of its date and at all subsequent times when a prospectus is delivered or required (or, but for the provisions of Rule 172, would be required) by applicable law to be delivered in connection with sales of Securities, complied and will comply in all material respects with the Act, the Exchange Act and the Rules and Regulations, and did not or will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein not misleading, in the light of the circumstances under which they were made. The foregoing representations and warranties in this Section 3(c) do not apply to any statements or omissions made in reliance on and in conformity with information relating to the Underwriters furnished in writing to the Company by the Underwriters through the Representative specifically for inclusion in the Registration Statement or Prospectus or any amendment or supplement thereto. For all purposes of this Agreement, the information set forth in the Prospectus (i) in the fourth paragraph under the caption "Underwriting" setting forth the amount of the selling concession and (ii) in the tenth and eleventh paragraphs under the caption "Underwriting" regarding stabilization, short positions and penalty bids constitutes the only information (the "Underwriters' Information") relating to the Underwriters furnished in writing to the Company by the Underwriters through the Representative specifically for inclusion in the preliminary prospectus, the Registration Statement or the Prospectus.

(f) *Company Not Ineligible Issuer.* (i) At the time of filing the Registration Statement relating to the Securities and (ii) as of the date of the execution and delivery of this Agreement (with such date being used as the determination date for purposes of this clause (ii)), the Company was not and is not an "ineligible issuer" (as defined in Rule 405 of the Rules and Regulations).

(g) *Disclosure at the Time of Sale.* As of the Applicable Time, neither (i) the Issuer General Use Free Writing Prospectus(es) (as defined below) issued at or prior to the Applicable Time, the most recent preliminary prospectus related to this Offering, and the information included on Schedule II hereto, all considered together (collectively, the "General Disclosure Package"), nor (ii) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, included any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from the General Disclosure Package based upon and in conformity with written information furnished to the Company by the Underwriters through the Representative specifically for use therein, it being understood and agreed that the only such information furnished by the Underwriters consists of the Underwriters' Information.

As used in this subsection and elsewhere in this Agreement:



“Applicable Time” means 8:00 p.m. (New York City Time) on August 3, 2020 or such other time as agreed by the Company and the Representative.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the Rules and Regulations, relating to the Securities that (i) is required to be filed with the Commission by the Company, (ii) is “a written communication that is a road show” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission or (iii) is exempt from filing pursuant to Rule 433(d)(5)(i) because it contains a description of the Securities or of the Offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“Issuer General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors, as evidenced by its being specified in Schedule I hereto.

“Issuer Limited Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

(h) *Issuer Free Writing Prospectuses.* Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the Prospectus Delivery Period (as defined below), does not include any information that conflicts with the information contained in the Registration Statement. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus based upon and in conformity with the Underwriters’ Information. If at any time following the issuance of an Issuer Free Writing Prospectus there occurred an event or development as a result of which such Issuer Free Writing Prospectus conflicted with the information contained in the Registration Statement relating to the Securities or included an untrue statement of material fact or omitted to state a material fact necessary in order to make the statements therein, in light of the circumstances prevailing at that subsequent time, not misleading, the Company has promptly notified the Representative and has promptly amended or supplemented, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(i) *Distribution of Offering Material by the Company.* The Company has not distributed and will not distribute, prior to the later of the Closing Date, any Option Closing Date and the completion of the Underwriters’ distribution of the Securities, any offering material in connection with the offering or sale of the Securities, the Registration Statement, the preliminary prospectus, the Permitted Free Writing Prospectuses reviewed and consented to by the Representative and included in Schedule I hereto, and the Prospectus. None of the Marketing Materials (as defined herein), as of their respective issue dates and at all subsequent times through the Prospectus Delivery Period (as defined below), include any information that conflicts with the information contained in the Registration Statement. If at any time following the issuance of any Marketing Material there occurred an event or development as a result of which such Marketing Material conflicted with the information contained in the Registration Statement relating to the Securities or included an untrue statement of material fact or omitted to state a material fact necessary in order to make the statements therein, in light of the circumstances prevailing at that subsequent time, not misleading, the Company has promptly

notified the Representative and has promptly amended or supplemented, at its own expense, such Marketing Material to eliminate or correct such conflict, untrue statement or omission.

(j) *Subsidiaries.* All of the direct and indirect subsidiaries of the Company (each, a “Subsidiary”) are set forth in the Registration Statement, the General Disclosure Package and the Prospectus. The Company owns, directly or indirectly, all of the capital stock or other equity interests of each Subsidiary free and clear of any lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other similar restriction (each, a “Lien”), and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive and similar rights to subscribe for or purchase securities.

(k) *Organization and Qualification.* The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents (collectively, the “Charter Documents”). Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of this Agreement or any other agreement, document, certificate or instrument required to be delivered pursuant to this Agreement (collectively, the “Transaction Documents”), (ii) a material adverse effect on the results of operations, assets, business, prospects, or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole, or (iii) a material adverse effect on the Company’s ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a “Material Adverse Effect”) and no action, claim, suit or proceeding (including, without limitation, a partial proceeding, such as a deposition), whether commenced or threatened (each, a “Proceeding”) has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(l) *Authorization; Enforcement.* The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company’s stockholders in connection herewith or therewith other than in connection with the Required Approvals (as hereinafter defined in Section 3(l)). This Agreement and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, assuming due authorization, execution and delivery by the Representative, will

constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(m) *No Conflicts.* The execution, delivery and performance by the Company of this Agreement and the other Transaction Documents to which it is a party, the issuance and sale of the Securities and the consummation by it of the transactions contemplated hereby and thereby do not and will not (i) conflict with or violate any provision of the Company's or any Subsidiary's Charter Documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such as would not have or reasonably be expected to result in a Material Adverse Effect.

(n) *Filings, Consents and Approvals.* The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filing with the Commission of the Registration Statement and the Prospectus, (ii) such filings, if any, as are required to be made under applicable state securities laws, (iii) such applications, notices, filings or authorizations as are required to be obtained or made under applicable rules of the Financial Industry Regulatory Authority, Inc. ("FINRA") and The Nasdaq Stock Market, including, but not limited to, the listing of the Securities for trading thereon, and (iv) such notices, filings or authorizations as have been obtained, given or made as of the date hereof (collectively, the "Required Approvals").

(o) [Reserved.]

(p) *Issuance of the Securities.* The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement.

(q) *Capitalization.* The capitalization of the Company as of the date hereof is as set forth in the Registration Statement, the General Disclosure Package and the Prospectus. Except as set forth in the SEC Reports (as defined below), the Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the Company's equity incentive plans, the issuance of shares of Common Stock to employees, directors or consultants pursuant to the Company's equity incentive plans and pursuant to the conversion and/or exercise of any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock ("Common Stock Equivalents") and is outstanding as of the date of the most recently filed periodic report under the Exchange Act. No individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind (each, a "Person") has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. Except as a result of the purchase and sale of the Securities or as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire, any shares of Common Stock or the capital stock of any Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents or capital stock of any Subsidiary. The issuance and sale of the Securities will not obligate the Company or any Subsidiary to issue shares of Common Stock or other securities to any Person (other than the Underwriters) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. Except as disclosed in the SEC Reports, there are no securities of the Company or any Subsidiary that have any anti-dilution or similar adjustment rights (other than adjustments for stock splits, recapitalizations, and the like) to the exercise or conversion price, have any exchange rights, or reset rights. Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, there are no outstanding securities or instruments of the Company or any Subsidiary that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. The Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in compliance in all material respects with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any stockholder, the Board of Directors or others is required for the issuance and sale of the Securities. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders.

(r) *SEC Reports; Financial Statements.* The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with the Registration Statement, the General Disclosure Package and the Prospectus, being collectively referred to herein as the “SEC Reports”) on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. The agreements and documents described in the SEC Reports conform to the descriptions thereof contained therein and there are no agreements or other documents required by the Securities Act and the rules and regulations thereunder to be described in the SEC Reports or to be filed with the Commission as exhibits to the Registration Statement, that have not been so described or filed. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and (i) that is referred to in the SEC Reports, or (ii) is material to the Company’s business, has been duly authorized and validly executed by the Company, is in full force and effect in all material respects and is enforceable against the Company and, to the Company’s knowledge, the other parties thereto, in accordance with its terms, except (x) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors’ rights generally, (y) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws, and (z) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefore may be brought. Except as disclosed in the SEC Reports, none of such agreements or instruments has been assigned by the Company, and neither the Company nor, to the Company’s knowledge, any other party is in default thereunder and, to the Company’s knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder. To the Company’s knowledge, performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses, including, without limitation, those relating to environmental laws and regulations.

(s) *Material Changes; Undisclosed Events, Liabilities or Developments.* Since the date of the latest audited financial statements included within the SEC Reports, except as reflected or specifically disclosed in a subsequent SEC Report filed prior to the date hereof, (i) there has been no event, occurrence or development that has had or that would reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any material liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company’s financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company equity incentive plans or as set forth in the Registration Statement, the General Disclosure Package and the Prospectus. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement, no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, prospects, properties, operations, assets or financial condition that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least 1 Trading Day prior to the date that this representation is made.

(t) *Litigation.* There is no action, suit, inquiry, notice of violation or proceeding pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an “Action”) which (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) would, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor any Subsidiary, nor, any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(u) *Labor Relations.* No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which would reasonably be expected to result in a Material Adverse Effect. None of the Company’s or its Subsidiaries’ employees is a member of a union that relates to such employee’s relationship with



the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(v) *Compliance.* Except as disclosed in the SEC Reports and as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including, without limitation, all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as would not have or reasonably be expected to result in a Material Adverse Effect.

(w) *Environmental Laws.* The Company and its Subsidiaries (i) are in compliance in all material respects with all federal, state, local and foreign laws relating to pollution or protection of human health or the environment (including ambient air, surface water, groundwater, land surface or subsurface strata), including laws relating to emissions, discharges, releases or threatened releases of chemicals, pollutants, contaminants, or toxic or hazardous substances or wastes (collectively, "Hazardous Materials") into the environment, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials, as well as all authorizations, codes, decrees, demands, or demand letters, injunctions, judgments, licenses, notices or notice letters, orders, permits, plans or regulations, issued, entered, promulgated or approved thereunder ("Environmental Laws"); (ii) have received all permits licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses; and (iii) are in compliance with all terms and conditions of any such permit, license or approval where in each clause (i), (ii) and (iii), the failure to so comply would be reasonably expected to have, individually or in the aggregate, a Material Adverse Effect.

(x) *Regulatory Permits.* The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign

regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits would not reasonably be expected to result in a Material Adverse Effect (“Material Permits”), and neither the Company nor any Subsidiary has received any written notice of proceedings relating to the revocation or modification of any Material Permit.

(y) *Title to Assets.* The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance in all material respects.

(z) *Intellectual Property.* To the knowledge of the Company, the Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights necessary or required for use in connection with their respective businesses as described in the SEC Reports and which the failure to so have could have a Material Adverse Effect (collectively, the “Intellectual Property Rights”). None of, and neither the Company nor any Subsidiary has received a notice (written or otherwise) that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or be abandoned, within two (2) years from the date of this Agreement, except where such action would not reasonably be expected to have a Material Adverse Effect. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as would not have or reasonably be expected to not have a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company has no knowledge that it lacks or will be unable to obtain any rights or licenses to use all Intellectual Property Rights that are necessary to conduct its business.

(aa) *Insurance.* The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage. Neither the Company nor any Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage



from similar insurers as may be necessary to continue its business without a significant increase in cost.

(bb) *Transactions With Affiliates and Employees.* Except as set forth in the SEC Reports, none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, providing for the borrowing of money from or lending of money to or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(cc) *Sarbanes-Oxley; Internal Accounting Controls.* The Company and the Subsidiaries are in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective and applicable to the Company as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date or the Option Closing Date, as applicable. Except as set forth in the SEC Reports, the Company and the Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company and the Subsidiaries have established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and the Subsidiaries and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms. The Company's certifying officers have evaluated the effectiveness of the disclosure controls and procedures of the Company and the Subsidiaries as of the end of the period covered by the most recently filed periodic report under the Exchange Act (such date, the "Evaluation Date"). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the internal control over financial reporting (as such term is defined in the Exchange Act) of the Company and its Subsidiaries that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and its Subsidiaries.

(dd) *Certain Fees; FINRA Affiliation.* Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, no brokerage or finder's fees or

commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. To the Company's knowledge, there are no other arrangements, agreements or understandings of the Company or, to the Company's knowledge, any of its stockholders that may affect the Underwriters' compensation, as determined by FINRA. The Company has not made any direct or indirect payments (in cash, securities or otherwise) to (i) any person, as a finder's fee, investing fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who provided capital to the Company, (ii) any FINRA member, or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member within the 180-day period prior to the date on which the Registration Statement was filed with the Commission (the "Filing Date") or thereafter. To the Company's knowledge, no (i) officer or director of the Company or its subsidiaries, (ii) owner of 5% or more of the Company's unregistered securities or that of its subsidiaries or (iii) owner of any amount of the Company's unregistered securities acquired within the 180-day period prior to the Filing Date, has any direct or indirect affiliation or association with any FINRA member. The Company will advise the Underwriters and their respective counsel if it becomes aware that any officer, director or stockholder of the Company or its subsidiaries is or becomes an affiliate or associated person of a FINRA member participating in the Offering.

(ee) *Investment Company.* The Company is not, and is not an affiliate of, and immediately after receipt of payment for the Securities, will not be or be an affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

(ff) *Registration Rights.* Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, no Person has any right to cause the Company or any Subsidiary to effect the registration under the Securities Act of any securities of the Company or any Subsidiary.

(gg) *Listing and Maintenance Requirements.* The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. Except as disclosed in the SEC Reports, the Company has not, in the 12 months preceding the date hereof, received notice from the Nasdaq Capital Market to the effect that the Company is not in compliance with the listing or maintenance requirements of the Nasdaq Capital Market. Except as disclosed in the SEC Reports, the Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through DTC or another established clearing corporation and the Company is current in payment of the fees to DTC (or such other established clearing corporation) in connection with such electronic transfer. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of The Nasdaq Stock Market.

(hh) [Reserved.]

(ii) *No Integrated Offering.* Neither the Company or any Person acting on its behalf, nor, to the Company's knowledge, any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with the Company (as such terms are used in and construed under Rule 405 under the Securities Act) (each, an "Affiliate") or any Person acting on their behalf, has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of any applicable shareholder approval provisions of The Nasdaq Stock Market.

(jj) *Solvency.* Based on the consolidated financial condition of the Company as of the Closing Date and as of the Option Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder, the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, may be insufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, the Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date or the Option Closing Date, as applicable. The Registration Statement, the General Disclosure Package and the Prospectus sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(kk) *Tax Status.* Except for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, each of the Company and its Subsidiaries (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(ll) *Foreign Corrupt Practices.* Neither the Company nor any Subsidiary, nor to the knowledge of the Company or any Subsidiary, any agent or other person acting on behalf of the Company or any Subsidiary, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of Foreign Corrupt Practices Act of 1977, as amended.

(mm) *Accountants.* The Company's accounting firm is PricewaterhouseCoopers LLP (the "Accountants"). To the knowledge and belief of the Company, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2020.

(nn) *Regulation M Compliance.* The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Underwriters in connection with the Offering.

(oo) *Office of Foreign Assets Control.* Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or Affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC").

(pp) *U.S. Real Property Holding Corporation.* The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon the Representative's request.

(qq) *Bank Holding Company Act.* Neither the Company nor any of its Subsidiaries or Affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA"), and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or Affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or Affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(rr) *Money Laundering.* The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the “Money Laundering Laws”), and no Action or Proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

(ss) *Share Option Plans.* Each share option granted by the Company under the Company’s share option plans was granted (i) in accordance with the terms of the Company’s share option plans and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such share option would be considered granted under GAAP and applicable law. No share option granted under the Company’s share option plan has been backdated. The Company has not knowingly granted, and there is no and has been no Company policy or practice to knowingly grant, share options prior to, or otherwise knowingly coordinate the grant of share options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(tt) *Officer’s Certificates.* Any certificate signed by any officer of the Company or any of its Subsidiaries delivered to the Representative or its counsel shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

4. Agreements of the Company. The Company agrees with the Underwriters as follows:

(a) *Amendments and Supplements to Registration Statement.* The Company shall not, either prior to any effective date or thereafter during such period as the Prospectus is required by law to be delivered (whether physically or through compliance with Rule 172 of the Rules and Regulations or any similar rule) (the “Prospectus Delivery Period”) in connection with sales of the Securities by an Underwriter or dealer, amend or supplement the Registration Statement, the General Disclosure Package or the Prospectus, unless a copy of such amendment or supplement thereof shall first have been submitted to the Representative within a reasonable period of time prior to the filing or, if no filing is required, the use thereof and the Representative shall not have objected thereto in good faith.

(b) *Amendments and Supplements to the Registration Statement, the General Disclosure Package, and the Prospectus and Other Securities Act Matters.* During the Prospectus Delivery Period, the Company will comply with all requirements imposed upon it by the Securities Act, as now and hereafter amended, and by the Rules and Regulations, as from time to time in force, and by the Exchange Act so far as necessary to permit the continuance of sales of or dealings in the Securities as contemplated by the provisions hereof, the General Disclosure Package, the Registration Statement and the Prospectus. If, during the Prospectus Delivery Period, any event or development shall occur or condition exist as a result of which the General Disclosure Package or the Prospectus, as then amended or supplemented, would include any untrue statement of a material fact or omit to state any material fact necessary in order to

make the statements therein, in the light of the circumstances then prevailing or under which they were made, as the case may be, not misleading, or if it shall be necessary to amend or supplement the General Disclosure Package or the Prospectus in order to make the statements therein, in the light of the circumstances then prevailing or under which they were made, as the case may be, not misleading, or if in the opinion of the Representative it is otherwise necessary to amend or supplement the Registration Statement, the General Disclosure Package or the Prospectus, or to file a new registration statement containing the Prospectus, in order to comply with the Act, the Rules and Regulations, the Exchange Act or the Exchange Act Rules, including in connection with the delivery of the Prospectus, the Company agrees to (i) promptly notify the Representative of any such event or condition and (ii) promptly prepare (subject to Section 4(a) and 4(f) hereof), file with the Commission (and use its best efforts to have any amendment to the Registration Statement or any new registration statement to be declared effective) and furnish at its own expense to the Representative (and, if applicable, to dealers), amendments or supplements to the Registration Statement, the General Disclosure Package or the Prospectus, or any new registration statement, necessary in order to make the statements in the General Disclosure Package or the Prospectus as so amended or supplemented, in the light of the circumstances then prevailing or under which they were made, as the case may be, not misleading, or so that the Registration Statement or the Prospectus, as amended or supplemented, will comply with the Act, the Rules and Regulations, the Exchange Act or the Exchange Act Rules or any other applicable law.

(c) *Notifications to the Underwriters.* The Company shall notify the Representative promptly, and shall confirm such advice in writing, (i) when any post-effective amendment to the Registration Statement has become effective and when any post-effective amendment thereto becomes effective, (ii) of any request by the Commission for amendments or supplements to the Registration Statement or the Prospectus or for additional information, (iii) of the commencement by the Commission or by any state securities commission of any proceedings for the suspension of the qualification of any of the Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose, including, without limitation, the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose or the threat thereof, (iv) of the happening of any event during the Prospectus Delivery Period that in the judgment of the Company makes any statement made in the Registration Statement or the Prospectus misleading (including by omission) or untrue or that requires the making of any changes in the Registration Statement or the Prospectus in order to make the statements therein, in light of the circumstances in which they are made, not misleading (including by omission), and (v) of receipt by the Company or any representative of the Company of any other communication from the Commission relating to the Company, the Registration Statement, any preliminary prospectus or the Prospectus. If at any time the Commission shall issue any order suspending the effectiveness of the Registration Statement, the Company shall use best efforts to obtain the withdrawal of such order at the earliest possible moment. The Company shall comply with the provisions of and make all requisite filings with the Commission pursuant to Rules 424(b), 430A, 430B and 462(b) of the Rules and Regulations and to notify the Representative promptly of all such filings.

(d) *Executed Registration Statement.* To the extent not available on EDGAR, the Company shall furnish to the Representative, without charge, one signed copy of

the Registration Statement, and of any post-effective amendment thereto, including financial statements and schedules, and all exhibits thereto, and shall furnish to the Representative, without charge, a copy of the Registration Statement and any post-effective amendment thereto, including financial statements and schedules but without exhibits.

(e) *Undertakings.* The Company shall comply with all the provisions of any undertakings contained and required to be contained in the Registration Statement.

(f) *Prospectus.* The Company shall prepare the Prospectus in a form approved by the Representative and shall file such Prospectus with the Commission pursuant to Rule 424(b) of the Rules and Regulations with a filing date not later than the second business day following the execution and delivery of this Agreement. From time to time during the period when the Prospectus is required (or, but for the provisions of Rule 172 under the Act, would be required) to be delivered, to the extent not available on EDGAR, the Company shall deliver to the Representative, without charge, as many copies of the Prospectus and any amendment or supplement thereto as the Representative may reasonably request. The Company consents to the use of the Prospectus and any amendment or supplement thereto by the Representative and by all dealers to whom the Securities may be sold, both in connection with the offering or sale of the Securities and for any period of time thereafter during the Prospectus Delivery Period. If, during the Prospectus Delivery Period any event shall occur that in the judgment of the Company or counsel to the Underwriters should be set forth in the Prospectus in order to make any statement therein, in the light of the circumstances under which it was made, not misleading (including by omission), or if it is necessary to supplement or amend the Prospectus to comply with law, the Company shall forthwith prepare and duly file with the Commission an appropriate supplement or amendment thereto, and shall deliver to the Representative, without charge, such number of copies thereof as the Representative may reasonably request.

(g) *Permitted Free Writing Prospectuses.* The Company represents and agrees that it has not made and, unless it obtains the prior consent of the Representative, will not make, any offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 of the Rules and Regulations, required to be filed with the Commission or retained by the Company under Rule 433 of the Rules and Regulations; *provided* that the prior written consent of the Representative hereto shall be deemed to have been given in respect of the Issuer Free Writing Prospectuses included in Schedule I hereto. Any such free writing prospectus consented to by the Representative is herein referred to as a “Permitted Free Writing Prospectus.” The Company agrees that (i) it has treated and will treat, as the case may be, each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, and (ii) has complied and will comply, as the case may be, with the requirements of Rules 164 and 433 of the Act applicable to any Permitted Free Writing Prospectus, including in respect of timely filing with the Commission, legending and record keeping. If at any time following the issuance of an Issuer Free Writing Prospectus there occurs an event or development as a result of which such Issuer Free Writing Prospectus would conflict with the information contained in the Registration Statement relating to the Securities or would include an untrue statement of material fact or would omit to state a material fact necessary in order to make the statements therein, in light of the circumstances prevailing at that subsequent time, not misleading, the Company will promptly notify the Representative and will promptly amend or supplement, at its own expense, such

Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement, or omission. The Company represents that it has satisfied and agrees that it will satisfy the conditions in Rule 433 to avoid a requirement to file with the Commission any electronic road show.

(h) *Compliance with Blue Sky Laws.* Prior to any public offering of the Securities by the Underwriters, the Company shall cooperate with the Representative and counsel to the Underwriters in connection with the registration or qualification (or the obtaining of exemptions from the application thereof) of the Securities for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representative may so request, *provided, however*, that in no event shall the Company be obligated to qualify a public offering outside the United States or to do business as a foreign corporation in any jurisdiction where it is not now so qualified, to qualify or register as a dealer in securities, to take any action which would subject it to general service of process in any jurisdiction where it is not now so subject or subject itself to ongoing taxation in respect of doing business in any jurisdiction in which it is not so subject.

(i) *Delivery of Financial Statements.* During a period of three years commencing on the date hereof, the Company shall furnish to the Representative and each other Underwriter who may so request copies of such financial statements and other periodic and special reports as the Company may from time to time distribute generally to the holders of any class of its capital stock, and will furnish to the Representative and each other Underwriter who may so request a copy of each annual or other report it shall be required to file with the Commission; provided, however, that the availability of electronically transmitted copies filed with the Commission pursuant to EDGAR shall satisfy the Company's obligation to furnish copies hereunder.

(j) *Availability of Earnings Statements.* To make generally available to its stockholders as soon as practicable (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company, to the extent applicable (which need not be audited), complying with Section 11(a) of the Securities Act (including, at the option of the Company, Rule 158); and 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 certified by independent public accountants) and as soon as possible after each of the first three fiscal quarters of each fiscal year (beginning with the first fiscal quarter after the effective date of such Registration Statement), consolidated summary financial information of the Company for such quarter in reasonable detail, provided, that so long as the Company is subject to the reporting requirements of Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on EDGAR, it shall be deemed to be in compliance with the foregoing requirement to furnish such annual reports and quarterly financial information to its stockholders.

(k) *Payment of Expenses.*

(i) The Representative reserves the right to reduce any item of compensation or adjust the terms thereof as specified herein in the event that a determination shall be made by FINRA to the effect that the Underwriters' aggregate compensation is in excess of FINRA rules or that the terms thereof require adjustment.



(ii) Whether or not the transactions contemplated by this Agreement, the Registration Statement and the Prospectus are consummated or this Agreement is terminated, the Company hereby agrees to pay the following:

(1) all expenses in connection with the preparation, printing, formatting for EDGAR and filing of the Registration Statement, any Preliminary Prospectus and the Prospectus and any and all exhibits, amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers;

(2) all fees and expenses in connection with filings with FINRA's Public Offering System in an amount not to exceed \$15,000;

(3) all fees, disbursements and expenses of the Company's counsel, accountants and other agents and representatives in connection with the registration of the Securities under the Act and the Offering;

(4) all expenses in connection with the qualifications of the Securities for offering and sale under state or foreign securities or blue sky laws (including, without limitation, all filing and registration fees, and the fees and disbursements of Underwriters' counsel;

(5) all fees and expenses in connection with listing the Securities on a national securities exchange;

(6) all expenses, including travel and lodging expenses, of the Company's officers, directors and employees and any other expense of the Company incurred in connection with attending or hosting meetings with prospective purchasers of the Securities and any fees and expenses associated with the i-Deal system and NetRoadshow;

(7) any stock transfer taxes or other taxes incurred in connection with this Agreement or the offering, including any stock transfer taxes payable upon the transfer of securities to the Underwriters;

(8) the costs associated with preparing, printing and delivering certificates representing the Securities; and

(9) the cost and charges of any transfer agent or registrar for the Securities.

(l) *Reimbursement of Expenses.* If the Offering is consummated, the Company agrees to reimburse the Underwriters for their out of pocket costs and expenses (including Underwriters' counsel's fees and expenses) incident to the Offering; *provided, however,* that all such costs and expenses (including Underwriters' counsel's fees and expenses) that are incurred by the Underwriters shall not exceed \$75,000 in the aggregate. If the Offering is not consummated for any reason (other than a breach by the Representative of any of its obligations hereunder), the Company shall reimburse the Underwriters for all documented out-of-pocket expenses (including the reasonable fees, disbursements and other charges of counsel to the Underwriters) actually incurred by the Underwriters in connection herewith and as allowed

under FINRA Rule 5110; *provided, however*, that the maximum amount of costs and expenses to be reimbursed by Company to the Underwriters pursuant to this Section 4(l) shall not exceed \$25,000 (including the reasonable fees, disbursements and other charges of counsel to the Underwriters).

(m) *No Stabilization or Manipulation.* The Company shall not at any time, directly or indirectly, take any action intended to cause or result in, or which might reasonably be expected to cause or result in, or which will constitute, stabilization or manipulation, under the Act or otherwise, of the price of the Shares or the Securities to facilitate the sale or resale of any of the Securities.

(n) *Use of Proceeds.* The Company shall apply the net proceeds from the offering and sale of the Securities to be sold by the Company in the manner set forth in the General Disclosure Package and the Prospectus under “Use of Proceeds” and shall file such reports with the Commission with respect to the sale of the Securities and the application of the proceeds therefrom as may be required in accordance with Rule 463 under the Act.

(o) *NASDAQ listing.* The Company will use its reasonable best efforts to effect and maintain the listing of the Common Stock on the NASDAQ Capital Market for at least three (3) years after the Closing Date.

(p) The Company shall use its best efforts to maintain the effectiveness of the Registration Statement or a successor thereto for at least three (3) years after the Closing Date.

5. Conditions of the Obligations of the Underwriters. The obligation of the Underwriters to purchase the Firm Securities on the Closing Date or the Option Shares on the Option Closing Date, as the case may be, as provided herein is subject to the accuracy of the representations and warranties of the Company, the performance by the Company of its covenants and other obligations hereunder and to the following additional conditions:

(a) *Post Effective Amendments and Prospectus Filings.* All filings made pursuant to Rules 424, 430A, or 430B of the Rules and Regulations, as applicable, shall have been made or will be made prior to the Closing Date in accordance with all such applicable rules.

(b) *No Stop Orders, Requests for Information and No Amendments.* (i) No stop order suspending the effectiveness of the Registration Statement shall have been issued and no proceedings for that purpose shall be pending or are, to the knowledge of the Company, threatened by the Commission, (ii) no order suspending the qualification or registration of the Securities under the securities or Blue Sky laws of any jurisdiction shall be in effect and no proceeding for such purpose shall be pending before or threatened or contemplated by the authorities of any such jurisdiction, (iii) any request for additional information on the part of the staff of the Commission or any such authorities shall have been complied with to the satisfaction of the staff of the Commission or such authorities and (iv) after the date hereof no amendment or supplement to the Registration Statement or the Prospectus shall have been filed unless a copy thereof was first submitted to the Representative and the Representative did not object thereto in good faith, and the Representative shall have received certificates, dated the Closing Date and

the Option Closing Date and signed by the Chief Executive Officer or the Chairman of the Board of Directors and the Chief Financial Officer of the Company in their capacities as such, and not individually, (who may, as to proceedings threatened, certify to their knowledge), to the effect of clauses (i), (ii) and (iii).

(c) *No Material Adverse Changes.* Since the respective dates as of which information is given in the Registration Statement and the Prospectus, except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus (i) there shall not have been a Material Adverse Change, (ii) the Company shall not have issued any securities (other than the Securities or the Shares issued in the ordinary course of business pursuant to existing employee benefit plans or equity incentive plans of the Company referred to in the Registration Statement, General Disclosure Package and the Prospectus) or declared or paid any dividend or made any distribution in respect of its capital stock of any class or debt (long-term or short-term), and (iii) no material amount of the assets of the Company shall have been pledged, mortgaged or otherwise encumbered, the effect of which, in any such case described in clauses (ii) or (iii) of this paragraph (c), is, in the reasonable judgment of the Representative, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package.

(d) *No Actions, Suits or Proceedings.* Since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, there shall have been no actions, suits or proceedings instituted, or to the Company's knowledge, threatened against or affecting, the Company or its subsidiaries or any of their respective officers in their capacity as such, before or by any federal, state or local court, commission, regulatory body, administrative agency or other governmental body, domestic or foreign.

(e) *All Representations True and Correct and All Conditions Fulfilled.* Each of the representations and warranties of the Company contained herein shall be true and correct as of the date of the Agreement and at the Closing Date as if made at the Closing Date and any Option Closing Date, as the case may be, and all covenants and agreements contained herein to be performed by the Company and all conditions contained herein to be fulfilled or complied with by the Company at or prior to the Closing Date and any Option Closing Date, shall have been duly performed, fulfilled or complied with.

(f) *Opinions of Counsel to the Company.* The Underwriters shall have received the opinions and letters, each dated the Closing Date and any Option Closing Date, as the case may be, each reasonably satisfactory in form and substance to the Representative and counsel for the Underwriters, from Fenwick & West LLP, as corporate/securities counsel.

(g) *Accountants' Comfort Letter.* On the date of the Prospectus, the Representative shall have received from the Accountants a letter dated the date of its delivery, addressed to the Underwriters, in form and substance reasonably satisfactory to the Representative and counsel to the Underwriters, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited and unaudited financial statements and certain financial information contained in the

Registration Statement and the Prospectus. At the Closing Date and any Option Closing Date, as the case may be, the Representative shall have received from the Accountants a letter dated such date, in form and substance reasonably satisfactory to the Representative and counsel to the Underwriters, to the effect that they reaffirm the statements made in the letter furnished by them pursuant to the preceding sentence and have conducted additional procedures with respect to certain financial figures included in the Prospectus, except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to the Closing Date or any Option Closing Date, as the case may be.

(h) *Officers' Certificates.* At the Closing Date and any Option Closing Date, there shall be furnished to the Representative an accurate certificate, dated the date of its delivery, signed by each of the Chief Executive Officer and the Chief Financial Officer of the Company, in their capacities as such, and not individually, in form and substance satisfactory to the Representative and counsel to the Underwriters, to the effect that:

(i) each signer of such certificate has carefully examined the Registration Statement and the Prospectus;

(ii) there has not been a Material Adverse Change; and

(iii) with respect to the matters set forth in Sections 5(b)(i) and 5(e).

(i) *Transfer Agent's Certificate.* The Company's transfer agent shall have furnished or caused to be furnished to the Representative a certificate satisfactory to the Representative of one of its authorized officers with respect to the issuance of the Shares and such other customary matters related thereto as the Representative may reasonably request.

(j) *Eligible for DTC Clearance.* At or prior to the Closing Date and each Option Closing Date, the Shares shall be eligible for clearance and settlement through the facilities of the DTC.

(k) *Compliance with Blue Sky Laws.* The Securities shall be qualified for sale in such states and jurisdictions as the Representative may reasonably request, including, without limitation, qualification for exemption from registration or prospectus delivery requirements in the provinces and territories of Canada and other jurisdictions outside the United States, and each such qualification shall be in effect and not subject to any stop order or other proceeding on the Closing Date and the Option Closing Date.

(l) *Stock Exchange Listing.* The Securities shall have been duly authorized for listing on the NASDAQ Capital Market, subject to official notice of issuance.

(m) *Exchange Act Registration.* One or more registration statements in respect of the Shares have been filed on Form 8-A pursuant to Section 12(b) of the Exchange Act, each of which registration statement complies in all material respects with the Exchange Act.

(n) *Good Standing.* At the Closing Date and any Option Closing Date, the Company shall have furnished to the Representative satisfactory evidence of the good standing

of the Company and its subsidiaries, in their respective jurisdictions of organization (to the extent the concept of “good standing” or such equivalent concept exists under the laws of the applicable jurisdictions) and their good standing as foreign entities in such other jurisdictions as the Representative may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions. If the applicable jurisdiction does not have a concept of “good standing,” the Company will furnish evidence in writing or any standard form of telecommunication from the appropriate governmental authorities that the relevant company was duly incorporated and remains duly registered in the jurisdiction of its incorporation.

(o) *Company Certificates.* The Company shall have furnished to the Representative such certificates, in addition to those specifically mentioned herein, as the Representative may have reasonably requested as to the accuracy and completeness at the Closing Date and any Option Closing Date of any statement in the Registration Statement, the General Disclosure Package or the Prospectus, as to the accuracy at the Closing Date and any Option Closing Date of the representations and warranties of the Company herein, as to the performance by the Company of its obligations hereunder, or as to the fulfillment of the conditions concurrent and precedent to the obligations hereunder of the Underwriters.

(p) *No Objection.* FINRA has confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Securities.

If any of the conditions hereinabove provided for in this Section 5 shall not have been fulfilled when and as required by this Agreement to be fulfilled, the obligations of the Underwriters hereunder may be terminated by the Representative by notifying the Company of such termination in writing at or prior to the Closing Date or any Option Closing Date, as the case may be.

6. Indemnification.

(a) *Indemnification of the Underwriters.* The Company shall indemnify and hold harmless each Underwriter, its affiliates, the directors, officers, employees and agents of such Underwriter and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act from and against any and all losses, claims, liabilities, expenses and damages (including any and all investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding between any of the indemnified parties and any indemnifying parties or between any indemnified party and any third party, or otherwise, or any claim asserted), to which they, or any of them, may become subject under the Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, liabilities, expenses or damages arise out of or are based on (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including the information deemed to be a part of the Registration Statement at the time of effectiveness and at any subsequent time pursuant to Rules 430A and 430B of the Rules and Regulations, as applicable, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or

(ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus, any preliminary prospectus supplement, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement to any of the foregoing) or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading or (iii) any untrue statement or alleged untrue statement of a material fact contained in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Securities, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically) (collectively, Marketing Materials) or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading or (iv) in whole or in part any inaccuracy in any material respect in the representations and warranties of the Company contained herein; *provided, however*, that the Company shall not be liable to the extent that such loss, claim, liability, expense or damage is based on any untrue statement or omission or alleged untrue statement or omission made in reliance on and in conformity with Underwriters' Information. This indemnity agreement will be in addition to any liability that the Company might otherwise have.

(b) *Indemnification of the Company.* Each Underwriter, severally and not jointly, agrees to indemnify and hold harmless the Company, its affiliates, the directors, officers, employees and agents of the Company and each other person or entity, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, against any losses, liabilities, claims, damages and expenses whatsoever, as incurred (including but not limited to reasonable attorneys' fees and any and all reasonable expenses whatsoever, incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, and any and all amounts paid in settlement of any claim or litigation), joint or several, to which they or any of them may become subject under the Act, the Exchange Act or otherwise, insofar as such losses, liabilities, claims, damages or expenses (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 at the time of effectiveness and at any subsequent time pursuant to Rules 430A and 430B of the Rules and Regulations, any Preliminary Prospectus, the Prospectus, or any amendment or supplement to any of them, 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 any such loss, liability, claim, damage or expense (or action in respect thereof) arises out of or is based upon any such untrue statement or alleged untrue statement or omission or alleged omission made therein in reliance upon the Underwriters' Information; provided, however, that in no case shall any Underwriter be liable or responsible for any amount in excess of the underwriting discount and commissions applicable to the Securities purchased by such Underwriter hereunder. The parties agree that such information provided by or on behalf of the Underwriters through the Representative consists solely of the material referred to in the last sentence of Section 3(c) hereof.

(c) *Indemnification Procedures.* Any party that proposes to assert the right to be indemnified under this Section 6 shall, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 6, notify each such indemnifying party of the

commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party shall not relieve the indemnifying party from any liability that it may have to any indemnified party under the foregoing provisions of this Section 6 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable out-of-pocket costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (i) the employment of counsel by the indemnified party has been authorized in writing by one of the indemnifying parties in connection with the defense of such action, (ii) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (iii) the indemnified party has reasonably concluded that a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party shall not have the right to direct the defense of such action on behalf of the indemnified party), (iv) the indemnifying party does not diligently defend the action after assumption of the defense, or (v) the indemnifying party has not in fact employed counsel satisfactory to the indemnified party to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable fees, disbursements and other charges of counsel shall be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such fees, disbursements and other charges shall be reimbursed by the indemnifying party promptly as they are incurred. An indemnifying party shall not be liable for any settlement of any action or claim effected without its written consent (which consent will not be unreasonably withheld or delayed). No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 6 (whether or not any indemnified party is a party thereto), unless (x) such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising or that may arise out of such claim, action or proceeding 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, and (y) the indemnifying party confirms in writing its indemnification obligations hereunder with respect to such settlement, compromise or judgment. Notwithstanding the foregoing, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any

settlement of the nature contemplated by Section 6(a) effected without its written consent if (A) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (B) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) *Contribution.* In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 6 is applicable in accordance with its terms but for any reason is held to be unavailable, the Company and the Underwriters shall contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than the Underwriters, such as persons who control the Company within the meaning of the Act, officers of the Company who signed the Registration Statement and directors of the Company, who may also be liable for contribution), to which the Company and the Underwriter may be subject in such proportion as shall be 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 Securities pursuant to this Agreement. The relative benefits received by the Company and the Underwriters shall be deemed to be in the same proportion as (x) the total proceeds from the Offering (net of underwriting discount and commissions but before deducting expenses) received by the Company bears to (y) the underwriting discount and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and the Underwriters, on the other, with respect to the statements or omissions which resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters, the intent of the parties and their relative 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 contributions pursuant to this Section 6(d) were to be determined by pro rata allocation or by any other method of allocation (even if the Underwriters were treated as one entity for such purpose) which does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense or damage, or action in respect thereof, referred to above in this Section 6(d) shall be deemed to include, for purpose of this Section 6(d), 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 Section 6(d), no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions received by it. No person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 6(d), any person who controls a party to this Agreement within the



meaning of the Act will have the same rights to contribution as that party, and each officer of the Company who signed the Registration Statement will have the same rights to contribution as the Company, and each director, officer, employee, counsel or agent of an Underwriter will have the same rights to contribution as such Underwriter, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 6(d), will notify any such party or parties from whom contribution may be sought, but the omission so to notify will not relieve the party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 6(d). The obligations of the Underwriters to contribute pursuant to this Section 6(d) are several in proportion to the respective number of Securities to be purchased by each of the Underwriters hereunder and not joint. No party will be liable for contribution with respect to any action or claim settled without its written consent (which consent will not be unreasonably withheld).

(e) *Survival.* The indemnity and contribution agreements contained in this Section 6 and the representations and warranties of the Company contained in this Agreement shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or any controlling Person thereof, (ii) acceptance of any of the Securities and payment therefor or (iii) any termination of this Agreement.

7. *Termination.* The obligations of the Underwriters under this Agreement may be terminated at any time prior to the Closing Date (or, with respect to the Option Shares, on or prior to the Option Closing Date), by notice to the Company from the Representative, without liability on the part of the Underwriters to the Company, if, prior to delivery and payment for the Firm Securities to be delivered in the form of the Firm Securities (or the Option Shares), in the sole judgment of the Representative, any of the following shall occur:

(a) trading or quotation in any of the equity securities of the Company shall have been suspended or limited by the Commission, The Nasdaq Stock Market or by an exchange or otherwise;

(b) trading in securities generally on the New York Stock Exchange, the NYSE MKT, the NASDAQ Capital Market, the NASDAQ Global Market, the NASDAQ Global Select Market shall have been suspended or limited or minimum or maximum prices shall have been generally established on such exchange, or additional material governmental restrictions, not in force on the date of this Agreement, shall have been imposed upon trading in securities generally by such exchange or by order of the Commission or any court or other governmental authority;

(c) a general banking moratorium shall have been declared by any of U.S. federal, New York authorities;

(d) the United States shall have become engaged in new hostilities, there shall have been an escalation in hostilities involving the United States or there shall have been a declaration of a national emergency or war by the United States or there shall have occurred such a material adverse change in general economic, political or financial conditions, including, without limitation, as a result of terrorist activities after the date hereof (or the effect of

international conditions on the financial markets in the United States shall be such), or any other calamity or crisis shall have occurred, the effect of any of which is such as to make it impracticable or inadvisable to market the Securities on the terms and in the manner contemplated by the Prospectus;

(e) the Company shall have sustained a loss material or substantial to the Company by reason of flood, fire, accident, hurricane, earthquake, theft, sabotage, or other calamity or malicious act, whether or not such loss shall have been insured, the effect of any of which is such as to make it impracticable or inadvisable to market the Securities on the terms and in the manner contemplated by the Prospectus; or

(f) there shall have been a Material Adverse Change.

8. Underwriter Default.

(a) If any Underwriter or Underwriters shall default in its or their obligation to purchase Firm Securities hereunder, and if the Securities with respect to which such default relates (the “Default Securities”) do not (after giving effect to arrangements, if any, made by the Representative pursuant to subsection (b) below) exceed in the aggregate 10% of the number of Firm Securities, each non-defaulting Underwriter, acting severally and not jointly, agrees to purchase from the Company that number of Default Securities that bears the same proportion to the total number of Default Securities then being purchased as the number of Firm Securities set forth opposite the name of such Underwriter on Schedule A hereto bears to the aggregate number of Firm Securities set forth opposite the names of the non-defaulting Underwriters; subject, however, to such adjustments to eliminate fractional securities as the Representative in its discretion shall make.

(b) In the event that the aggregate number of Default Securities exceeds 10% of the number of Firm Securities, the Representatives may in their discretion arrange for themselves or for another party or parties (including any non-defaulting Underwriter or Underwriters who so agree) to purchase the Default Securities on the terms contained herein. In the event that within five (5) calendar days after such a default the Representative does not arrange for the purchase of the Default Securities as provided in this Section 8, this Agreement shall thereupon terminate, without liability on the part of the Company with respect thereto (except in each case as provided in Sections 4(k), 6 and 8) or the Underwriters, but nothing in this Agreement shall relieve a defaulting Underwriter or Underwriters of its or their liability, if any, to the other Underwriters and the Company for damages occasioned by its or their default hereunder.

(c) In the event that any Default Securities are to be purchased by the non-defaulting Underwriters, or are to be purchased by another party or parties as aforesaid, the Representatives or the Company shall have the right to postpone the Closing Date for a period, not exceeding five (5) Business Days, in order to effect whatever changes may thereby be necessary in the Registration Statement or the Prospectus or in any other documents and arrangements, and the Company agrees to file promptly any amendment or supplement to the Registration Statement or the Prospectus which, in the reasonable opinion of Underwriters’ Counsel, may be necessary or advisable. The term “Underwriter” as used in this Agreement shall

include any party substituted under this Section 8 with like effect as if it had originally been a party to this Agreement with respect to such Firm Securities.

9. Miscellaneous.

(a) *Notices.* Notice given pursuant to any of the provisions of this Agreement shall be in writing and, unless otherwise specified, shall be mailed, hand delivered or telecopied (a) if to the Company, at the office of the Company, 1040 West Georgia, Suite 1030, Vancouver, B.C., Canada V6E 4H1, telephone number: (604) 210-2217, Attention: Chief Executive Officer, with a copy to Fenwick & West LLP, 1191 Second Avenue, Floor 10, Seattle, WA 98101, Attention: Alan Smith and Amanda Rose, or (b) if to the Representative or any Underwriter, to Lake Street Capital Markets, LLC, 920 2nd Avenue S, Suite 700, Minneapolis, MN 55402, Attention: Legal Department, telecopy number: (612) 326-1305. Any such notice shall be effective only upon receipt. Any notice under Section 6 hereof may be made by telecopy or telephone, but if so made shall be subsequently confirmed in writing.

(b) *No Third Party Beneficiaries.* This Agreement has been and is made solely for the benefit of the Underwriters, the Company and, with respect to Section 6, the controlling persons, directors, officers, employees, counsel and agents referred to in Section 6 hereof, and their respective successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. The term "successors and assigns" as used in this Agreement shall not include a purchaser of Securities from any Underwriter in his, her or its capacity as such a purchaser, as such purchaser of Securities from such Underwriter.

(c) *Survival of Representations and Warranties.* All representations, warranties and agreements of the Company contained herein or in certificates or other instruments delivered pursuant hereto shall remain operative and in full force and effect regardless of any investigation made by or on behalf of the Underwriters or any of their controlling persons and shall survive delivery of and payment for the Securities hereunder.

(d) *Disclaimer of Fiduciary Relationship.* The Company acknowledges and agrees that (i) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the public offering price of the Securities and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the Underwriters, on the other hand, (ii) in connection with the Offering contemplated by this Agreement and the process leading to such transaction, the Underwriters are and have been acting pursuant to a contractual relationship created solely by this Agreement and are not agents or fiduciaries of the Company or its securityholders, creditors, employees or any other party, (iii) no Underwriter has assumed nor will it assume any advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities contemplated by this Agreement or the process leading thereto (irrespective of whether such Underwriter or its affiliates has advised or is currently advising the Company on other matters) and each such Underwriter has no obligation to the Company with respect to the offering of the Securities contemplated by this Agreement except the obligations expressly set forth in this Agreement, (iv) the Underwriters and their affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (v) no Underwriter has provided any legal, accounting, regulatory or tax advice with respect to the Offering contemplated by this Agreement and the

Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

(e) *Governing Law.* THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK APPLICABLE TO AGREEMENTS MADE AND TO BE PERFORMED ENTIRELY WITHIN SUCH STATE.

(f) *Submission to Jurisdiction.* The Company irrevocably submits to the non-exclusive jurisdiction of any New York State or United States federal court sitting in The City of New York, Borough of Manhattan, over any suit, action or proceeding arising out of or relating to this Agreement, the Disclosure Package, the Prospectus, the Registration Statement, or the offering of the Securities. The Company irrevocably waives, to the fullest extent permitted by law, any objection which it may now or hereafter have to the laying of venue of any such suit, action or proceeding brought in such a court and any claim that any such suit, action or proceeding brought in such a court has been brought in an inconvenient forum. To the extent that the Company has or hereafter may acquire any immunity (on the grounds of sovereignty or otherwise) from the jurisdiction of any court or from any legal process with respect to itself or its property, the Company irrevocably waives, to the fullest extent permitted by law, such immunity in respect of any such suit, action or proceeding including without limitation, any immunity pursuant to the U.S. Foreign Sovereign Immunities Act of 1976, as amended. Each of the Underwriters and the Company further agrees to accept and acknowledge service of any and all process which may be served in any such suit, action or proceeding in the Supreme Court of the State of New York, New York County, or in the United States District Court for the Southern District of New York and agrees that service of process upon the Company mailed by certified mail or delivered by Federal Express via overnight delivery to the Company's address shall be deemed in every respect effective service of process upon the Company in any such suit, action or proceeding, and service of process upon an Underwriter mailed by certified mail or delivered by Federal Express via overnight delivery to the Underwriters' address shall be deemed in every respect effective service of process upon such Underwriter in any such suit, action or proceeding.

(g) *Judgment Currency.* If for the purposes of obtaining judgment in any court it is necessary to convert a sum due hereunder into any currency other than United States dollars, the parties hereto agree, to the fullest extent permitted by law, that the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Underwriters could purchase United States dollars with such other currency in The City of New York on the business day preceding that on which final judgment is given. The obligation of the Company with respect to any sum due from it to an Underwriter or any person controlling such Underwriter shall, notwithstanding any judgment in a currency other than United States dollars, not be discharged until the first business day following receipt by such Underwriter or controlling person of any sum in such other currency, and only to the extent that such Underwriter or controlling person may in accordance with normal banking procedures purchase United States dollars with such other currency. If the United States dollars so purchased are less than the sum originally due to such Underwriter or controlling person hereunder, the Company agrees as a separate obligation and notwithstanding any such judgment, to indemnify such Underwriter or controlling person against such loss. If the United States dollars so purchased are greater than the sum originally due to such Underwriter or controlling person hereunder, such

Underwriter or controlling person agrees to pay to the Company an amount equal to the excess of the dollars so purchased over the sum originally due to such Underwriter or controlling person hereunder.

(h) *Counterparts.* This Agreement may be signed in two or more counterparts with the same effect as if the signatures thereto and hereto were upon the same instrument.

(i) *Survival of Provisions Upon Invalidity of Any Single Provision.* In case any provision in this Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(j) *Waiver of Jury Trial.* The Company and each Underwriter each hereby irrevocably waive any right they may have to a trial by jury in respect of any claim based upon or arising out of this Agreement or the transactions contemplated hereby.

(k) *Titles and Subtitles.* The titles of the sections and subsections of this Agreement are for convenience and reference only and are not to be considered in construing this Agreement.

(l) *Entire Agreement.* This Agreement embodies the entire agreement and understanding between the parties hereto and supersedes all prior agreements and understandings relating to the subject matter hereof. This Agreement may not be amended or otherwise modified or any provision hereof waived except by an instrument in writing signed by the parties hereto.

[Signature page follows]

If the foregoing correctly sets forth your understanding, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement among us.

Very truly yours,

**ACHIEVE LIFE SCIENCES, INC.**

By: /s/ John Bencich

Name: John Bencich

Title: Chief Financial and Operating Officer

Accepted by the Representatives, acting for themselves and as Representatives of the Underwriters named on Schedule A hereto, as of the date first written above:

**LAKE STREET CAPITAL MARKETS, LLC**

By: /s/Michael Townley

Name: Michael Townley

Title: Head of Investment Banking

**SCHEDULE A**

<b>Name of Underwriter</b>	<b>Number of Firm Shares Being Purchased</b>	<b>Number of Pre-funded Warrants Being Purchased</b>	<b>Number of Option Shares</b>
Lake Street Capital Markets, LLC	476,187	142,857	92,856
<b>Total</b>	<b>476,187</b>	<b>142,857</b>	<b>92,856</b>

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ISSUER FREE WRITING PROSPECTUSES:

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1. The public offering price per Firm Share and Pre-funded Warrant shall be \$10.50 and \$10.499, respectively.
2. The Company is selling 476,187 Firm Shares and 142,857 Pre-funded Warrants.
3. The Company has granted an option to the Representative, on behalf of the Underwriters, to purchase up to an additional 92,856 Option Shares.

## FORM OF PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [        ]  
 (subject to adjustment)

Warrant No. \_

Original Issue Date: [    ], 2020

Achieve Life Sciences, Inc., a Delaware corporation (the “Company”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [    ] or its registered assigns (the “Holder”), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [    ] shares of common stock, \$0.001 par value per share (the “Common Stock”), of the Company (each such share, a “Warrant Share” and all such shares, the “Warrant Shares”) at an exercise price per share equal to \$0.001 per share (as adjusted from time to time as provided in Section 9 herein, the “Exercise Price”), upon surrender of this *Warrant to Purchase Common Stock* (the “Warrant” (which, for the avoidance of doubt, shall include any New Warrant (as defined below))) at any time and from time to time on or after the date hereof (the “Original Issue Date”), subject to the following terms and conditions:

1. **Definitions.** For purposes of this Warrant, the following terms shall have the following meanings:

(a) “Affiliate” means any Person directly or indirectly controlled by, controlling or under common control with, a Holder, but only for so long as such control shall continue. For purposes of this definition, “control” (including, with correlative meanings, “controlled by”, “controlling” and “under common control with”) means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities (whether directly or pursuant to any option, warrant or other similar arrangement) or other comparable equity interests.

(b) “Commission” means the United States Securities and Exchange Commission.

(c) “Closing Sale Price” means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets (such time, the “Close of Trading”). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined in good faith by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors’ determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) “Principal Trading Market” means the national securities exchange or other trading market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date, shall be the Nasdaq Capital Market LLC.

(e) “Securities Act” means the Securities Act of 1933, as amended.

(f) “Trading Day” means any weekday on which the Principal Trading Market is normally open for trading.

(g) “*Transfer Agent*” means American Stock Transfer & Trust Company, LLC, the Company’s transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

2. **Warrant Register.** The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the “*Warrant Register*”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. **Registration of Transfers.** Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a “*New Warrant*”) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company’s own expense any New Warrant under this [Section 3](#). Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

#### 4. **Exercise and Duration of Warrants.**

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by this Warrant at any time and from time to time on or after the Original Issue Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as [Schedule 1](#) hereto (the “*Exercise Notice*”), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a “cashless exercise” if so indicated in the Exercise Notice pursuant to [Section 10](#) below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an *Exercise Date*.” The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares, if any. The aggregate exercise price of this Warrant, except for the Exercise Price, was pre-funded to the Company on or before the Original Issue Date, and consequently no additional consideration (other than the Exercise Price) shall be required by to be paid by the Holder to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-funded exercise price under any circumstance or for any reason whatsoever.

#### 5. **Delivery of Warrant Shares.**

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than five (5) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“*DTC*”) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the “*FAST Program*”) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, DTC (or its nominee) or any natural person or legal entity (each, a “*Person*”) so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

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(b) To the extent permitted by law, the Company's obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed. The Company further covenants that it will not, without the prior written consent of the Holder, take any actions to increase the par value of the Common Stock at any time while this Warrant is outstanding.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date (or as amended) that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before

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such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) cash or any other asset (in each case, "*Distributed Property*"), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein. The company covenants that it will, at all times, while this Warrant is outstanding, reserve and keep available all Distributed Property that the Holder shall be entitled to receive hereunder, solely for the purpose of fulfilling its obligations pursuant to this Section 9(b).

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity and in which the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a "*Fundamental Transaction*"), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the "*Alternate Consideration*"). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (i) the Alternate Consideration is solely cash and the Company provides for the simultaneous "cashless exercise" of this Warrant pursuant to Section 10 below or (ii) prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

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(e) Calculations. All calculations under this Section 9 shall be made to the nearest one-tenth of one cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company's transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record and effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice (but the Company shall remain liable to the Holder for any damages resulting therefrom). In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least thirty (30) days prior to the date such Fundamental Transaction is consummated. Holder agrees to maintain any information disclosed pursuant to this Section 9(g) in confidence until such information is publicly available, and shall comply with applicable law with respect to trading in the Company's securities following receipt any such information.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a "cashless exercise", in which event the Company shall issue to the Holder the number of Warrant Shares in an exchange of securities effected pursuant to Section 3(a)(9) of the Securities Act, as determined as follows:

$$X = Y [(A-B)/A]$$

where:

"X" equals the number of Warrant Shares to be issued to the Holder;

"Y" equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

"A" equals the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) as of the Trading Day on the date immediately preceding the Exercise Date; and

"B" equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a "cashless exercise" transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise). In the event that a registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then the Warrant may only be exercised through a cashless exercise, as set forth in this Section 10. In no event will the exercise of this Warrant be settled in cash.

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11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect or immediately prior to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group"), to exceed 9.99% (the "*Maximum Percentage*") of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group") to exceed 9.99% of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Form 10-Q or Form 10-K, as the case may be, filed with the Commission prior to the date hereof, (y) a more recent public announcement by the Company or (z) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 19.99% specified in such notice; provided that any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company. For purposes of this Section 11(a), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group") shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such as any other members of a Section 13(d) "group").

(b) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9(c) of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number.

13. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight

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courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

14. Warrant Agent. The Company shall initially serve as warrant agent under this Warrant. Upon thirty (30) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to seek specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

16. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder, except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

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(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

(i) Interpretation. For purposes of this Warrant, (a) the words “include,” “includes” and “including” are deemed to be followed by the words “without limitation”; (b) the word “or” is not exclusive; and (c) the words “herein,” “hereof,” “hereby,” “hereto” and “hereunder” refer to this Warrant as a whole. Unless the context otherwise requires, references herein: (x) to sections and schedules mean the sections of, and schedules attached to, this Warrant; (y) to an agreement, instrument, or other document means such agreement, instrument, or other document (as amended, supplemented and modified from time to time to the extent permitted by the provisions thereof/without regard to subsequent amendments, supplements, and modifications thereto); and (z) to a statute means such statute (as amended from time to time and includes/enforced at the time and date of this Warrant becoming effective) and does not include any successor legislation thereto and any regulations promulgated thereunder. This Warrant shall be construed without regard to any presumption or rule requiring construction or interpretation against the party drafting an instrument or causing any instrument to be drafted. The schedules referred to herein shall be construed with, and as an integral part of, this Warrant to the same extent as if they were set forth verbatim herein. All references to “\$” or “dollars” mean the lawful currency of the United States of America. Whenever the singular is used in this Warrant, the same shall include the plural, and whenever the plural is used herein, the same shall include the singular, where appropriate.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

ACHIEVE LIFE SCIENCES, INC.

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

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SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

- (1) The undersigned is the Holder of Warrant No. \_\_ (the "*Warrant*") issued by Achieve Life Sciences, Inc., a Delaware corporation (the "*Company*"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.
- (2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.
- (3) The Holder intends that payment of the Exercise Price shall be made as (check one):
  - Cash Exercise
  - "Cashless Exercise" under Section 10 of the Warrant
- (4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of \$ in immediately available funds to the Company in accordance with the terms of the Warrant.
- (5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.
- (6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) of the Warrant to which this notice relates.

Dated: \_\_\_\_\_

Name of Holder: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)



1191 SECOND AVENUE, 10TH FLOOR SEATTLE, WA 98101  
TEL: 206.389.4510 FAX: 206.389.4511 WWW.FENWICK.COM

August 3, 2020

Achieve Life Sciences, Inc.  
1040 West Georgia Street, Suite 1030  
Vancouver, BC V6E 4H1

Ladies and Gentlemen:

We deliver this opinion with respect to certain matters in connection with the offering by Achieve Life Sciences, Inc., a Delaware corporation (the “**Company**”), of up to 569,043 shares of the Company’s common stock, par value \$0.001 per share (the “**Shares**”), including 92,856 shares of common stock subject to the underwriters’ option to purchase additional shares, and pre-funded warrants (the “**Pre-Funded Warrants**”) to purchase up to 142,857 shares of common stock (such shares issuable upon exercise of the Pre-Funded Warrants, the “**Pre-Funded Warrant Shares**”), to be issued pursuant to that certain Underwriting Agreement (the “**Underwriting Agreement**”), dated as of August 3, 2020, between the Company and Lake Street Capital Markets, LLC, as representative of the several underwriters named in Schedule A thereto. The Shares, Pre-Funded Warrants and Pre-Funded Warrant Shares were registered pursuant to the Registration Statement on Form S-3 (File No. 333-229019) filed by the Company with the Securities and Exchange Commission (the “**Commission**”) on December 26, 2018 (the “**Registration Statement**”) under the Securities Act of 1933, as amended (the “**Securities Act**”), declared effective on February 11, 2019, including the prospectus dated February 11, 2019 included therein (the “**Base Prospectus**”), as supplemented by the preliminary prospectus supplement dated August 3, 2020 and the final prospectus supplement dated August 3, 2020, both of which were filed with the Commission pursuant to Rule 424(b) under the Securities Act (together, the “**Prospectus Supplement**” and, collectively with the Base Prospectus, the “**Prospectus**”). The offering of the Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares by the Company pursuant to the Registration Statement, the Prospectus and the Underwriting Agreement is referred to herein as the “**Offering**.”

In connection with our opinion expressed below we have examined originals or copies of the Underwriting Agreement pursuant to which the Shares and Pre-Funded Warrants will be sold to the underwriters, the Pre-Funded Warrants, the Registration Statement, the Company’s certificate of incorporation, as amended (the “**Certificate**”) and the Company’s bylaws, as amended (the “**Bylaws**”), certain minutes and consents of the Company’s board of directors (the “**Board**”) or a committee or committees thereof and the Company’s stockholders relating to the Registration Statement, the Certificate and Bylaws, and such other agreements, documents, certificates and statements of the Company, its transfer agent and public or government officials, as we have deemed advisable, and have examined such questions of law as we have considered necessary. In giving our opinion, we have also relied upon a good standing certificate regarding the Company issued by the Delaware Secretary of State and an opinion certificate addressed to us and dated of even date herewith executed by the Company containing certain factual representations by the Company.

In our examination of documents for purposes of this opinion, we have assumed, and express no opinion as to, the genuineness of all signatures on original documents, the authenticity and completeness of all documents submitted to us as originals, the conformity to originals and completeness of all

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documents submitted to us as copies, the legal capacity of all persons or entities executing the same (other than the Company), the lack of any undisclosed termination, modification, waiver or amendment to any document reviewed by us, the absence of any other extrinsic agreements or documents that might change or affect the interpretation or terms of documents we have reviewed, and the due authorization, execution and delivery of all such documents where due authorization, execution and delivery are prerequisites to the effectiveness thereof.

We render this opinion only with respect to, and express no opinion herein concerning the application or effect of the laws of any jurisdiction other than, the existing Delaware General Corporation Law.

With respect to the Pre-Funded Warrants, we have assumed that, as of each and every time any of the Pre-Funded Warrants are exercised, the Company will have a sufficient number of authorized and unissued shares of the common stock available for issuance under its Restated Certificate to permit full exercise of each of the Pre-Funded Warrants in accordance with their terms without the breach or violation of any other agreement, commitment or obligation of the Company.

In connection with our opinions expressed below, we have assumed that, (i) at or prior to the time of the issuance and delivery of any of the Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares there will not have occurred any change in the law or the facts affecting the validity of the Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares, any change in actions of the Board or the Company's stockholders, or any amendments to the Certificate or Bylaws, and (ii) at the time of the offer, issuance and sale of any Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares no stop order suspending the Registration Statement's effectiveness will have been issued and remain in effect, and that the Registration Statement will not have been modified or rescinded. We also have assumed that the issuance and delivery of the Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares subsequent to the date hereof and the compliance by the Company with the terms of such Shares, Pre-Funded Warrants and Pre-Funded Warrant Shares will not result in a violation of the Certificate or any provision of any instrument or agreement then binding upon the Company or any restriction imposed by any court or governmental body then having jurisdiction over the Company.

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

- (i) the Shares, when issued, sold and delivered in the manner and for the consideration stated in the Registration Statement and the Prospectus and in accordance with the resolutions adopted by the Board and the Pricing Committee of the Board, will be validly issued, fully paid and nonassessable;
- (ii) when the Pre-Funded Warrants are issued, sold and delivered in the manner and for the consideration stated in the Registration Statement, and the Prospectus, such Pre-Funded Warrants will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other laws of general applicability relating to or affecting creditors' rights and to general equity principles; and
- (iii) the Pre-Funded Warrant Shares, when issued and delivered by the Company upon exercise of the Pre-Funded Warrants in accordance with the terms thereof, will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the the Current Report on Form 8-K to be filed by the Company with the Commission in connection with the Offering of the Shares, the Pre-Funded

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Warrants and the Pre-Funded Warrant Shares and further consent to all references to us, if any, in the Registration Statement, the Prospectus constituting a part thereof and any amendments thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

*[Concluding Paragraph and Signature Follows on Next Page]*

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This opinion is intended solely for use in connection with issuance and sale of the Shares, the Pre-Funded Warrants and the Pre-Funded Warrant Shares subject to the Registration Statement and is not to be relied upon for any other purpose. This opinion is rendered as of the date first written above and is based solely on our understanding of facts in existence as of such date after the aforementioned examination. In rendering the opinions above, we are opining only as to the specific legal issues expressly set forth therein, and no opinion shall be inferred as to any other matter or matters. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention whether or not such occurrence would affect or modify any of the opinions expressed herein.

Very truly yours,

/s/ Fenwick & West LLP

**FENWICK & WEST LLP**