

STOCK EXCHANGE AGREEMENT

This **STOCK EXCHANGE AGREEMENT**, is dated as of February 8, 2018 (this “Agreement”), by and between CTI BIOPHARMA CORP., a Delaware corporation (the “Issuer”) and BVF PARTNERS L.P. (the “Holder”).

WHEREAS, the Issuer has outstanding, among other things, shares of Series O Preferred Stock, par value \$0.001 per share (the “Preferred Stock”) with such designations, preferences and rights as set forth in the certificate of designation (the “Certificate of Designation”) attached hereto as Exhibit A;

WHEREAS, the Holder currently owns 8,000,000 shares of common stock, par value \$0.001 per share, of the Issuer (the “Existing Common Stock”);

WHEREAS, the Holder currently owns 575 shares of Series N preferred stock, par value \$0.001 per share, of the Issuer (the “Existing Series N Stock”);

WHEREAS, pursuant to Board approval, the Holder and Issuer each desires for the Holder (i) to exercise its one-time election rights to exchange 6,843,938 shares of the Existing Common Stock for shares of Preferred Stock under the terms of those certain Letter Agreements dated December 9, 2015 and June 9, 2017, respectively, between the Issuer and the Holder (the “Letter Agreements”), and (ii) to exchange an additional 1,156,062 shares of the Existing Common Stock for shares of Preferred Stock (collectively, the “Common Stock Exchange”);

WHEREAS, the Holder and Issuer each desires for the Holder to exchange the Existing Series N Stock for shares of Preferred Stock (the “Preferred Stock Exchange”, and together with the Common Stock Exchange, the “Exchange”); and

WHEREAS, to effect the Exchange, the Holder will surrender the Existing Common Stock and the Existing Series N Stock in exchange for shares of the Preferred Stock in a manner expected to be exempt from registration under United States securities laws pursuant to Section 3(a)(9) of the Securities Act of 1933, as amended (the “Securities Act”).

NOW, THEREFORE, in consideration of the premises and the mutual agreements and covenants hereinafter set forth, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Issuer and the Holder hereby agree as follows:

ARTICLE I EXCHANGE

Section 1.1 Exchange. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, at the Closing (as defined below), (i) the Holder shall transfer to the Issuer the Existing Common Stock as set forth on Schedule I (ii) the Holder shall transfer to the Issuer the Existing Series N Stock as set forth on Schedule I, and (iii) in exchange for the transfer of Existing Common Stock and the Existing Series N Stock by the Holder, the Issuer shall issue to the Holder the Preferred Stock as set forth on Schedule I.

Thereafter, the Holder shall cease to have any further right, title or interest in and to the Existing Common Stock and Existing Series N Stock surrendered for exchange.

Section 1.2 Consideration. In exchange for each share of Existing Common Stock and Existing Series N Stock properly exchanged, the Holder will receive the respective Exchange Consideration as set forth on Schedule I. The amount of Preferred Stock issued to the Holder for all Existing Common Stock and all Existing Series N Stock exchanged by the Issuer will be rounded down, if necessary, to the nearest whole share of Preferred Stock. This rounded amount will be the number of shares of Preferred Stock the Holder will receive, and cash will be paid equal to the value of any shares or fractions of shares of Preferred Stock not received as a result of such rounding down. The Issuer shall issue and deliver to the Holder a certificate representing this rounded down number of shares of Preferred Stock, registered in the name of the Holder, and free and clear of any liens, claims, charges and encumbrances whatsoever and having the rights and privileges as set forth in the Certificate of Designation and other incidents of record and beneficial ownership pertaining thereto.

Section 1.3 Closing. The closing of the Exchange (the “Closing”) shall take place at the offices of O’Melveny & Myers LLP, Two Embarcadero Center, 28th Floor, San Francisco, California 94111 within two (2) business days of the execution and delivery of this Agreement by each of the parties hereto (unless extended), provided that all of the conditions set forth in Article IV have been satisfied or waived, or at such time and place as the parties hereto shall agree.

Section 1.4 Deliverable of the Holder. At the Closing, the Holder will execute and deliver or cause to be executed and delivered to the Issuer: (i) certificates representing the Existing Common Stock to be cancelled in exchange for the Preferred Stock, (ii) certificates representing the Existing Series N Stock to be cancelled in exchange for the Preferred Stock and (ii) such other documents and instruments as the Issuer or its counsel and the Holder shall reasonably and mutually deem necessary to consummate the transactions contemplated by this Agreement.

Section 1.4 Deliverable of the Company. At the Closing, the Issuer will issue the Preferred Stock to the Holder. Such stock certificate will be delivered to the Holder promptly following the Closing.

ARTICLE II REPRESENTATIONS AND WARRANTIES OF THE ISSUER

Section 2.1 The Issuer represents and warrants to, and agrees with, the Holder that:

(a) The Issuer has been duly incorporated and is a validly existing corporation in good standing under the laws of the jurisdiction of its incorporation, with corporate power and authority to execute, deliver and perform the terms of this Agreement and to consummate the Exchange and has taken all necessary corporate action to authorize the execution, delivery and performance of this Agreement.

(b) No consent, approval, authorization, or order of, or filing with, any governmental agency or body or any court is required for the consummation of the transactions contemplated by

the Operative Documents in connection with the Exchange and issuance of the Preferred Stock, except (i) as may be required under the Securities Act, the Securities Exchange Act of 1934, as amended (the “Exchange Act”) or the regulations thereunder, or state securities “Blue Sky” laws in connection with the transactions contemplated hereby, (ii) such as will have been obtained on or prior to the Closing and (iii) for such consents, approvals, authorizations, or orders as to which the failure to obtain or have would not adversely affect the Holder and as to which the failure to obtain or have would not have a material adverse effect. The foregoing representation is made after reasonable consultation with counsel having responsibility for the matters covered thereby. “Operative Documents” means this Agreement, the Letter Agreements and the Certificate of Designation.

(c) This Agreement has been duly and validly executed and delivered by the Issuer and constitutes the legal, valid and binding obligation of the Issuer, enforceable against the Issuer in accordance with its terms.

(d) Neither the execution and delivery by the Issuer of this Agreement, the compliance by the Issuer with the terms and conditions hereof, nor the consummation by the Issuer of the transactions contemplated hereby will (i) violate, result in a breach of, or constitute a default under its constitutional or other governing documents, (ii) violate, result in a breach of, or constitute a default under (with or without notice or lapse of time, or both), in each case in any material respect, any agreement, instrument, judgment, order or decree to which the Issuer is a party or is otherwise bound or give to others any material rights or interests (including rights of purchase, termination, cancellation or acceleration) under any such agreement or instrument or (iii) conflict with or violate in any material respect any applicable laws. The execution, delivery and performance of this Agreement by the Issuer and the consummation of the transactions contemplated hereby do not and will not require any permit of, or filing with or notification to, any Governmental Entity except, as applicable, requirements under the Exchange Act and the rules and regulations promulgated thereunder. “Governmental Entity” means, in any jurisdiction, any (i) federal, state, local, foreign or international government; (ii) court, arbitral or other tribunal; (iii) governmental or quasi-governmental authority of any nature (including any political subdivision, instrumentality, branch, department, official or entity); or (iv) agency, commission, authority or body exercising, or entitled to exercise, any administrative, executive, judicial, legislative, police, regulatory or taxing authority or power of any nature.

(e) The Preferred Stock, when issued and delivered in accordance with the terms and conditions set forth in this Agreement, will be validly issued, fully paid nonassessable and free of restrictions on transfer other than restrictions on transfer provided for herein. Assuming the accuracy of the representations of the Holder made herein, the Preferred Stock will be issued in compliance with all applicable federal and state securities laws. The common stock, par value \$0.001, per share, issuable upon conversion of the Preferred Stock has been duly reserved for issuance, and upon issuance in accordance with the terms of the Certificate of Designation and other governing documents of the Company, will be validly issued, fully paid and nonassessable and free of restrictions on transfer other than restrictions on transfer provided for herein.

(f) Neither the Company nor any of its affiliates nor any person acting on behalf of or for the benefit of any of the foregoing, has paid or given, or agreed to pay or give, directly or indirectly, any commission or other remuneration (within the meaning of Section 3(a)(9) of the Securities Act and the rules and regulations of the Securities and Exchange Commission promulgated thereunder) for soliciting the Exchange. Assuming the representations and warranties of the Holder contained herein are true and complete, the Exchange will qualify for the registration exemption contained in Section 3(a)(9) of the Securities Act.

(g) As of the Closing, the Exchange, the Preferred Stock and the Certificate of Designation have been duly authorized by the Issuer, the Preferred Stock will have been duly issued and registered, as applicable, and will be entitled to the benefits provided in the Certificate of Designation, the Certificate of Designation shall have been filed with and accepted by the Delaware Secretary of State, and the Certificate of Designation and such Preferred Stock will constitute valid and legally binding obligations of the Issuer, enforceable against the Issuer in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and similar laws of general applicability relating to or affecting creditors' rights and to general equity principles.

ARTICLE III REPRESENTATIONS AND WARRANTIES OF THE HOLDER

Section 3.1 The Holder represents and warrants to, and agrees with, the Issuer that:

(a) The Holder has been duly organized and is in good standing under the laws of the jurisdiction of its organization, with company power and authority to execute, deliver and perform the terms of this Agreement and to consummate the Exchange and has taken all necessary company action to authorize the execution, delivery and performance of this Agreement.

(b) No consent, approval, authorization, or order of, or filing with, any governmental agency or body or any court is required for the consummation of the transactions contemplated by the Operative Documents in connection with the Exchange and issuance of the Preferred Stock, except (i) as may be required under the Securities Act, the Exchange Act or the regulations thereunder, state securities "Blue Sky" laws in connection with the transactions contemplated hereby, (ii) such as will have been obtained on or prior to the Closing and (iii) for such consents, approvals, authorizations, or orders as to which the failure to obtain or have would not adversely affect the Issuer and as to which the failure to obtain or have would not have a material adverse effect. The foregoing representation is made after reasonable consultation with counsel having responsibility for the matters covered thereby.

(c) This Agreement has been duly and validly executed and delivered by the Holder and constitutes the legal, valid and binding obligation of the Holder, enforceable against the Holder in accordance with its terms.

(d) Neither the execution and delivery by the Holder of this Agreement, the compliance by the Holder with the terms and conditions hereof, nor the consummation by the Holder of the transactions contemplated hereby will (i) violate, result in a breach of, or constitute a default under its constitutional or other governing documents, (ii) violate, result in a breach of, or constitute a

default under (with or without notice or lapse of time, or both), in each case in any material respect, any agreement, instrument, judgment, order or decree to which the Holder is a party or is otherwise bound or give to others any material rights or interests (including rights of purchase, termination, cancellation or acceleration) under any such agreement or instrument or (iii) conflict with or violate in any material respect any applicable laws. The execution, delivery and performance of this Agreement by the Holder and the consummation of the transactions contemplated hereby do not and will not require any permit of, or filing with or notification to, any Governmental Entity except, as applicable, requirements under the Exchange Act and the rules and regulations promulgated thereunder.

(e) The Holder and/or its affiliates are the lawful owners of record and beneficially of the Existing Common Stock and Existing Series N Stock listed next to its name on Schedule I, and have good and marketable title to the Existing Common Stock and Existing Series N Stock, free and clear of any encumbrances, except for encumbrances created by this Agreement. There are no contracts or other agreements between or among the Holder and any other person that would conflict with, restrict or prohibit the Holder's ability to exchange the Existing Common Stock or the Existing Series N Stock as described herein.

(f) Neither the Holder nor any of its affiliates nor any person acting on behalf of or for the benefit of any of the forgoing, has paid or given, or agreed to pay or give, directly or indirectly, any commission or other remuneration (within the meaning of Section 3(a)(9) of the Securities Act and the rules and regulations of the Securities and Exchange Commission promulgated thereunder) for soliciting the Exchange.

ARTICLE IV CONDITIONS TO CLOSING

Section 4.1 Conditions to the Obligations of the Issuer. The obligations of the Issuer to consummate the transactions contemplated by this Agreement are subject to the satisfaction or waiver, at or before the Closing, of each of the following conditions:

(a) Representations and Warranties. The representations and warranties of the Holder set forth in this Agreement that are qualified as to materiality shall be true and correct in all respects, and those that are not so qualified shall be true and correct in all material respects, on and as of the date hereof and on and as of the Closing as though made on and as of the Closing, other than for such failures to be true and correct, that individually and in the aggregate, would not reasonably be expected to have a material adverse effect on the Holder's ability to perform its obligations under this Agreement.

(b) Performance of Agreements. The Holder shall have performed and complied in all material respects with each agreement and obligation required by this Agreement to be performed or complied with by the Holder on or prior to the Closing.

(c) Closing Deliveries. The Holder shall have made the deliveries required to be made by it under Section 1.1.

Section 4.2 Conditions to the Obligations of the Holder. The obligations of the Holder to consummate the transactions contemplated by this Agreement are subject to the satisfaction or waiver, at or before the Closing, of each of the following conditions:

(a) **Representations and Warranties.** The representations and warranties of the Issuer set forth in this Agreement that are qualified as to materiality shall be true and correct in all respects, and those that are not so qualified shall be true and correct in all material respects, on and as of the date hereof and on and as of the Closing as though made on and as of the Closing, other than for such failures to be true and correct, that individually and in the aggregate, would not reasonably be expected to have a material adverse effect on the Issuer's ability to perform its obligations under this Agreement.

(b) **Performance of Agreements.** The Issuer shall have performed and complied in all material respects with each agreement and obligation required by this Agreement to be performed or complied with by the Issuer on or prior to the Closing.

(c) **Closing Deliveries.** The Issuer shall have made the deliveries or registrations, as applicable, required to be made by it under Section 1.1.

ARTICLE V SURVIVAL

Section 5.1 Survival. All representations and warranties of the Issuer under this Agreement shall not survive the Closing.

ARTICLE VI GENERAL

Section 6.1 Entire Agreement. This Agreement contains all of the agreements, covenants, terms, conditions and representations and warranties agreed upon by the parties relating to the subject matter hereof and supersedes all prior and contemporaneous agreements, negotiations, correspondence, undertakings, representations, warranties and communications of any kind between the parties and their representatives, whether oral or written, respecting such subject matter.

Section 6.2 Successors and Assigns. This Agreement shall be binding upon, inure to the benefit of, and be enforceable by, the parties hereto and their respective legal representatives, successors and assigns; *provided*, that no party may assign, delegate or otherwise transfer any of its rights or obligations under this Agreement without the prior written consent of each other party hereto.

Section 6.3 Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York without regard to principles of conflicts of laws.

Section 6.4 Counterparts; Effectiveness. This Agreement may be executed and delivered (including by electronic or facsimile transmission) in one or more counterparts, and by

the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

Section 6.5 Severability. If a court of competent jurisdiction rules that any provision of this Agreement is invalid, illegal or incapable of being enforced by any rule of law or public policy, the parties agree that this Agreement shall be considered severable and divisible, and a reviewing court shall have the authority to amend or “blue pencil” this Agreement so as to make it fully valid and enforceable.

Section 6.6 Expenses. All fees and expenses incurred in connection with the transactions contemplated hereby shall be the responsibility of the respective party incurring such fees and expenses.

Section 6.7 Notices. All notices and other communications provided for or permitted hereunder shall be in writing and shall be made by (a) United States registered or certified mail (return receipt requested), postage prepaid, in an envelope properly sealed, (b) a facsimile transmission where written acknowledgment of receipt of such transmission is received and a copy of the transmission is mailed with postage prepaid or (c) a nationally recognized overnight delivery service, in each case as follows:

(a) if to the Issuer:

CTI BioPharma Corp.
3101 Western Avenue, Suite 800
Seattle, WA 98121
Attention: Chief Financial Officer

with a copy (which shall not constitute notice) to:

O’Melveny & Myers LLP
Two Embarcadero Center, 28th Floor
San Francisco, California 94111
Attention: C. Brophy Christensen, Jr., Esq.
Eric C. Sibbitt, Esq.

(b) if to the Holder, to the address under the Holder’s name on the signature pages hereto.

with a copy (which shall not constitute notice) to:

Gibson, Dunn & Crutcher LLP
555 Mission Street, Suite 3000
San Francisco, California 94105
Attention: Ryan A. Murr, Esq.

Section 6.8 Remedies; Limitations.

(a) The parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that, in addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, the Issuer, on the one hand, and the Holder, on the other hand, will be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement. The parties agree to waive in any action for specific performance of any such obligation (other than in connection with any action for a temporary restraining order) the defense that a remedy at law would be adequate.

(b) The sole and exclusive remedy for breaches of representations and warranties set forth herein shall be the respective right to refuse to consummate one or more transactions contemplated herein, as applicable, in accordance with and subject to the conditions precedent set forth herein.

(c) Notwithstanding anything to the contrary herein, in any action, suit, claim or other proceeding hereunder or otherwise in connection with the transactions contemplated hereby, whether pursuant to claims under contract, tort, indemnification or any other theory, no party shall seek or be entitled to, and each party hereby knowingly and expressly disclaims the right to assert or receive, damages other than direct damages. In furtherance of the foregoing, the parties expressly disclaim, and shall not be entitled to recover, any indirect, incidental, special, exemplary, punitive or consequential damages or any damages measured by or based on diminution of value, lost profits, a multiple of earnings and/or future value of the Preferred Stock.

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IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

CTI BIOPHARMA CORP.

By: /s/ David Kirske
Name: David Kirske
Title: Chief Financial Officer

BVF PARTNERS L.P.

By Mark Lampert, President of BVF Inc, General Partner of
BVF Partners LP, General Partner Biotechnology Value Fund,
LP Biotechnology Value Fund II, LP
By Mark Lampert, President of BVF Inc, General Partner of
BVF Partners LP, Sole Member BVF Partners OS Ltd, General
Partner Biotechnology Value Trading Fund OS, LP
By Mark Lampert, President of BVF Inc, General Partner of
BVF Partners LP, Attorney-in-Fact Investment 10, LLC MSI
BVF SPV LLC The Trustees of the University of Pennsylvania

By: /s/ Mark Lampert
Name: Mark Lampert

SCHEDULE I

Holder	Amount of Shares to be Exchanged	Type of Shares to be Exchanged	Exchange Consideration (per share of Existing Common Stock Exchanged)	Amount of Preferred Stock to be Issued (Rounded down to nearest whole Preferred Stock)
BVF Partners L.P.	8,000,000	Existing Common Stock	666.67	12,000
BVF Partners L.P.	575	Existing Series N Stock	1	575