

ACHILLION PHARMACEUTICALS INC

Form SC 13D

August 30, 2010

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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

SCHEDULE 13D  
(Rule 13d-101)

UNDER THE SECURITIES EXCHANGE ACT OF 1934  
(Amendment No. )1

Achillion Pharmaceuticals, Inc.  
(Name of Issuer)

Common Stock, \$.001 par value

(Title of Class of Securities)

00448Q201  
(CUSIP Number)

Domain Associates, L.L.C.  
One Palmer Square  
Princeton, NJ 08542  
Attn: Kathleen K. Schoemaker  
Tel: (609) 683-5656

Ropes & Gray LLP  
1211 Avenue of the Americas  
New York, NY 10036  
Attn: John C. MacMurray, Esq.  
Tel: (212) 596-9000

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

August 20, 2010  
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box.

Note. Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

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1 The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).



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1. NAME OF REPORTING PERSONS  
S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (voluntary) Domain Partners VIII, L.P.
  
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP\*  
(a)x  
(b)o
  
3. SEC USE ONLY
  
4. SOURCE OF FUNDS WC
  
5. CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) o
  
6. CITIZENSHIP OR PLACE OF ORGANIZATION Delaware
  

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER	10,763,507
	8.	SHARED VOTING POWER	0
	9.	SOLE DISPOSITIVE POWER	10,763,507
	10.	SHARED DISPOSITIVE POWER	0

  
11. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 10,763,507
  
12. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES
  
13. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 17.6%
  
14. TYPE OF REPORTING PERSON PN



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|-----|--|--------------------------|
| 1.  | NAME OF REPORTING PERSONS<br>S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (voluntary)  | DP VIII Associates, L.P. |
| 2.  | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*<br><br>(a)x<br>(b)o                        |                          |
| 3.  | SEC USE ONLY   |                          |
| 4.  | SOURCE OF FUNDS  | WC                       |
| 5.  | CHECK BOX IF DISCLOSURE OF LEGAL<br>PROCEEDINGS<br>IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) | o                        |
| 6.  | CITIZENSHIP OR PLACE OF ORGANIZATION   | Delaware                 |
| 7.  | SOLE VOTING POWER  | 79,867                   |
| 8.  | SHARED VOTING POWER  | 0                        |
| 9.  | SOLE DISPOSITIVE POWER   | 79,867                   |
| 10. | SHARED DISPOSITIVE POWER   | 0                        |
| 11. | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON                                 | 79,867                   |
| 12. | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11)<br>EXCLUDES CERTAIN SHARES                     |                          |
| 13. | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)   | 0.14%                    |
| 14. | TYPE OF REPORTING PERSON   | PN                       |



SCHEDULE 13D

Item 1. Security and Issuer.

This statement on Schedule 13D relates to the Common Stock, \$.001 par value per share (the "Common Stock"), of Achillion Pharmaceuticals, Inc. (the "Issuer"). The Issuer's principal executive office is located at 300 George Street, New Haven, CT 06511.

Item 2. Identity and Background.

(a) This Schedule 13D is being filed on behalf of each of the following persons pursuant to Rule 13d-1(k) of Regulation D-G under the Securities Exchange Act of 1934, as amended (the "Exchange Act"): Domain Partners VIII, L.P., a Delaware limited partnership ("DP VIII"), and DP VIII Associates, L.P., a Delaware limited partnership ("DP VIII A") (each, a Reporting Person and together, the "Reporting Persons"). The Reporting Persons are making this single, joint filing because they may be deemed to constitute a "group" within the meaning of Section 13(d)(3) of the Exchange Act. The agreement among the Reporting Persons to file as a group (the "Joint Filing Agreement") is attached hereto as Exhibit A.

(b)-(c) The principal business of each of DP VIII and DP VIII A is that of a private investment partnership. The sole general partner of DP VIII and DP VIII A is One Palmer Square Associates VIII, L.L.C., a Delaware limited liability company ("OPSA VIII"). The principal business of OPSA VIII is that of acting as the general partner of DP VIII and DP VIII A. James C. Blair, Brian H. Dovey, Jesse I. Treu, Kathleen K. Schoemaker, Brian K. Halak and Nicole Vitullo are the managing members of OPSA VIII.

The principal address of each of the entities and individuals named in this Item 2 is c/o Domain Associates, L.L.C., One Palmer Square, Princeton, New Jersey 08542.

(d)-(e) During the last five years, none of the Reporting Persons or individuals named in this Item 2 has (i) has been convicted in any criminal proceeding (excluding traffic violations or similar misdemeanors); or (ii) been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction resulting in his or her being subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Each of the individuals named in this Item 2 is a citizen of the United States.

Item 3. Source and Amount of Funds or Other Consideration.

On August 20, 2010, pursuant to a Securities Purchase Agreement entered into by the Issuer on August 18, 2010 with selected institutional and accredited investors (the "Investors"), including the Reporting Persons (the "Purchase Agreement"), the Reporting Persons purchased an aggregate of 8,032,129 shares (the "Shares") of Common Stock at a price of \$2.49 per share, the consolidated closing bid price reported by NASDAQ on August 17, 2010, as well as warrants to purchase 0.35 shares of Common Stock for each Share (the "Warrants") at a price of \$0.125 per share of Common Stock underlying each Warrant. The Warrants, which represent the right to acquire an aggregate of 2,811,245 shares of Common Stock, have a seven-year term from the date of issuance and are exercisable at an exercise price of \$3.1125 per share for cash or by net exercise. The Purchase Agreement is attached hereto as Exhibit B, and the Form of Warrant is attached hereto as Exhibit B to the Purchase Agreement, and any descriptions thereof



are qualified in their entirety by reference thereto. The source of funds for such purchases was the working capital of DP VIII and DP VIII A, respectively.

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Item 4. Purpose of Transaction.

DP VIII and DP VIII A have acquired securities of the Issuer for investment purposes. Under the Purchase Agreement, the Issuer agreed to take any and all actions as may be required to nominate Nicole Vitullo to be elected to the Board of Directors by September 30, 2010 or, if a vacancy should occur on the Issuer's Board of Directors before that time, to elect Ms. Vitullo to fill that vacancy.

Except as otherwise described in this statement, the Reporting Persons do not have any present plans or proposals that relate to or would result in: (i) the acquisition by any person of additional securities of the Issuer, or the disposition of securities of the Issuer; (ii) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (iii) a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries; (iv) any change in the present board of directors or management of the Issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board; (v) any material change in the present capitalization or dividend policy of the Issuer; (vi) any other material change in the Issuer's business or corporate structure; (vii) changes in the Issuer's charter, by-laws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any person; (viii) causing a class of securities of the Issuer to be de-listed from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (ix) a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Exchange Act; or (x) any action similar to any of those enumerated above.

Item 5. Interest in Securities of the Issuer.

The information below is based on a total of 58,323,428 shares of Common Stock outstanding after the completion of the transactions described in Item 3 above, and gives effect to the exercise of all Warrants held by the Reporting Persons.

(a) DP VIII directly beneficially owns 10,763,507 shares of Common Stock, or approximately 17.6% of the Common Stock outstanding. DP VIII A directly beneficially owns 79,867 shares of Common Stock, or approximately 0.14% of the Common Stock outstanding. OPSA VIII, as the general partner of DP VIII and DP VIII A, may be deemed to indirectly beneficially own the securities owned by DP VIII and DP VIII A.

(b) The managing members of OPSA VIII may be deemed to share the power to vote or direct the voting of and to dispose or direct the disposition of the securities of the Issuer that are beneficially owned by DP VIII and DP VIII A. Each of the managing members of OPSA VIII disclaims beneficial ownership of all securities other than those he or she owns directly, if any, or by virtue of his or her indirect pro rata interest, as a managing member of OPSA VIII, in the securities owned by DP VIII and/or DP VIII A.

(c) Except as described in this statement, none of the Reporting Persons has effected any transactions in the Common Stock in the 60 days prior to the date of this statement.

(d) Except as described in this statement, no person has the power to direct the receipt of dividends on or the proceeds of sales of, the shares of Common Stock owned by the Reporting Persons.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

In connection with the Purchase Agreement, the Issuer entered into a Registration Rights Agreement with the Investors (the "Registration Rights Agreement"). Pursuant to the Registration Rights Agreement, the Issuer agreed to file a registration statement (the "Mandatory Registration Statement") with the Securities and Exchange Commission (the "Commission") by September 17, 2010 to register the resale of the Shares and the shares of common stock underlying the Warrants (collectively the "Registrable Securities"). The Issuer also agreed to use its best efforts to have the Mandatory Registration Statement declared effective as promptly as possible after the filing thereof, but in any event prior to November 18, 2010, or December 17, 2010 if the Commission determines to review the Mandatory Registration Statement. The Issuer has granted the Investors customary indemnification rights in connection with the registration statement, and the Investors have also granted the Issuer customary indemnification rights in connection with the registration statement. The Registration Rights Agreement is attached hereto as Exhibit C to the Purchase Agreement, and any description thereof is qualified in its entirety by reference thereto.

Item 7. Material to be Filed as Exhibits.

Exhibit A -- Joint Filing Agreement (appears at page 8 of this Statement)

Exhibit B -- Purchase Agreement

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SIGNATURES

After reasonable inquiry and to the best of their knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Dated: August 30, 2010

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII,  
L.L.C., General Partner

By: /s/ Kathleen K. Schoemaker  
Managing Member

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII,  
L.L.C., General Partner

By: /s/ Kathleen K. Schoemaker  
Managing Member

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AGREEMENT REGARDING THE JOINT FILING OF  
SCHEDULE 13D

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The undersigned hereby agree that the statement on Schedule 13D to which this Agreement is annexed as Exhibit A is filed on behalf of each of them in accordance with the provisions of Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended.

Dated: August 30, 2010

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, L.L.C.,  
General Partner

By: /s/ Kathleen K. Schoemaker  
Managing Member

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, L.L.C.,  
General Partner

By: /s/ Kathleen K. Schoemaker  
Managing Member

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SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of August 18, 2010 by and among Achillion Pharmaceuticals, Inc., a Delaware corporation (the “Company”), and the several purchasers identified in the attached Exhibit A (each a “Purchaser” and, collectively, the “Purchasers”).

WHEREAS, the Company desires to issue and sell to the Purchasers an aggregate of (i) 19,775,101 shares (the “Shares”) of the authorized but unissued shares of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) and (ii) warrants in the form attached hereto as Exhibit B to purchase an aggregate of 6,291,285 shares of Common Stock (each, a “Common Warrant” and collectively, the “Common Warrants”); and

WHEREAS, the Purchasers, severally and not jointly, wish to purchase the Shares and the Common Warrants on the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Purchasers agree as follows:

ARTICLE I

DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement, the following terms have the meanings indicated in this Section 1.1:

“Action” shall have the meaning ascribed to such term in Section 3.1(j).

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 144 under the Securities Act. With respect to a Purchaser, any investment fund or managed account that is managed on a discretionary basis by the same investment manager as such Purchaser will be deemed to be an Affiliate of such Purchaser.

“Board of Directors” means the Company’s board of directors, as constituted from time to time.

“Closing” means the closing of the purchase and sale of the Closing Securities pursuant to Section 2.1.

“Closing Date” means the Trading Day when all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers’ obligations to pay the Subscription Amount and (ii) the Company’s obligations to deliver the Closing Securities have been satisfied or waived.

“Closing Securities” means the Shares and the Common Warrants.

“Commission” means the Securities and Exchange Commission.

“Common Stock” shall have the meaning ascribed to such term in the recitals to this Agreement.

“Common Stock Equivalents” means any securities of the Company that would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants 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.

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“Common Warrants” shall have the meaning ascribed to such term in the recitals to this Agreement.

“Common Warrant Shares” means the shares of Common Stock issuable upon exercise of the Common Warrants.

“Company Counsel” means Wilmer Cutler Pickering Hale & Dorr LLP.

“Company Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3.1(p).

“Disclosure Schedules” shall have the meaning ascribed to such term in Section 3.1.

“Effective Date” means the date that a Registration Statement filed by the Company pursuant to the Registration Rights Agreement is first declared effective by the Commission.

“Environmental Laws” shall have the meaning ascribed to such term in Section 3.1(ii).

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

“FDA” shall have the meaning ascribed to such term in Section 3.1(n)(i).

“GAAP” shall have the meaning ascribed to such term in Section 3.1(h).

“Knowledge” means, with respect to any Person, what such Person actually knows or reasonably should know, and, in the case of a corporation or other entity, what its executive officers and directors actually know or reasonably should know.

“Liens” means a lien, charge, with respect to any asset, any mortgage, lien, pledge, charge, security interest, or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law (including conditional sale or other retention agreement, any lease in the nature thereof, any option or other agreement to sell or give a security interest in and any filing of or agreement to give any financing statement under the Uniform Commercial Code (or equivalent statutes) of any jurisdiction).

“Legend Removal Date” shall have the meaning ascribed to such term in Section 4.1(c).

“Majority Purchasers” means (i) prior to the Closing, Purchasers that agreed to purchase an aggregate of greater than fifty percent (50%) of the Shares to be issued and sold pursuant to this Agreement and (ii) following the Closing, Purchasers which, at any given time, hold greater than fifty percent (50%) of the outstanding Shares issued and sold pursuant to this Agreement that have not been resold pursuant to an effective Registration Statement or Rule 144.

“Material Adverse Effect” shall have the meaning ascribed to such term in Section 3.1(b).

“Non Disclosure Agreements” means the non-disclosure agreements entered into by the Company with the Purchasers in connection with the transactions contemplated by this Agreement.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or sub-division thereof) or other entity of any kind.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.7.





“Registration Rights Agreement” means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchasers, in the form of Exhibit C attached hereto.

“Registration Statement” means a registration statement meeting the requirements set forth in Section 2(a) of the Registration Rights Agreement, including without limitation, covering the resale of the Shares and/or the Underlying Shares, as applicable, by the Purchasers as provided for in the Registration Rights Agreement.

“Required Approvals” shall have the meaning ascribed to such term in Section 3.1(e).

“Required Minimum” means, as of any date, the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including any Underlying Shares issuable upon exercise in full of all Common Warrants, ignoring any exercise limits set forth therein.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

“SEC Reports” shall have the meaning ascribed to such term in Section 3.1(h).

“Securities” means the Shares, the Common Warrants and the Common Warrant Shares.

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

“Shares” shall have the meaning ascribed to such term in the recitals to this Agreement.

“Short Sales” shall include all “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act (but shall not be deemed to include the location and/or reservation of borrowable shares of Common Stock).

“Subscription Amount” means, as to a Purchaser, the aggregate amount to be paid for the Closing Securities purchased hereunder as specified opposite such Purchaser’s name on Exhibit A attached hereto, under the column entitled “Aggregate Purchase Price of Closing Securities,” in United States Dollars and in immediately available funds.

“Trading Affiliate” shall have the meaning ascribed to such term in Section 3.2(f).

“Trading Day” means a day on which the Common Stock is traded on a Trading Market.

“Trading Market” means the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the Nasdaq Capital Market, the Nasdaq Global Market or the New York Stock Exchange.

“Transaction Documents” means this Agreement, the Common Warrants and the Registration Rights Agreement.

“Underlying Shares” means the Common Warrant Shares.

## ARTICLE II

### PURCHASE AND SALE

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, the Company will issue and sell, and the Purchasers will purchase, severally and not jointly, (i) the number of Shares set forth opposite the name of such Purchaser under the heading “Number of Shares to be Purchased” on Exhibit A attached hereto at a

price per Share equal to \$2.49 and (ii) Common Warrants to purchase 0.35 of a share of Common Stock for every one Share purchased at Closing at a price per Common Warrant equal to \$0.125. Each Purchaser shall deliver to the Company via wire transfer of immediately available funds pursuant to wire instructions sent by the Company to each Purchaser on or prior to the Closing Date, an amount equal to the Subscription Amount. The Closing shall take place as soon as practicable upon satisfaction or waiver of the conditions set forth in Section 2.3, but in any event no later than 5:00 pm (Eastern Time) on August 27, 2010, remotely via exchange of documents and signatures.

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## 2.2 Deliveries.

(a) On the Closing Date, the Company shall deliver or cause to be delivered to each Purchaser the following:

(i) Shares registered in the names of the Purchaser, in an amount equal to number of Shares set forth opposite the name of such Purchaser under the heading "Number of Shares to be Purchased" on Exhibit A attached hereto; and

(ii) a Common Warrant, substantially in the form of Exhibit B attached hereto, registered in the name of such Purchaser, to purchase up to the number of Common Warrant Shares set forth opposite the name of such Purchaser under the heading "Number of Common Warrant Shares Underlying Common Warrants Purchased" on Exhibit A attached hereto.

(b) On the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company the Subscription Amount via wire transfer of immediately available funds pursuant to the wire instructions delivered to such Purchaser by the Company on or prior to the Closing Date.

## 2.3 Closing Conditions.

(a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met, any or all of which may be waived by the Company in writing:

(i) the accuracy in all material respects on the Closing Date of the representations and warranties of the Purchasers contained herein;

(ii) all obligations, covenants and agreements of the Purchasers required to be performed at or prior to the Closing Date shall have been performed; and

(iii) the delivery by the Purchasers of the Registration Rights Agreement duly executed by such Purchaser.

(b) The obligations of each Purchaser hereunder in connection with the Closing are subject to the following conditions being met, any or all of which may be waived by the Majority Purchasers in writing:

(i) the accuracy in all material respects on the Closing Date of the representations and warranties of the Company contained herein;

(ii) all obligations, covenants and agreements of the Company required to be performed at or prior to the Closing Date shall have been performed;

(iii) the delivery by the Company to such Purchaser of the following items:

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- (A) a legal opinion of Company Counsel, substantially in the form of Exhibit D attached hereto;
- (B) a certificate, dated the Closing Date, duly executed by an officer of the Company to the effect that the conditions specified in Sections 2.3(b)(i) and 2.3(b)(ii) have been satisfied; and
- (C) the Registration Rights Agreement duly executed by the Company;
- (iv) the entry into Amendment No. 1 to the Third Amended and Restated Investor Rights Agreement, dated as of August 11, 2008, by and among the Company and the Holders (as defined therein);
- (v) there shall have been no Material Adverse Effect with respect to the Company since the date hereof;
- (vi) from the date hereof to the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Company's principal Trading Market and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg Financial Markets shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities, nor shall there have occurred any material adverse change in the financial markets which, in each case, makes it impracticable or inadvisable to purchase the Closing Securities at the Closing; and
- (vii) there shall have been no change in facts or circumstances that could reasonably lead to the discontinuation of further development of, or failure of the Company to be able to market, the Company's ACH-1625 program from the date hereof to the Closing Date.

### ARTICLE III

#### REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth under the corresponding section of the disclosure schedules delivered to each Purchaser concurrently herewith (the "Disclosure Schedules"), which Disclosure Schedules shall be deemed a part hereof, and except as otherwise described in the SEC Reports, which qualify the following representations and warranties in their entirety, the Company hereby makes the representations and warranties set forth below to each Purchaser.

(a) Subsidiaries. The Company does not own or control, directly or indirectly, any interest in any other Person. The Company is not a participant in any joint venture, partnership or similar arrangement.

(b) Organization and Qualification. Except as described in Schedule 3.1(b), the Company is a corporation duly incorporated, validly existing and in good standing under the laws of the State of Delaware, with the requisite corporate power and authority to own and use its properties and assets and to carry on its business as currently conducted. The Company is not in violation or default of any of the provisions of its certificate of incorporation, bylaws or other organizational or charter documents. The Company 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, could not have or reasonably be expected to result in (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, condition (financial or otherwise) or prospects of the Company 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 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.

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(c) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by each of the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of each of the Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary corporate action on the part of the Company and no further action is required by the Company, its board of directors or its stockholders in connection therewith other than in connection with the Required Approvals. Each Transaction Document has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally and (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies.

(d) No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the other transactions contemplated hereby and thereby do not and will not: (i) conflict with or violate any provision of the Company's certificate of incorporation, bylaws or other organizational or charter documents, or (ii) subject to the Required Approvals and assuming the accuracy of the representations and warranties in Section 3.2, 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 is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company is bound or affected, or (iii) 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 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 debt or otherwise) or other agreement or understanding to which the Company is a party or by which any property or asset of the Company is bound or affected; except in the case of clauses (ii) and (iii), such as could not have a Material Adverse Effect.

(e) 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) filings required pursuant to Section 4.5, (ii) the filing with the Commission of any Registration Statements and any other filings required pursuant to the Registration Rights Agreement, (iii) the notice and/or application(s) to each applicable Trading Market for the issuance and sale of the Closing Securities and the listing of the Shares and the Underlying Shares for trading thereon in the time and manner required thereby and (iv) the filing of a Form D with the Commission and such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities. The Closing Securities have been duly authorized for issuance and sale to the Purchasers pursuant to this Agreement and, when issued and delivered by the Company against payment therefor in accordance with the terms of this Agreement, will be duly and validly issued and fully paid and nonassessable, and will be sold free and clear of all Liens. The Common Warrant Shares have been duly and validly authorized and reserved for issuance and, upon exercise of the Common Warrants in accordance with their terms, including the payment of any exercise price therefor, will be validly issued, fully paid and nonassessable and will be sold free and clear of any Liens. The Company has reserved from its duly authorized capital stock a number of shares of Common Stock for issuance of the Shares and the Underlying Shares at least equal to the Required Minimum on the date hereof. The Company has not, and to the knowledge of the Company, no Affiliate of the Company has sold, offered for sale or solicited offers to buy or otherwise negotiated in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of any of the Securities in a manner that would require the registration under the Securities Act of the sale of any of the Securities to the Purchasers, or that would be integrated with the offer or sale of any of the Securities for purposes of the rules and regulations of any Trading

Market.

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(g) Capitalization. Schedule 3.1(g) sets forth the number of authorized and outstanding shares of the Company's capital stock and outstanding Common Stock Equivalents. The Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the exercise of employee stock options under the Company's stock option plans, the issuance of shares of Common Stock to employees pursuant to the Company's employee stock purchase plan and pursuant to the conversion or exercise of Common Stock Equivalents outstanding as of the date of the most recently filed periodic report under the Exchange Act. No 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, there are no outstanding options, warrants, script 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 contracts, commitments, understandings or arrangements by which the Company is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents. The issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under such securities. All of the outstanding shares of capital stock of the Company are validly issued, fully paid and nonassessable, have been issued in compliance 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.

(h) SEC Reports; Financial Statements. The Company has complied with requirements to file all reports, schedules, forms, statements and other documents required to be filed by it 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 to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, 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 and the rules and regulations of the Commission promulgated thereunder, 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 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 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 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 Company has not provided to the Purchasers any material non-public information or other information which, according to applicable law, rule or regulation, was required to have been disclosed publicly by the Company but which has not been so disclosed, other than with respect to the transactions contemplated by this Agreement and which is covered by the Non-Disclosure Agreements.

(i) Material Changes. Since the date of the latest audited financial statements included within the SEC Reports (i) there has been no event, occurrence or development that could have a Material Adverse Effect, (ii) the Company has not incurred any 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 required to be disclosed in filings made with the Commission, (iii) the Company has not materially 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 stock option plans. Except for the issuance of the Securities contemplated by this Agreement, no event, liability or development has occurred or exists with respect to the Company or its business, properties, operations or financial condition, that would be required to be disclosed by the Company under applicable federal securities laws at the time this representation is made that has not been publicly disclosed.

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(j) Litigation. There is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against the Company or any of its properties or intellectual property rights 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) could reasonably be expected to have a Material Adverse Effect. Neither the Company nor any director or executive 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 executive officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any outstanding registration statement filed by the Company under the Exchange Act or the Securities Act.

(k) Employee Benefit Plans; Employee Matters. The consummation of the transactions contemplated by this Agreement will not (i) entitle any current or former employee or other service provider of the Company to severance benefits or any other payment, compensation or benefit (including forgiveness of indebtedness), except as expressly provided by this Agreement, or (ii) accelerate the time of payment or vesting, or increase the amount of compensation or benefit due any such employee or service provider, alone or in conjunction with any other possible event (including termination of employment). Except as set forth on Schedule 3.1(k), the Company does not have any employment agreements, or any other similar agreements that contain any severance or termination pay liabilities or obligations, that are not filed as exhibits to the SEC Documents and that have annual cash compensation in excess of \$100,000 or that have potential severance or termination liabilities in excess of \$50,000 per person. The Company is in compliance in all material respects with all U.S. federal, state, local and foreign laws and regulations respecting employment, discrimination in employment, terms and conditions of employment, wages, hours and occupational safety and health and employment practices, and is not engaged in any unfair labor practice. To the Company's knowledge, no employees of the Company are in violation of any term of any material employment contract, patent disclosure agreement, noncompetition agreement, or any restrictive covenant to a former employer relating to the right of any such employee to be employed by the Company because of the nature of the business conducted or presently proposed to be conducted by the Company or to the use of trade secrets or proprietary information of others. No key employee of the Company has given written notice to the Company, and the Company is not otherwise aware, that any such key employee intends to terminate his or her employment with the Company.

(l) Labor Relations. No material labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company which could reasonably be expected to result in a Material Adverse Effect. None of the Company's employees is a member of a union that relates to such employee's relationship with the Company, and the Company is not a party to a collective bargaining agreement. No executive officer or key employee is, or, to the knowledge of the Company, is expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information and inventions agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant, and the continued employment of such executive officer or key employee does not subject the Company to any liability with respect to any of the foregoing matters.

(m) Compliance. The Company (i) is not in violation of any order of any court, arbitrator or governmental body, (ii) is not or has not been in violation of any statute, rule or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws applicable to its business, employees, wages and all such laws that affect the environment, or (iii) is not in default under or in violation of (and no event has occurred that, with notice or lapse of time or both, would result in a default by the Company under), nor has the Company 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); except in the case of clauses (ii) and (iii), such as could not reasonably be expected to have a Material Adverse Effect.

(n) Regulatory Compliance

(i) The Company possesses all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct its business as described in the SEC Reports, including without limitation, and as applicable, all such certificates, authorizations and permits required by the United States Food and Drug Administration (the “FDA”) or any other federal, state or foreign agencies or bodies engaged in the regulation of pharmaceuticals or biohazardous materials, except where the failure to possess could not reasonably be expected to have a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(ii) The Company has not received any written notices or statements from the FDA or any other governmental agency that (i) any new drug application or marketing authorization application for any product or potential product of the Company is or has been rejected or determined to be non-approvable in a final determination by any such regulatory authority; (ii) any license, approval, permit or authorization to conduct any clinical trial of or market any product or potential product of the Company has been, will be or may be suspended, revoked, modified or limited.

(iii) To the Company’s knowledge, and to the extent submitted by the Company in an application to support regulatory approval, the preclinical and clinical testing, application for marketing approval of, manufacture, distribution, promotion and sale of the products and potential products of the Company is in compliance, in all material respects, with all laws, rules and regulations applicable to such activities, including without limitation applicable good laboratory practices, good clinical practices and good manufacturing practices. The descriptions of the results of such tests and trials contained in the SEC Reports are accurate in all material respects. The Company has not received any written notice of adverse finding, warning letter or clinical hold notice from the FDA or any non-U.S. counterpart of any of the foregoing, or any untitled letter or other correspondence or notice from the FDA or any other governmental authority or agency or any institutional or ethical review board alleging or asserting noncompliance with any law, rule or regulation applicable in any jurisdiction. The Company has not, either voluntarily or involuntarily, initiated, conducted or issued, or caused to be initiated, conducted or issued, any recall, field correction, market withdrawal or replacement, safety alert, warning, “dear doctor” letter, or other notice or action relating to an alleged or potential lack of safety or efficacy of any product or potential product of the Company, any alleged product defect of any product or potential product of the Company, or any violation of any material applicable law, rule, regulation or any clinical trial or marketing license, approval, permit or authorization for any product or potential product of the Company, and the Company has no knowledge of any facts that would reasonably cause it to initiate any such notice or action and has no knowledge or reason to believe that the FDA or any other governmental agency or authority or any institutional or ethical review board or other non-governmental authority intends to impose, require, request or suggest such notice or action.

(o) Title to Assets. The Company has good and marketable title in fee simple to all real property owned by it and good and marketable title in all personal property owned by it, in each case free and clear of all Liens, except as disclosed on Schedule 3.1(o). Any real property and facilities held under lease by the Company are held by it under valid, subsisting and enforceable leases of which the Company is in compliance.

(p) Intellectual Property. The Company solely owns, or has sufficient rights to use and otherwise exercise, exploit and license all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses, domain names, and similar rights necessary or material for use in connection with its business, as currently conducted (collectively, the “Company Intellectual Property Rights”). There are no outstanding options, licenses, agreements, claims, encumbrances or shared ownership of interests of any kind relating to material Company Intellectual Property Rights, nor is the Company bound by or a party to any material options, licenses or agreements of any kind with respect to the patents, trademarks, service marks, trade names, domain names, copyrights, trade secrets, licenses, information, proprietary rights and/or processes of any other person or entity. The Company has not received notice that the Intellectual Property Rights used by the Company violates or infringes upon

the rights of any Person, and Company does not have any reason to believe any such notice may be forthcoming. To the Company's knowledge, all such Company Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Company Intellectual Property Rights. The Company has taken reasonable security measures to protect the secrecy, confidentiality and value of all of its intellectual properties. Each present and former employee and officer of the Company has executed a proprietary information and inventions agreement, and each consultant to the Company has executed a consulting agreement. The Company is not aware that any of its present and former employees, officers or consultants are in violation thereof, and the Company will use its commercially reasonable efforts to prevent any such violation. All persons who have had access to Company trade secrets or confidential information have signed a customary non-disclosure and non-use agreement.

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(q) Insurance. The Company is insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the business in which the Company is engaged, including, but not limited to, directors and officers insurance coverage. The Company has no 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.

(r) Transactions With Affiliates and Employees. None of the executive officers or directors of the Company and, to the knowledge of the Company, none of the employees of the Company is presently a party to any transaction with the Company (other than for services as employees, executive 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, or otherwise requiring payments to or from any executive officer, director or such employee or any entity in which any executive officer, director, or any such employee has a substantial interest or is an executive officer, director, trustee or partner other than (i) for payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) for other employee benefits, including stock option agreements under any stock option plan of the Company.

(s) Sarbanes-Oxley. The Company is in compliance in all material respects with all provisions of the Sarbanes-Oxley Act of 2002 (“Sarbanes-Oxley”) and all applicable rules and regulations promulgated by the Commission thereunder, which are applicable to it as of the Closing Date. The Company maintains a system of internal controls, including, but not limited to, disclosure controls and procedures, internal controls over accounting matters and financial reporting (collectively, “Internal Controls”) that comply with the Securities Act, the Exchange Act, Sarbanes-Oxley, and the rules and regulations of the Nasdaq Global Market. The Internal Controls are overseen by the Audit Committee of the Board of Directors in accordance with the rules and regulations of the Nasdaq Global Market. The Company has not publicly disclosed or reported to the Audit Committee or the Board of Directors, a significant deficiency, material weakness, change in Internal Controls, any violation of, or failure to comply with, applicable securities laws, or any matter which, if determined adversely, would reasonably be expected to have a Material Adverse Effect.

(t) Certain Fees. No brokerage or finder’s fees or commissions are or will be payable by the Company 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. None of the Purchasers shall have any obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by the Transaction Documents.

(u) Private Placement. Assuming the accuracy of the Purchasers’ representations and warranties set forth in Section 3.2, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchasers as contemplated hereby. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Trading Market.

(v) 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. The Company shall conduct its business in a manner so that it will not become subject to the Investment Company Act.

(w) Registration Rights. Other than the Purchasers, no Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company. The granting and performance of the registration rights under the Transaction Documents will not violate or conflict with, or result in a breach of any provision of, or constitute a default under, any agreement, indenture or instrument to which the Company is a party.

(x) Listing and Maintenance Requirements. The Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. 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.

(y) Disclosure. The Company understands and confirms that the Purchasers are relying on the representations and covenants in this Section 3.1 in effecting transactions in the Securities. All disclosure provided to such Purchaser regarding the Company, its business and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, furnished by or on behalf of the Company with respect to the representations and warranties made herein are true and correct with respect to such representations and warranties and do not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in the Transaction Documents.

(z) Tax Status. The Company has filed all necessary federal, state and foreign income and franchise tax returns and has paid or accrued all taxes owed thereunder, and the Company has no knowledge of a tax deficiency or other tax liability which has been asserted or threatened against the Company or upon any of its properties or assets. The Company has complied with all applicable legal requirements relating to the payment and withholding of taxes and, within the time and in the manner prescribed by law, has withheld from wages, fees and other payments and paid over to the proper governmental or regulatory authorities all amounts required.

(aa) No General Solicitation. Neither the Company nor any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising. The Company has offered the Securities for sale only to the Purchasers.

(bb) Foreign Corrupt Practices. Neither the Company, nor to the knowledge of the Company, any agent or other person acting on behalf of the Company, 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 direct or indirect 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 made by any person acting on its behalf of which the Company is aware) which is in violation of law, (iv) violated, or is in violation of, in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended, or (v) made or received any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment to or from any domestic or foreign government official or employee.

(cc) Acknowledgment Regarding Purchasers' Purchase of Securities. The Company acknowledges and agrees that each of the Purchasers is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby. The Company further acknowledges that none of the Purchasers is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to this Agreement and the transactions contemplated hereby and any advice given by any Purchaser or any of their respective representatives or agents in connection with this Agreement and the transactions contemplated hereby is merely incidental to such Purchaser's purchase of the Securities.





(dd) Acknowledgement Regarding Purchasers' Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Section 4.9 hereof), it is understood and agreed by the Company (i) that such Purchaser has not been asked to agree, nor has such Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term; (ii) that past or future open market or other transactions by such Purchaser, including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities; (iii) that such Purchaser, and counter parties in "derivative" transactions to which such Purchaser is a party, directly or indirectly, presently may have a "short" position in the Common Stock, and (iv) that such Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (a) such Purchaser may engage in hedging activities at various times during the period that the Securities are outstanding and (b) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities, if conducted in compliance with applicable law (including federal securities laws), do not constitute a breach of any of the Transaction Documents.

(ee) Manipulation of Price. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, nor will take, 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 (other than for the placement agent's placement 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.

(ff) Form S-3 Eligibility. The Company is eligible to utilize the registration statement on Form S-3 in connection with fulfilling its obligations to the Purchasers under the Registration Rights Agreement and, to the Company's knowledge, no facts or circumstances currently exist or are pending or threatened which could reasonably be expected to prevent the Company from remaining eligible to use Form S-3 to register the Shares and Underlying Shares pursuant to said Registration Rights Agreement.

(gg) Books and Records. The minute books of the Company for the Company's fiscal years 2008, 2009 and year-to-date 2010 contain accurate and complete records of all meetings held of, and corporate action taken by, the stockholders, the Board of Directors and committees of the Board of Directors during such period, and no meeting of any such stockholders, the Board of Directors or such committees has been held for which minutes have not been prepared and are not contained in such minute books.

(hh) Accountants. PricewaterhouseCoopers LLP, whose report on the financial statements of the Company was included in the Company's Annual Report on Form 10-K for the year ended December 31, 2009, are independent registered public accountants as required by the Securities Act and the rules and regulations of the Commission. Except as preapproved in accordance with the requirements set forth in Section 10A of the Exchange Act, to the Company's knowledge, PricewaterhouseCoopers LLP has not engaged in any "prohibited activities" (as defined in Section 10A of the Exchange Act) on behalf of the Company.

(ii) Environmental. The Company is in material compliance with all rules, laws and regulations relating to the use, treatment, storage and disposal of toxic substances and protection of health or the environment ("Environmental Laws") which are applicable to its business. The Company has not received any notice from any governmental authority or third party of an asserted claim under Environmental Laws, which claim is required to be disclosed in the SEC Reports. The Company is not currently required to make future material capital expenditures to comply with Environmental Laws. No property that is owned, leased or occupied by the Company has been designated a Superfund site pursuant to the Comprehensive Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Section 9601, et seq.), or otherwise designated as a contaminated site under applicable state or local law.

(jj) No Stockholder Approval. Based in part upon the representation letter of Clams Ventures, LLC attached hereto as Exhibit E, the consummation of the transactions contemplated hereby will not require the approval of the Company's stockholders pursuant to Nasdaq Listing Rule 5635.

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3.2 Representations and Warranties of the Purchasers. Each Purchaser hereby, for itself, severally and not jointly, represents and warrants as of the date hereof and as of the Closing Date to the Company as follows:

(a) Organization; Authority. Such Purchaser is an entity duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization with full right, corporate or partnership power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution, delivery and performance by such Purchaser of the transactions contemplated by this Agreement have been duly authorized by all necessary corporate or similar action on the part of such Purchaser. Each Transaction Document to which it is a party has been duly executed by such Purchaser, and when delivered by such Purchaser in accordance with the terms hereof and thereof, will constitute the valid and legally binding obligation of such Purchaser, enforceable against it 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.

(b) Own Account. Such Purchaser understands that (i) the Securities are "restricted securities" and that the offer and sale of the Securities have not been registered under the Securities Act or any applicable state securities law and (ii) the Securities must be held indefinitely unless a subsequent disposition thereof is registered under the Securities Act or is exempt from such registration. Such Purchaser is acquiring the Securities as principal for its own account and not with a view to or for distributing or reselling such Securities or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Securities in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understanding with any other Persons regarding the distribution of such Securities (this representation and warranty not limiting such Purchaser's right to sell the Securities pursuant to a Registration Statement or otherwise in compliance with applicable federal and state securities laws) in violation of the Securities Act or any applicable state securities law. Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and at the date hereof it is, and on each date on which it exercises any Common Warrants it will be either: (i) an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a "qualified institutional buyer" as defined in Rule 144A(a) under the Securities Act. Such Purchaser is not required to be registered as a broker-dealer under Section 15 of the Exchange Act.

(d) Experience of Such Purchaser. Such Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Securities, and has so evaluated the merits and risks of such investment. Such Purchaser is able to bear the economic risk of an investment in the Securities and, at the present time, is able to afford a complete loss of such investment. Such Purchaser understands that nothing in the Agreement or any other materials presented to the Purchaser in connection with the purchase and sale of the Securities constitutes legal, tax or investment advice. Such Purchaser acknowledges that it must rely on legal, tax and investment advisors of its own choosing in connection with its purchase of the Securities.

(e) General Solicitation. Such Purchaser is not purchasing the Securities as a result of any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or any other general solicitation or general advertisement.



(f) Certain Trading Activities. Other than with respect to the transactions contemplated herein, since the earlier to occur of (1) the time that such Purchaser was first contacted by the Company or any other Person regarding this investment in the Company and (2) the tenth (10th) day prior to the date of this Agreement, neither such Purchaser nor any Affiliate of such Purchaser which (x) had knowledge of the transactions contemplated hereby, (y) has or shares discretion relating to such Purchaser's investments or trading or information concerning such Purchaser's investments, including in respect of the Securities, and (z) is subject to such Purchaser's review or input concerning such Affiliate's investments or trading (collectively, "Trading Affiliates") has directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser or Trading Affiliate, effected or agreed to effect any transactions in the securities of the Company (including, without limitation, any Short Sales involving the Company's securities). Notwithstanding the foregoing, no Purchaser makes any representation, warranty or covenant hereby that it will not engage in Short Sales in the securities of the Company after the time that the transactions contemplated by this Agreement are first publicly announced, other than as provided in Section 4.9 and provided such Short Sales are conducted in compliance with applicable law (including federal securities laws).

(g) Independent Investigation. Such Purchaser, in acquiring the Securities, has relied solely upon an independent investigation made by such Purchaser and his or her representatives, if any. Prior to the date hereof, such Purchaser has been given the opportunity to ask questions of, and receive answers from, representatives of the Company regarding the Company's management, finances, and business. Such Purchaser also has received and carefully reviewed the SEC Reports and is knowledgeable about the affairs of the Company. Neither such inquiries nor any other diligence investigation conducted by such Purchaser or any of its advisors or representatives shall modify, amend or effect such Purchaser's right to rely upon the Company's representations and warranties and covenants contained herein or in the Transaction Documents.

(h) No Government Recommendation or Approval. Such Purchaser understands that no United States federal or state agency, or similar agency of any other country, has reviewed, approved, passed upon, or made any recommendation or endorsement of the Company or the purchase of the Securities.

(i) No Intent to Effect a Change of Control. Such Purchaser has no present intent to effect a "change of control" of the Company as such term is understood under the rules promulgated pursuant to Section 13(d) of the Exchange Act. The Company acknowledges and agrees that such Purchaser does not make or has not made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in this Section 3.2.

## ARTICLE IV

### OTHER AGREEMENTS OF THE PARTIES

#### 4.1 Transfer Restrictions.

(a) The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement, to the Company or to an affiliate of a Purchaser in accordance with Section 4.1(e)(iii), the Company may require the transferor thereof to provide to the Company an opinion of counsel, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act. As a condition of transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and shall have the rights of a Purchaser under this Agreement and the Registration Rights Agreement.

(b) Each Purchaser agrees to the imprinting, so long as is required by this Section 4.1(b), of a legend on any of the Securities in the following form:

NEITHER THIS SECURITY NOR ANY SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY.

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(c) Certificates evidencing the Securities shall not contain any legend (including, without limitation, the legend set forth in Section 4.1(b) hereof): (i) while a registration statement (including, without limitation, a Registration Statement) covering the resale of such security is effective under the Securities Act, provided such security is not beneficially owned by an Affiliate, (ii) following any sale of such Securities pursuant to Rule 144, (iii) if such Securities are eligible for sale under Rule 144(b)(1), or (iv) if such legend is not required under applicable requirements of the Securities Act (including, without limitation, judicial interpretations and pronouncements issued by the staff of the Commission). If all or any portion of a Common Warrant is exercised at a time when there is an effective registration statement (including, without limitation, a Registration Statement) to cover the resale of the Common Warrant Shares at a time when such legend is not otherwise required under applicable requirements of the Securities Act (including, without limitation, judicial interpretations thereof), then such securities shall be issued free of all legends. The Company agrees that following the Effective Date or at such time as such legend is no longer required under this Section 4.1(c), it will use its reasonable best efforts to, no longer than three Trading Days following the delivery by a Purchaser to the Company or the Company's transfer agent of (i) a certificate representing Securities issued with a restrictive legend and (ii) a letter acknowledging that sales of such securities shall be made in a manner consistent with the plan of distribution set forth in the Registration Statement (such third Trading Day, the "Legend Removal Date"), deliver or cause to be delivered to such Purchaser a certificate representing such Securities that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to any transfer agent of the Company that enlarge the restrictions on transfer set forth in this Section. Certificates for Securities subject to legend removal hereunder shall be transmitted by the transfer agent of the Company to the Purchaser by crediting the account of the Purchaser's prime broker with the Depository Trust Company System. The failure to timely deliver certificates without restrictive legends by the Legend Removal Date shall not be a breach of the foregoing covenant if such delay is solely due to the action or inaction of the Company's transfer agent and if the Company has taken all reasonable steps necessary to facilitate the removal of such legends.

(d) Each Purchaser agrees that the removal of the restrictive legend from certificates representing Securities as set forth in this Section 4.1 is predicated upon the Company's reliance that such Purchaser will sell any Securities pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom.

(e) Notwithstanding anything herein to the contrary, no registration statement or opinion of counsel shall be necessary for a transfer (i) by a Purchaser that is a partnership to a partner (limited or general) of such partnership or a retired partner of such partnership who retires after the date hereof, or to the estate of any such partner or retired partner or the transfer by gift, will or intestate succession of any partner to his or her spouse or to the siblings, lineal descendants or ancestors of such partner or his or her spouse, (ii) by a Purchaser that is a limited liability company to a member of such limited liability company or a retired member of such limited liability company who retires after the date hereof, or to the estate of any such member or retired member or the transfer by gift, will or intestate succession of any member to his or her spouse or to the siblings, lineal descendants or ancestors of such member or his or her spouse or (iii) by a Purchaser to an affiliate of such Purchaser, if the prospective transferee agrees in all such instances in writing to be subject to the terms hereof to the same extent as if he or she were an original Purchaser hereunder.

4.2 Furnishing of Information. As long as the Purchasers beneficially own any of the Securities, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act. As long as the Purchasers beneficially own any of the Securities, if the Company is not required to file reports pursuant to the Exchange Act, it will prepare and furnish to each Purchaser and make publicly available in accordance with Rule 144(c) such information as is required for such Purchaser to sell the Securities under Rule 144. The Company further covenants that it will take such further action as any holder of Securities may reasonably request, all to the extent required from time to time to enable such Person to sell such Securities without registration under the Securities Act within the limitation of the exemptions provided by Rule 144.





4.3 Integration. None of the Purchasers, the Company, nor any of their affiliates, nor any Person acting on its or their behalf shall sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities in a manner that would require the registration under the Securities Act of the sale of the Securities to the Purchasers or that would be integrated with the offer or sale of the Securities for purposes of the rules and regulations of any Trading Market.

4.4 Warrant Exercise Procedures. The forms of Notice of Exercise included in the Common Warrants set forth the totality of the procedures required of a Purchaser in order to exercise such warrants. No additional legal opinion or other information or instructions shall be required of such Purchaser to exercise their Common Warrants. The Company shall honor exercises of the Common Warrants, and shall deliver Common Warrant Shares, in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.5 Securities Laws Disclosure; Publicity. The Company shall, by 5:30 p.m. Eastern time on the fourth Trading Day following the Closing Date, file a Current Report on Form 8-K, reasonably acceptable to the Purchasers disclosing the material terms of the transactions contemplated hereby. The Company and the Purchasers shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor any Purchaser shall issue any such press release without the prior consent of the Company, with respect to any press release of such Purchaser, or without the prior consent of the Purchasers with respect to any press release of the Company, which consent shall not unreasonably be withheld, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser or any of its affiliates, or include the name of any Purchaser or any of its affiliates in any filing with the Commission or any regulatory agency or Trading Market, without the prior written consent of such Purchaser, except (i) as required by federal securities law in connection with the Form 8-K referenced above and the registration statement contemplated by the Registration Rights Agreement and (ii) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide such Purchaser with prior notice of such disclosure permitted under subclause (i) or (ii).

4.6 Use of Proceeds. The Company shall use the net proceeds from the sale of the Securities hereunder for working capital, research, product development and general corporate purposes and not for the satisfaction of any portion of the Company's debt (other than payment of trade payables in the ordinary course of the Company's business and prior practices), to redeem any Common Stock or Common Stock Equivalents or to settle any outstanding litigation.

4.7 Indemnification of Purchasers. Subject to the provisions of this Section 4.7, the Company will indemnify and hold each Purchaser and its directors, officers, stockholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling person (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and reasonable expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against a Purchaser Party, by any third party with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser may have with any such stockholder or any violations by such Purchaser of state or federal securities laws or any conduct by such Purchaser which constitutes fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such

Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of such separate counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party. The Company will not be liable to any Purchaser Party under this Agreement (i) for any settlement by a Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (ii) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of any of the representations, warranties, covenants or agreements made by the Purchasers in this Agreement or in the other Transaction Documents.

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#### 4.8 Reservation and Listing of Securities.

(a) The Company shall maintain a reserve from its duly authorized shares of Common Stock for issuance pursuant to the Transaction Documents in such amount as may be required to fulfill its obligations in full under the Transaction Documents.

(b) If, on any date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than the Required Minimum on such date, then the Board of Directors shall use commercially reasonable efforts to amend the Company's certificate of incorporation to increase the number of authorized but unissued shares of Common Stock to at least the Required Minimum at such time, as soon as possible and in any event not later than the 75th day after such date.

(c) The Company shall, if applicable: (i) in the time and manner required by the Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application, (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing on the Trading Market as soon as possible thereafter, (iii) provide to each Purchaser evidence of such listing, and (iv) maintain the listing of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market.

4.9 Short Sales and Confidentiality After The Date Hereof. Each Purchaser covenants that neither it nor any affiliates acting on its behalf or pursuant to any understanding with it will execute any Short Sales during the period from the date hereof until the earlier of such time as (i) after the transactions contemplated by this Agreement are first publicly announced or (ii) this Agreement is terminated in full. Each Purchaser covenants that until such time as the transactions contemplated by this Agreement are publicly disclosed by the Company as described in Section 4.5, such Purchaser will maintain the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction). Each Purchaser understands and acknowledges that the Commission currently takes the position that coverage of short sales of shares of the Common Stock "against the box" prior to effectiveness of a resale registration statement with securities included in such registration statement would be a violation of Section 5 of the Securities Act, as set forth in Item 239.10 of the Securities Act Rules Compliance and Disclosure Interpretations compiled by the Office of Chief Counsel, Division of Corporation Finance

4.10 Form D: Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof promptly upon request of any Purchaser. The Company shall, on or before the Closing Date, take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchasers at the Closing under applicable securities or "Blue Sky" laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser. The Company shall make all filings and reports relating to the offer and sale of the Securities required under applicable securities or "Blue Sky" laws of the states of the United States following the Closing Date.

4.11 Board of Directors. Following the Closing, the Company shall take any and all actions as may be required to nominate Nicole Vitullo of Domain Associates, L.L.C. to be elected to the Board of Directors by September 30, 2010, or, if a vacancy should occur on the Board of Directors before that time, to elect Ms. Vitullo to fill that vacancy.

4.12 Section 13(d)(3) of Exchange Act. The parties to this Agreement acknowledge that the several Purchasers shall not constitute a "group" within the meaning of Section 13(d)(3) of the Exchange Act and the rules and regulations promulgated thereunder.

## ARTICLE V

### MISCELLANEOUS

5.1 Termination. This Agreement may be terminated by the Majority Purchasers (on behalf of all Purchasers hereunder) by written notice to the Company, if the Closing has not been consummated on or before August 27, 2010; provided, however, that no such termination will affect the right of any party to sue for any breach by the other party (or parties).

5.2 Fees and Expenses. Except as expressly set forth herein and in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall reimburse, at the Closing, the reasonable fees for the Purchasers' legal counsel, fees to other advisors retained by the Purchasers to represent them in the transactions contemplated by this Agreement and the Transaction Documents, as well as the Purchasers' due diligence expenses, in an aggregate amount not to exceed \$30,000. The Company shall pay all transfer agent fees, stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers.

5.3 Entire Agreement. The Transaction Documents and any other written agreement between the Company and the Purchasers dated of even date herewith, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

5.4 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of (a) the next Trading Day after delivery, if such notice or communication is delivered via confirmed registered mail, (b) the 2nd Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (c) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto (unless later updated in writing by the parties hereto to the other parties) and if to the Company, with a copy to:

Wilmer Cutler Pickering Hale & Dorr LLP  
1100 Winter Street  
Waltham, Massachusetts 02451  
Attention: Susan L. Mazur  
Fax: 781-966-2100

5.5 Amendments; Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed by the Company and the Majority Purchasers. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor

shall any delay or omission of either party to exercise any right hereunder in any manner impair the exercise of any such right.

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5.6 Headings. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

5.7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Majority Purchasers. Any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Securities, provided the Purchaser obtains the prior written consent of the Company not to be unreasonably withheld and such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions hereof that apply to the "Purchaser".

5.8 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.7.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, stockholders, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party 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, that such suit, action or proceeding is improper or inconvenient venue for such proceeding. Each party 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 party at the address in effect for notices to it under this Agreement 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. The parties hereby waive all rights to a trial by jury. If either party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

5.10 Survival. The representations, warranties, covenants and other agreements contained herein shall survive the Closing and the delivery and/or exercise of the Securities, as applicable, for the applicable statute of limitations.

5.11 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission (or electronic transmission of PDF file), such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile (or PDF file) signature page were an original thereof.

5.12 Severability. If any provision of this Agreement is held to be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Agreement shall not in any way be affected or impaired thereby and the parties will attempt to agree upon a valid and enforceable provision that is a reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Agreement.

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5.13 Replacement of Securities. If any certificate or instrument evidencing any Securities is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof, or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction and customary and reasonable indemnity, if requested. The applicants for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs associated with the issuance of such replacement Securities.

5.14 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each Purchaser and the Company will be entitled to specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations described in the foregoing sentence and hereby agrees to waive in any action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5.15 Liquidated Damages. The Company's obligations to pay any partial liquidated damages or other amounts owing under the Transaction Documents is a continuing obligation of the Company and shall not terminate until all unpaid partial liquidated damages and other amounts have been paid notwithstanding the fact that the instrument or security pursuant to which such partial liquidated damages or other amounts are due and payable shall have been canceled.

5.16 Construction. The parties agree that each of them and/or their respective counsel has reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments hereto.

5.17 Aggregation of Stock. All Securities held or acquired by affiliated Persons or Persons under common management or control shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and the Transaction Documents.

[Signature Pages Follow]



IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

ACHILLION PHARMACEUTICALS, INC.

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

Name: Michael D. Kishbauch

Title: President/CEO

Address for Notice

Achillion Pharmaceuticals, Inc

300 George Street

New Haven, CT 06511

Attn: Michael D. Kishbauch

Fax: 203-624-6003

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

SIGNATURE PAGES FOR PURCHASERS FOLLOW]

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII,  
L.L.C.

Its: General Partner

By:

\_\_\_\_\_  
Name: Kathleen Shoemaker

Title: Managing Member

Address for Notice of Purchaser:

One Palmer Square, Suite 515

Princeton, NJ 08542

Address for Delivery of Securities for  
Purchaser (if not same as above):

EIN Number:

90-0451590

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII,  
L.L.C.

Its: General Partner

By:

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Name: Kathleen Shoemaker

Title: Managing Member

Address for Notice of Purchaser:

One Palmer Square, Suite 515

Princeton, NJ 08542

Address for Delivery of Securities for  
Purchaser (if not same as above):

EIN Number:

90-0451593

CLARUS LIFESCIENCES II, L.P.

By: Clarus Ventures II GP, LP.  
Its: General Partner

By: Clarus Ventures II LLC  
Its: General Partner

By:

---

Name: Robert W Liptan  
Title: Managing Member

Address for Notice of Holder:

c/o Clarus Ventures, LLC

101 Main Street, Suite 1210

Cambridge, MA 02142

Address for Delivery of Securities for Holder  
(if not same as above):

EIN Number: 26-1856183

QUAKER BIOVENTURES II, L.P.

By: Quaker Bioventures Capital II, L.P.  
its General Partner

Its: Quaker Bioventures Capital II, L.L.C.  
its General Partner

By:

---

Name: Adele C. Oliva  
Title: Vice President

Address for Notice of Holder:

Cira Centre

2929 Arch Street

Philadelphia, PA 19104-2868

Address for Delivery of Securities for Holder  
(if not same as above):

EIN Number: 20-5328033

A.M. PAPPAS LIFE SCIENCE VENTURES  
IV, L.P.

By: AMP&A Management IV, LLC.  
Its: General Partner

By:

---

Name: Ford S. Worthy  
Title: Partner & CFO

Address for Notice of Holder:

c/o Pappas Ventures

P.O. Box 110287

Research Triangle park, NC 27709

Address for Delivery of Securities for Holder  
(if not same as above):

2520 Meridian Parkway, Suite 400

Durham, NC 27713

EIN Number: 26-1203525

PV IV CEO FUND, L.P.

By: AMP&A Management IV, LLC.  
Its: General Partner

By:

---

Name: Ford S. Worthy  
Title: Partner & CFO

Address for Notice of Holder:

c/o Pappas Ventures

P.O. Box 110287

Research Triangle park, NC 27709

Address for Delivery of Securities for Holder  
(if not same as above):

2520 Meridian Parkway, Suite 400

Durham, NC 27713

EIN Number: 26-4075806

## EXHIBIT A

## Schedule of Purchasers

Purchaser Name and Address	Number of Shares to be Purchased	Number of Common Warrants to be Purchased	Number of Common Warrant Shares Underlying Common Warrants Purchased	Aggregate Purchase Price of Closing Securities
Domain Partners VIII, L.P. One Palmer Square Suite 515 Princeton, NJ 08542 Attn: Tel:	7,972,968	1	2,790,539	\$20,201,507.67
DP VIII Associates, L.P. One Palmer Square Suite 515 Princeton, NJ 08542 Attn: Tel:	59,161	1	20,706	\$149,899.18
Clarus Lifesciences II, L.P. c/o Clarus Ventures, LLC 101 Main Street, Suite 1210 Cambridge, MA 02142 Attn: Tel:	4,875,502	1	1,706,426	\$12,353,303.20
Quaker Bioventures II, L.P. Cira Centre	4,859,438	1	1,700,803	\$12,312,601.04



2929 Arch  
Street  
Philadelphia,  
PA 19104-2868

Attn:

Tel:

A.M. Pappas 1,916,799 1 670,880 \$4,856,689.64

Life Science  
Ventures IV,  
L.P.

c/o Pappas

Ventures

P.O. Box

110287

Research

Triangle Park,

NC 27709

Attn: Ford S.

Worthy

Tel:

(919)998-3300

PVIV CEO 91,233 1 31,932 \$231,161.43

Fund L.P.

c/o Pappas

Ventures

P.O. Box

110287

Research

Triangle Park,

NC

27709

Attn: Ford S.

Worthy

Tel:

(919)998-3300

EXHIBIT B

Form of Common Warrant

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY.

V o i d a f t e r 5 : 0 0 p . m . ( N e w Y o r k t i m e ) o n  
the th day of, 2017.

Number of Warrants: Warrant Certificate No.

ACHILLION PHARMACEUTICALS, INC.

(A corporation existing under the laws of the state of Delaware)

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, (the "Holder"), is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, including without limitation Section 3(c), at any time on or after the date hereof and on or prior to 5:00 p.m. (New York time) on, 2017 (the "Expiry Time") but not thereafter, to subscribe for and purchase from Achillion Pharmaceuticals, Inc., a Delaware corporation (the "Company"), up to shares (the "Warrant Shares") of Common Stock, par value \$0.001 per share, of the Company (the "Common Stock"), subject to adjustment as provided herein. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the "Securities Purchase Agreement"), dated August 17, 2010, among the Company and the purchasers signatory thereto.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the date of issuance of this Warrant and on or before the Expiry Time by delivery to the principal office of the Company of a duly executed copy of the Notice of Exercise Form annexed hereto (or to such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of such Holder appearing on the books of the Company) and the Company shall have received payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier's check drawn on a United States bank (the "Exercise Date"); provided, however, if this Warrant is exercised in full, the Holder shall have surrendered this Warrant to the Company within three (3) business days of the date the Notice of Exercise is delivered to the

Company. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise Form within two (2) Business Days of receipt of such notice. The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.

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Immediately prior to the Expiry Time, the portion of this Warrant not exercised prior thereto shall automatically be deemed to be exercised in full in the manner set forth in Section 2(c), without any further action on behalf of the Holder; provided, however, that in the event that the cashless exercise formula set forth in Section 2(c) yields a result that is less than or equal to zero, then the unexercised portion of this Warrant shall automatically terminate and become void. The Company may not call or redeem any portion of this Warrant without the prior written consent of the affected Holder.

b) Exercise Price. The exercise price of the Common Stock under this Warrant shall be \$3.1125 per share, subject to adjustment hereunder.

c) Cashless Exercise. This Warrant may also be exercised by means of a “cashless exercise” in which the Holder shall be entitled to receive a certificate for the number of Warrant Shares equal to the quotient obtained by dividing  $[(A-B)*(X)]$  by (A), where:

(A) the VWAP on the trading day immediately preceding the date of such election;  
=

(B) the Exercise Price of this Warrant, as adjusted; and  
=

(X) the number of Warrant Shares issuable upon exercise of this Warrant in accordance with the terms of  
= this Warrant by means of a cash exercise rather than a cashless exercise.

The “VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg Financial L.P. (based on a Trading Day from 9:30 a.m. Eastern Time to 4:02 p.m. Eastern Time); (b) the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board or (c) if the Common Stock is not then listed or quoted on the OTC Bulletin Board and if prices for the Common Stock are then reported in the “Pink Sheets” published by the Pink Sheets, LLC (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported; or (d) in all other cases, the fair market value of a share of Common Stock as determined by a good faith determination of the Company’s Board of Directors.

d) Percentage Limitation. Notwithstanding anything herein to the contrary, the Company shall not issue to any Holder any shares of Common Stock, including pursuant to any rights herein, including, without limitation, any exercise rights, to the extent such shares, when added to the number of shares of Common Stock then beneficially owned by such Holder and any Persons whose beneficial ownership of Common Stock would be aggregated with such Holder for purposes of Section 13(d) of the Securities Exchange Act, would cause the total number of shares of Common Stock beneficially owned by such Holder and any such Persons to exceed 19.999% of the total number of outstanding shares of Common Stock of the Company at the time of such issuance (the “Maximum Aggregate Share Amount”), provided, however, that this Section 2(d) shall not apply to the exercise of this Warrant in connection with any Fundamental Transaction (as defined below) in which the Company is acquired by a third party, whether by merger or stock purchase. For purposes of this Section 2(d), beneficial ownership shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. If on any attempted exercise of this Warrant other than in connection with a Fundamental Transaction, the issuance of Warrant Shares would exceed the Maximum Aggregate Share Amount, then the Company shall issue to the Holder requesting a Warrant exercise such number of Warrant Shares as may be issued below the Maximum Aggregate Share Amount and, with respect to the remainder of the aggregate number of Warrant Shares, this Warrant shall remain exercisable, subject to this Section 2(d). Notwithstanding anything to the contrary contained in this Section 2(d), the limitations contained

herein shall not apply unless (i) such limitations are required under Nasdaq Global Market Rule 5635 or (ii) the Holder has, by providing the Company with written notice, lowered the Maximum Aggregate Share Amount to a percentage below 19.999% of the total number of outstanding shares of Common Stock (such amount being the “Adjusted Maximum Aggregate Share Amount”). Upon providing the Company with at least 61 days prior written notice, the Holder may increase the Adjusted Maximum Aggregate Share Amount up to 19.999% of the shares of Common Stock outstanding immediately after giving effect to such exercise, provided, however, that in the event that Nasdaq Global Market Rule 5635 does not require the limitations contained in this Section 2(c), the Holder may increase the Adjusted Maximum Aggregate Share Amount above 19.999% of the shares Common Stock outstanding immediately after giving effect to such exercise.

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e) Mechanics of Exercise.

i. Authorization of Warrant Shares. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment to the Company of the purchase price therefor, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

ii. Delivery of Certificates Upon Exercise. Certificates for shares purchased hereunder shall be transmitted by the transfer agent of the Company to the Holder by crediting the account of the Holder's prime broker with the Depository Trust Company through its Deposit Withdrawal Agent Commission ("DWAC") system if the Company is a participant in such system, and otherwise by physical delivery to the address specified by the Holder in the Notice of Exercise within three (3) Trading Days from the delivery to the Company of the Notice of Exercise Form, surrender of this Warrant (if required) and payment of the aggregate Exercise Price (unless exercised by means of a cashless exercise pursuant to Section 2(c)) ("Warrant Share Delivery Date"). This Warrant shall be deemed to have been exercised on the date the Exercise Price is received by the Company (or in the case of a cashless exercise pursuant to Section 2(c), the date this Warrant is surrendered). If all or any part of a Warrant is exercised at a time when there is an effective registration statement to cover the issuance or resale of the Warrant Shares and if the legend is not required under applicable securities laws, such Warrant Shares shall be issued free of all legends on or before the Warrant Share Delivery Date. The Warrant Shares shall be deemed to have been issued, and Holder or any other Person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the Exercise Date irrespective of the date such Warrant Shares are credited to the Holder's DWAC account, or the date of delivery of certificates evidencing the Warrant Shares, as the case may be.

iii. Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the certificate or certificates representing Warrant Shares, deliver to Holder a new Warrant evidencing the rights of Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

iv. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share that Holder would otherwise be entitled to purchase upon such exercise, the Company shall pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price.

v. Charges, Taxes and Expenses. Issuance of certificates for Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such certificate, all of which taxes and expenses shall be paid by the Company, and such certificates shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event certificates for Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder; and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto.

f) The Company's obligations to issue and deliver Warrant Shares in accordance with the terms hereof 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 which might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit a 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 the Warrant Shares upon exercise of the Warrant as required pursuant to the terms hereof.

### Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (A) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company pursuant to this Warrant), (B) subdivides outstanding shares of Common Stock into a larger number of shares, (C) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (D) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction, of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted in an inverse manner (e.g., an increase in the Exercise Price shall result in a decrease in the number of shares of Common Stock). Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

g) Pro Rata Distributions. If the Company, at any time prior to the Expiry Time, shall declare, or distribute any dividend or other distribution to all holders of Common Stock (and not to Holders of the Warrants) evidences of its indebtedness or assets (including cash and cash dividends) or rights or warrants to subscribe for or purchase any security other than the Common Stock, then in each such case the Exercise Price shall be adjusted by multiplying the Exercise Price in effect immediately prior to the record date fixed for determination of stockholders entitled to receive such distribution by a fraction, of which the denominator shall be the VWAP determined as of the record date mentioned above, and of which the numerator shall be such VWAP on such record date less the then per share fair market value at such record date of the portion of such assets or evidence of indebtedness so distributed applicable to one outstanding share of the Common Stock as determined by the Board of Directors of the Company in good faith. The adjustment shall be described in a statement provided to the Holder. Such adjustment shall be made whenever any such distribution is made and shall become effective immediately after the record date mentioned above.

h) Fundamental Transaction; Automatic Exercise. If, at any time while this Warrant is outstanding, the Company effects (A) any merger or consolidation of the Company with or into another Person (an "Acquisition"), (B) any sale of all or substantially all of its assets in one or a series of related transactions (an "Asset Sale"), (C) any tender offer or exchange offer (whether by the Company or another Person) pursuant to which holders of Common Stock are permitted to tender or exchange their shares for other securities, cash or property (a "Tender Offer"), or (D) 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 (in any such case, a "Fundamental Transaction"), then, this Warrant shall remain outstanding according to its terms except that, upon any subsequent

exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable upon or as a result of such reorganization, reclassification, merger, consolidation or disposition of assets by a Holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such event. Notwithstanding the foregoing, in the event the Fundamental Transaction is in the form of an Acquisition, Asset Sale or Tender Offer, and the consideration payable with respect to such transaction is cash (a "Cash Transaction"), then Holder shall exercise its conversion or purchase right under this Warrant and such exercise will be deemed effective immediately prior to the consummation of such Cash Transaction, and, if Holder does not so exercise, this Warrant shall automatically be exercised pursuant to Section 2(c) hereof, without any action by Holder immediately prior to the consummation of such Cash Transaction. The Company shall provide the Holder with written notice of its request relating to the foregoing (together with such reasonable information as the Holder may request in connection with such contemplated Acquisition giving rise to such notice), which is to be delivered to Holder not less than ten (10) days prior to the closing of the proposed Cash Transaction. The provisions of Section 2(d) shall apply to any such exercise. To the extent necessary to effectuate the foregoing provisions, any successor to the Company or surviving entity in such Fundamental Transaction shall issue to the Holder a new warrant consistent with the foregoing provisions and evidencing the Holder's right to exercise such warrant for the Alternate Consideration. The terms of any agreement pursuant to which a Fundamental Transaction is effected shall include terms requiring any such successor or surviving entity to comply with the provisions of this Section 3(c) and insuring that this Warrant (or any such replacement security) will be similarly adjusted upon any subsequent transaction analogous to a Fundamental Transaction.

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i) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

j) Notice to Holders.

i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to this Section 3, the Company shall promptly mail to each Holder a notice setting forth the Exercise Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution) on the Common Stock; (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock; (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights; (D) the approval of any stockholders of the Company shall be required in connection with any Fundamental Transaction; (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company; then, in each case, the Company shall cause to be mailed to the Holder at its last address as it shall appear upon the Warrant Register of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided, in each case that such information shall be made known to the public through a press release, filing with the Commission, or other public announcement prior to or in conjunction with such notice being provided to the Holder, and provided further that the failure to mail such notice or any defect therein or in the mailing thereof shall not affect the validity of the corporate action required to be specified in such notice. The Holder is entitled to exercise this Warrant during the 10-day period commencing on the date of such notice to the effective date of the event triggering such notice.

Section 4. Transfer of Warrant.

k) Transferability. This Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. A Warrant, if properly assigned, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued. The Holder represents that by accepting this Warrant it understands that this Warrant and any securities obtainable upon exercise of this Warrant have not been registered for sale under Federal or state securities laws and are being offered and sold to the Holder pursuant to one or more exemptions from the registration requirements of such securities laws. In the absence of an effective registration of such securities or an exemption therefrom, any certificates for such securities shall bear the legend set forth on the first page hereof. The Holder understands that it must bear the economic risk of its investment in this Warrant and any securities obtainable upon exercise of this Warrant for an indefinite period of time, as this Warrant and such securities have not been registered under Federal or

state securities laws and therefore cannot be sold unless subsequently registered under such laws, unless an exemption from such registration is available.

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b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof. 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.

#### Section 5. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights or other rights as a stockholder of the Company prior to the exercise hereof. Upon the surrender of this Warrant and the payment of the aggregate Exercise Price (or by means of a cashless exercise), the Warrant Shares so purchased shall be and be deemed to be issued to such Holder as the record owner of such shares as of the close of business on the later of the date of such surrender or payment.

d) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

a) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall be a Saturday, Sunday or a legal holiday, then such action may be taken or such right may be exercised on the next succeeding day not a Saturday, Sunday or legal holiday.

a) Authorized Shares. The Company covenants that during the period the Warrant is outstanding, it will maintain a reserve, free from preemption rights, from its duly authorized shares of Common Stock for issuance pursuant to the Transaction Documents in such amount as may be required to fulfill its obligations in full under the Transaction Documents. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates to execute and issue the necessary certificates for the Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. If at any time prior to the Expiry Time the number of authorized but unissued shares of Common Stock shall not be sufficient to permit exercise of this Warrant, the Company will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock (or other securities as provided herein) to such number of shares as shall be sufficient for such purposes.

Except and to the extent as waived or consented to by the Holder, the Company hereby covenants to not by any action, including, without limitation, amending its certificate of incorporation, bylaws 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, and 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 Exercise Price then in effect and (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant.

l) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Securities Purchase Agreement.

m) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, will contain a legend to that effect.

n) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Expiry Time. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to Holder such amounts as shall be sufficient to cover any costs and expenses incurred by Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

o) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Securities Purchase Agreement.

p) Limitation of Liability. No provision hereof, in the absence of any affirmative action by Holder to exercise this Warrant or purchase Warrant Shares, and no enumeration herein of the rights or privileges of Holder, shall give rise to any liability of Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

q) Remedies. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available or granted by law, including recovery of damages. Each of the parties hereto will be entitled to specific performance of its rights under this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach or threatened breach by it of the provisions of this Warrant and hereby agrees to waive the defense in any action for specific performance that a remedy at law would be adequate including making a showing of economic loss and the posting of a bond or other security.

r) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of all Holders from time to time of this Warrant and shall be enforceable by any such Holder or holder of Warrant Shares.

s) Amendment. This Warrant may be modified or amended or the provisions hereof waived only with the written consent of the Company and the Holder.

t) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized.

Dated: \_\_\_\_\_,  
2010

ACHILLION PHARMACEUTICALS, INC

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

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NOTICE OF EXERCISE

TO: ACHILLION PHARMACEUTICALS, INC.

(1) The undersigned hereby elects to purchase Warrant  
Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith  
payment of the Exercise Price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or (if available)

o the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in  
subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable  
pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue a certificate or certificates representing said Warrant Shares in the name of the undersigned or in  
such other name as is specified below:

\_\_\_\_\_

The Warrant Shares shall be delivered to the following:

(4) Accredited Investor. The undersigned is an “accredited investor” as defined in Regulation D promulgated under the  
Securities Act of 1933, as amended.

Name of Investing Entity:

\_\_\_\_\_

Signature of Authorized Signatory of Investing Entity:

\_\_\_\_\_

Name of Authorized Signatory:

\_\_\_\_\_

Title of Authorized Signatory:

\_\_\_\_\_

Date:

\_\_\_\_\_

\_\_\_\_\_

ASSIGNMENT FORM

(To assign the foregoing warrant, execute  
this form and supply required information.  
Do not use this form to exercise the warrant.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to:

\_\_\_\_\_

whose address is:

\_\_\_\_\_

\_\_\_\_\_

Dated \_\_\_\_\_, \_\_\_\_\_

Holder's Signature: \_\_\_\_\_

Holder's Address: \_\_\_\_\_

\_\_\_\_\_

Signature Guaranteed: \_\_\_\_\_

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

\_\_\_\_\_



EXHIBIT C

Registration Rights Agreement

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this “Agreement”) is dated as of August 18, 2010 by and among Achillion Pharmaceuticals, Inc., a Delaware corporation (the “Company”), and the several purchasers identified in the attached Exhibit A (each a “Purchaser” and collectively, the “Purchasers”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to that certain Securities Purchase Agreement, dated as of the date hereof, among the Company and the Purchasers (the “Purchase Agreement”), the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the “Securities Act”), and applicable state securities laws.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Purchasers agree as follows:

1. Definitions. As used in this Agreement, the following terms shall have the following meanings:

“Acceleration Request” means within three business days of the date that the Company is notified (orally or in writing, whichever is earlier) by the Commission that a Registration Statement will not be reviewed or will not be subject to further review, a request for acceleration of effectiveness in accordance with Rule 461 promulgated under the Exchange Act is filed with the Commission, which request shall request an effective date that is within three business days of the date of such request.

“Advice” shall have the meaning set forth in Section 8(d).

“Commission” means the Securities and Exchange Commission and its staff. “DGCL” means the General Corporation Law of the State of Delaware.

“Effectiveness Date” means, with respect to the Mandatory Registration Statement, (i) if there is no Commission review of the Mandatory Registration Statement, the 90th calendar day following the Closing Date or upon effectiveness of an Acceleration Request or (ii) if there is Commission review of the Mandatory Registration Statement, the earlier of the 120th calendar day following the Closing Date or upon effectiveness of an Acceleration Request. With respect to any other Registration Statements (i) if there is no Commission review of such Registration Statement, the 90th calendar day following the date on which the Company first knows that such additional Registration Statement is required hereunder or (ii) if there is Commission review of such Registration Statement, the earlier of the 120th calendar day following the date on which the Company first knows, that such Registration Statement is required hereunder or upon effectiveness of an Acceleration Request.

“Effectiveness Period” shall have the meaning set forth in Section 2(b).

“Event” shall have the meaning set forth in Section 2(d).

“Event Date” shall have the meaning set forth in Section 2(d).

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Filing Date” means, with respect to the Mandatory Registration Statement, the 30th calendar day following the Closing Date (as defined in the Purchase Agreement), and, with respect to any other Registration Statements, the 30th day following the date on which the Company first knows that such Registration Statement is required hereunder.

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“Holder” or “Holders” means the holder or holders, as the case may be, from time to time of Registrable Securities.

“Indemnified Party” shall have the meaning set forth in Section 5(c).

“Indemnifying Party” shall have the meaning set forth in Section 5(c).

“Legal Counsel” shall have the meaning set forth in Section 2(e).

“Losses” shall have the meaning set forth in Section 5(a).

“Mandatory Registration Statement” shall have the meaning set forth in Section 2(a). “Plan of Distribution” shall have the meaning set forth in Section 2(b).

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Prospectus” means the prospectus included in a Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of an effective registration statement in reliance upon Rule 430A promulgated under the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by a Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

“Registrable Securities” means (i) all of the Shares (as defined in the Purchase Agreement), (ii) all of the Common Warrant Shares (as defined in the Purchase Agreement), and (iii) any securities issued or issuable upon any stock split, dividend or other distribution, recapitalization or similar event with respect to any of the foregoing referenced in clauses (i) and (ii); provided, however, that the term “Registrable Securities” shall not include any Shares or Common Warrant Shares that are actually sold pursuant to a registration statement that has been declared effective under the Securities Act by the Commission.

“Registration Statement” means the Mandatory Registration Statement, any additional registration statements which may be required pursuant to Section 2(c) and any additional registration statements contemplated by Section 3(b), including (in each case) the Prospectus, amendments and supplements to such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in such registration statement.

“Rule 415” means Rule 415 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 461” means Rule 461 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Securities” shall have the meaning set forth in the Purchase Agreement.

“Selling Shareholder Questionnaire” shall have the meaning set forth in Section 3(a).

“Trading Day” shall have the meaning set forth in the Purchase Agreement.

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“Transaction Documents” shall have the meaning set forth in the Purchase Agreement.

## 2. Registration Statements.

(a) On or prior to the Filing Date, the Company shall prepare and file with the Commission a Mandatory Registration Statement covering the resale of all Registrable Securities on the Filing Date for an offering to be made on a continuous basis pursuant to Rule 415 (the “Mandatory Registration Statement”).

(b) The Mandatory Registration Statement shall be on Form S-3 (except if the Company is not then eligible to register for resale the applicable Registrable Securities on Form S-3, in which case such registration shall be on another appropriate form in accordance herewith) and shall contain (unless otherwise directed by the Holders) substantially the “Plan of Distribution” attached hereto as Annex A (the “Plan of Distribution”). Subject to the terms of this Agreement, the Company shall use its best efforts to cause a Registration Statement to be declared effective under the Securities Act as promptly as possible after the filing thereof, but in any event prior to the Effectiveness Date, and shall use its best efforts to keep such Registration Statement continuously effective under the Securities Act until the earlier of (i) the date all of the Registrable Securities covered by such Registration Statement have been sold and (ii) the later of (A) the second anniversary of the Effectiveness Date or (B) the date upon which the Registrable Securities may be sold without volume or manner-of-sale restrictions under Rule 144 as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and acceptable to the Company’s transfer agent and the affected Holders (the “Effectiveness Period”). The Company shall immediately notify the Holders of the effectiveness of the Mandatory Registration Statement on the same Trading Day that the Company telephonically confirms effectiveness with the Commission. The Company shall file a final prospectus under Rule 424.

(c) If for any reason the Commission does not permit all of the applicable Registrable Securities to be included in the Mandatory Registration Statement, or for any other reason any outstanding Registrable Securities are not then covered by an effective Registration Statement(s), then the Company shall prepare and file an additional Registration Statement covering the resale of all Registrable Securities not already covered by an existing and effective Registration Statement for an offering to be made on a continuous basis pursuant to Rule 415, on Form S-3 (or on such other form appropriate for such purpose). Each such Registration Statement shall contain (except if otherwise required pursuant to written comments received from the Commission upon a review of such Registration Statement) the Plan of Distribution. The Company shall cause each such Registration Statement to be declared effective under the Securities Act as soon as possible, but in any event, by its Effectiveness Date, and shall use its best efforts to keep such Registration Statement continuously effective under the Securities Act during the entire Effectiveness Period.

(d) If (i) a Registration Statement is not filed on or prior to its Filing Date (if the Company files a Registration Statement without affording the Holders a reasonable opportunity to review and comment on the same as required by Section 3(a), the Company shall not be deemed to have satisfied this clause (i)), or (ii) the Company fails to file with the Commission a request for acceleration in accordance with Rule 461 promulgated under the Securities Act, within five Trading Days of the date that the Company is notified (orally or in writing, whichever is earlier) by the Commission that a Registration Statement will not be “reviewed,” or not subject to further review and comment, or (iii) a Registration Statement filed or required to be filed hereunder is not declared effective by the Commission by its Effectiveness Date, or (iv) after the Effectiveness Date, a Registration Statement ceases to remain continuously effective as to all Registrable Securities for which it is required to be effective due to the good faith determination of the board of directors of the Company that the existence of a pending corporate development with respect to the Company that the Company reasonably believes is material makes it not in the best interest of the Company to allow continued availability of a Registration Statement or Prospectus, or the Holders are not permitted to utilize the Prospectus therein to resell such Registrable Securities for either: (A) more than 15 consecutive Trading Days or (B) more than an aggregate of 45 Trading Days during any 12-month period (which need not be consecutive Trading Days), or (v) after the Effectiveness Date, a Registration Statement ceases for any reason to remain continuously effective as to all Registrable Securities for which it is required to be effective, or the Holders are not permitted to

utilize the Prospectus therein to resell such Registrable Securities for either: (A) more than 15 consecutive Trading Days or (B) more than an aggregate of 45 Trading Days during any 12-month period (which need not be consecutive Trading Days) or (vi) any other event, condition or occurrence that is expressly identified in this Agreement as an “Event” (any such failure or breach being referred to as an “Event”, and for purposes of clause (i) the date on which such Event occurs, or for purposes of clause (ii) the date on which such five Trading Day period is exceeded, or for purposes of clause (iii) the date on which such Event occurs, except that if the Commission will not permit acceleration or requests withdrawal as a result of the issuance of the Securities under the Purchase Agreement or the failure of any Holder to comply with the Plan of Distribution, then such date shall be 30 Trading Days after the date such Event occurs, or for purposes of clause (iv) the date on which such 15 or 45 Trading Day period, as applicable, is exceeded, or for purposes of clause (v) the date on which such 15 or 45 Trading Day period is exceeded being referred to as “Event Date”), then in addition to any other rights the Holders may have hereunder or under applicable law, on each monthly anniversary of each such Event Date (if the applicable Event shall not have been cured by such date) until the applicable Event is cured, the Company shall promptly pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to 1.5% of the aggregate purchase price paid by such Holder pursuant to the Purchase Agreement for any Registrable Securities then held by such Holder and not then registered pursuant to a Registration Statement that has been declared effective by the Commission. The partial liquidated damages pursuant to the terms hereof shall apply on a daily pro-rata basis for any portion of a month prior to the cure of an Event. Notwithstanding the foregoing, nothing shall preclude any Holder from pursuing or obtaining any available remedies at law, specific performance or other equitable relief with respect to this Section 2(d) in accordance with applicable law.

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(e) Subject to Section 4 below, the Holders shall have the right to select one legal counsel to review and oversee any registration pursuant to this Section 2 (“Legal Counsel”), which shall be Reed Smith LLP or such other counsel as thereafter designated by the holders of a majority of the Registrable Securities.

3. Registration Procedures. In connection with the Company’s registration obligations hereunder, the Company shall.

(a) Not less than five Trading Days prior to the filing of each Registration Statement or any related Prospectus or any amendment or supplement thereto (including any document that would be incorporated or deemed to be incorporated therein by reference), the Company shall, (i) furnish to each Holder and Legal Counsel copies of all such documents proposed to be filed, which documents (other than those incorporated) will be subject to the review of such Holders and Legal Counsel, and (ii) cause its officers and directors, counsel and independent certified public accountants to respond to such inquiries as shall be reasonably necessary to conduct a reasonable investigation within the meaning of the Securities Act. The Company shall not file a Registration Statement or any such Prospectus or any amendments or supplements thereto to which the Holders of a majority of the Registrable Securities covered by such Registration Statement shall reasonably object in good faith, provided that, the Company is notified of such objection in writing no later than 5 Trading Days after the Holders have been so furnished copies of such documents. Each Holder agrees to furnish to the Company a completed Questionnaire in the form attached to this Agreement as Annex B (a “Selling Shareholder Questionnaire”) not less than two Trading Days prior to the Filing Date or by the end of the fourth Trading Day following the date on which such Holder receives draft materials in accordance with this Section.

(b) (i) Prepare and file with the Commission such amendments, including post-effective amendments, to a Registration Statement and the Prospectus used in connection therewith as may be necessary to keep a Registration Statement continuously effective as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional Registration Statements in order to register for resale under the Securities Act all applicable Registrable Securities; (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement (subject to the terms of this Agreement), and as so supplemented or amended to be filed pursuant to Rule 424; (iii) respond as promptly as reasonably possible to any comments received from the Commission with respect to a Registration Statement or any amendment thereto and as promptly as reasonably possible provide the Holders true and complete copies of all correspondence from and to the Commission relating to a Registration Statement; (iv) file a final prospectus pursuant to Rule 424; and (v) comply in all material respects with the provisions of the Securities Act and the Exchange Act with respect to the disposition of all Registrable Securities covered by a Registration Statement during the Effectiveness Period in accordance (subject to the terms of this Agreement) with the intended methods of disposition by the Holders thereof set forth in such Registration Statement as so amended or in such Prospectus as so supplemented.

(c) Notify the Holders of Registrable Securities to be sold (which notice shall, pursuant to clauses (ii) through (vi) hereof, be accompanied by an instruction to suspend the use of the Prospectus until the requisite changes have been made) as promptly as reasonably possible (and, in the case of (i)(A) below, not less than five Trading Days prior to such filing and in the case of clause (iii) below, on the same day of receipt by the Company of such notice from the Commission or federal or state governmental authority) and (if requested by any such Person) confirm such notice in writing no later than one Trading Day following the day (i)(A) when a Prospectus or any Prospectus supplement or post-effective amendment to a Registration Statement is proposed to be filed; (B) when the Commission notifies the Company whether there will be a “review” of such Registration Statement and whenever the Commission comments in writing on such Registration Statement (the Company shall provide true and complete copies thereof and all written responses thereto to each of the Holders, except to the extent the Company requests that such responses be exempt from requests under the Freedom of Information Act); and (C) with respect to a Registration Statement or any post-effective amendment, when the same has become effective; (ii) of any request by the Commission or any other Federal or state governmental authority for amendments or supplements to a Registration Statement or Prospectus or for additional information; (iii) of the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of a Registration Statement covering any or all of the Registrable Securities or the initiation of any Proceedings for that purpose; (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Registrable Securities for sale in any jurisdiction, or the initiation or threatening of any Proceeding for such purpose; (v) of the occurrence of any event or passage of time that makes the financial statements included in a Registration Statement ineligible for inclusion therein or any statement made in a Registration Statement or Prospectus or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires any revisions to a Registration Statement, Prospectus or other documents so that, in the case of a Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; and (vi) of the occurrence or existence of any pending corporate development with respect to the Company that the Company reasonably believes is material and that, in the determination of the Company, makes it not in the best interest of the Company to allow continued availability of a Registration Statement or Prospectus; provided, that, all of such information shall remain confidential to each Holder (other than disclosure to Holder’s employees, agents, affiliates, accountants, attorneys and advisors) until such information otherwise becomes public, unless disclosure by a Holder is required by law; provided, further, notwithstanding each Holder’s agreement to keep such information confidential that, the Holders make no acknowledgement that any such information provided pursuant to this Section 3(c) is material, non-public information.

If the Company notifies the Holders in accordance with clauses (ii) through (vi) of this Section 3(c) to suspend the use of any Prospectus until the requisite changes to such Prospectus have been made, then the Holders shall suspend use of such Prospectus. The Company will use its reasonable best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable. The Company shall be entitled to exercise its right under Section 2(d) to suspend the availability of a Registration Statement and Prospectus, subject to the payment of partial liquidated damages pursuant to Section 2(d), for a period not to exceed an aggregate 45 Trading Days in any 12 month period; provided, however, that no such postponement or suspension shall be permitted for more than twenty (20) consecutive Trading Days.

(d) Use its reasonable best efforts to avoid the issuance of, or, if issued, obtain the withdrawal of (i) any order stopping or suspending the effectiveness of a Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, at the earliest practicable moment.

(e) Furnish to each Holder upon request and without charge, at least one conformed copy of each such Registration Statement and each amendment thereto, including financial statements and schedules, all documents incorporated or deemed to be incorporated therein by reference to the extent requested by such Person, and all exhibits to the extent



requested by such Person (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission.

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(f) Promptly deliver to each Holder, without charge, as many copies of the Prospectus or Prospectuses (including each form of prospectus) and each amendment or supplement thereto as such Persons may reasonably request in connection with resales by the Holder of Registrable Securities. Subject to the terms of this Agreement, the Company hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Holders in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto, except after the giving of any notice pursuant to Section 3(c).

(g) If FINRA Rule 5110 requires any broker-dealer to make a filing prior to executing a sale by a Holder, the Company shall (i) make an Issuer Filing with the FINRA Corporate Financing Department pursuant to FINRA Rule 5190, (ii) respond within five Trading Days to any comments received from FINRA in connection therewith and (iii) and pay the filing fee required in connection therewith.

(h) Prior to any resale of Registrable Securities by a Holder or any public offering of Registrable Securities hereunder, use its best efforts to register or qualify or cooperate with the selling Holders in connection with the registration or qualification (or exemption from the registration or qualification) of such Registrable Securities for the resale or sale by the Holder, as applicable, under the securities or Blue Sky laws of such jurisdictions within the United States as any Holder reasonably requests in writing, to keep each registration or qualification (or exemption therefrom) effective during the Effectiveness Period and to do any and all other acts or things reasonably necessary to enable the disposition in such jurisdictions of the Registrable Securities covered by each Registration Statement; provided, that the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified, subject the Company to any material tax in any such jurisdiction where it is not then so subject or file a general consent to service of process in any such jurisdiction where it is not then subject.

(i) Cooperate with the Holders to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be delivered to a transferee pursuant to a Registration Statement, which certificates shall be free, to the extent permitted by the Purchase Agreement, of all restrictive legends, and to enable such Registrable Securities to be in such denominations and registered in such names as any such Holders may request.

(j) 0) Upon the occurrence of any event contemplated by this Section 3, as promptly as reasonably possible under the circumstances taking into account the Company's good faith assessment of any adverse consequences to the Company and its stockholders of the premature disclosure of such event, prepare a supplement or amendment, including a post-effective amendment, to a Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither a Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(k) Comply with all applicable rules and regulations of the Commission.

(l) Cause all Registrable Securities relating to a Registration Statement to be listed on the Nasdaq Global Market, or other Trading Market on which similar securities issued by the Company are then listed.

(m) In connection with the filing of a Registration Statement, the Company may require each selling Holder to furnish to the Company a certified statement as to the number of shares of Common Stock beneficially owned by such Holder and, if required by the Commission, the person thereof that has voting and dispositive control over the Shares. During any periods that the Company is unable to meet its obligations hereunder with respect to the registration of the Registrable Securities solely because any Holder fails to furnish such information within three Trading Days of the Company's request, any liquidated damages that are accruing at such time as to such Holder only shall be tolled and any Event that may otherwise occur solely because of such delay shall be suspended as to such Holder only, until such information is delivered to the Company.



4. Registration Expenses. All fees and expenses incident to the performance of or compliance with this Agreement by the Company shall be borne by the Company whether or not any Registrable Securities are sold pursuant to a Registration Statement. The fees and expenses referred to in the foregoing sentence shall include, without limitation, (i) all registration and filing fees (including, without limitation, fees and expenses (A) with respect to filings required to be made with the Commission and with the Trading Market on which the Common Stock is then listed for trading, (B) in compliance with applicable state securities or Blue Sky laws reasonably agreed to by the Company in writing (including, without limitation, fees and disbursements of counsel for the Company in connection with Blue Sky qualifications or exemptions of the Registrable Securities and determination of the eligibility of the Registrable Securities for investment under the laws of such jurisdictions as requested by the Holders) and (C) if not previously paid by the Company in connection with an Issuer Filing, with respect to any filing that may be required to be made by any broker through which a Holder intends to make sales of Registrable Securities with FINRA pursuant to FINRA Rule 5110, so long as the broker is receiving no more than a customary brokerage commission in connection with such sale, (ii) printing expenses (including, without limitation, expenses of printing certificates for Registrable Securities and of printing prospectuses if the printing of prospectuses is reasonably requested by the holders of a majority of the Registrable Securities included in a Registration Statement), (iii) messenger, telephone and delivery expenses, (iv) fees and disbursements of counsel and auditors for the Company, and (v) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement. In addition, the Company shall be responsible for all of its internal expenses incurred in connection with the consummation of the transactions contemplated by this Agreement (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit and the fees and expenses incurred in connection with the listing of the Registrable Securities on any securities exchange as required hereunder. In no event shall the Company be responsible for any broker or similar commissions or, except to the extent provided for in the Transaction Documents, any legal fees or other costs of the Holders.

#### 5. Indemnification.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Holder, the officers, directors, members, general and limited partners, managers, agents, brokers (including brokers who offer and sell Registrable Securities as principal as a result of a pledge or any failure to perform under a margin call of Common Stock), investment advisors and employees (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each of them, each Person who controls any such Holder (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) and the officers, directors, members, general and limited partners, managers, agents and employees (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all losses, claims, damages, liabilities, costs (including, without limitation, reasonable attorneys' fees) and reasonable expenses (collectively, "Losses"), as incurred, arising out of or relating to (1) any untrue or alleged untrue statement of a material fact contained in a Registration Statement, any Prospectus or any form of prospectus or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or form of prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading or (2) any violation or alleged violation by the Company of the Securities Act, the Exchange Act or any state securities law, or any rule or regulation thereunder, in connection with the performance of its obligations under this Agreement, except to the extent, but only to the extent, that (i) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement, such Prospectus or such form of Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A hereto for this purpose) or (ii) in the case of an occurrence of an event of the type specified in Section

3(c)(ii)-(vi), the use by such Holder of an outdated or defective Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated or defective and prior to the receipt by such Holder of the Advice contemplated in Section 8(d). The Company shall notify the Holders promptly of the institution, threat or assertion of any Proceeding arising from or in connection with the transactions contemplated by this Agreement of which the Company is aware.

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(b) Indemnification by Holders. Each Holder shall, severally and not jointly, indemnify and hold harmless the Company, its directors, officers, agents and employees, each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents or employees of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses, as incurred, to the extent arising solely out of or based solely upon: (x) such Holder's failure to comply with the prospectus delivery requirements of the Securities Act or (y) any untrue statement of a material fact contained in any Registration Statement, any Prospectus, or any form of prospectus, or in any amendment or supplement thereto or in any preliminary prospectus, or arising solely out of or based solely on to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading (in the case of any Prospectus or form of prospectus or supplement thereto, in the light of the circumstances under which they were made) (i) to the extent, but only to the extent, that such untrue statement or omission is contained in any information so furnished in writing by such Holder to the Company specifically for inclusion in such Registration Statement or such Prospectus or (ii) to the extent that (1) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement (it being understood that the Holder has approved Annex A hereto for this purpose), such Prospectus or such form of Prospectus or in any amendment or supplement thereto or (2) in the case of an occurrence of an event of the type specified in Section 3(c)(ii)-(vi), the use by such Holder of an outdated or defective Prospectus after the Company has notified such Holder in writing in accordance with Section 3(c) that the Prospectus is outdated or defective and prior to the receipt by such Holder of the Advice contemplated in Section 8(d). In no event shall the liability of any selling Holder hereunder be greater in amount than the dollar amount of the net proceeds received by such Holder upon the sale of the Registrable Securities giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. If any Proceeding shall be brought or asserted against any Person entitled to indemnity hereunder (an "Indemnified Party"), such Indemnified Party shall promptly notify the Person from whom indemnity is sought (the "Indemnifying Party") in writing, and the Indemnifying Party shall have the right to assume the defense thereof, including the employment of counsel reasonably satisfactory to the Indemnified Party and the payment of all fees and expenses incurred in connection with defense thereof; provided, that the failure of any Indemnified Party to give such notice shall not relieve the Indemnifying Party of its obligations or liabilities pursuant to this Agreement, except (and only) to the extent that it shall be finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) that such failure shall have materially prejudiced the Indemnifying Party.

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless: (1) the Indemnifying Party has agreed in writing to pay such fees and expenses; (2) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding; or (3) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and such Indemnified Party shall reasonably believe that a material conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of one separate counsel shall be at the expense of the Indemnifying Party). The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld or delayed. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending or threatened Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.



Subject to the terms of this Agreement, all reasonable fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating or preparing to defend such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within ten Trading Days of written notice thereof to the Indemnifying Party; provided, that the Indemnified Party shall promptly reimburse the Indemnifying Party for that portion of such fees and expenses applicable to such actions for which it is finally judicially determined (not subject to appeal) such Indemnified Party is not entitled to indemnification hereunder, determined based upon the relative faults of the parties.

(d) Contribution. If the indemnification under Section 5(a) or 5(b) is unavailable to an Indemnified Party for any reason or insufficient to hold an Indemnified Party harmless for any Losses, then each Indemnifying Party shall contribute to the amount paid or payable by such Indemnified Party, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations.

The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in this Agreement, any reasonable attorneys' or other reasonable fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms.

The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. Notwithstanding the provisions of this Section 5(d), in no event shall any selling Holder be required to contribute an amount under this Section 5(d) in excess of the net proceeds received by such Holder upon sale of such Holder's Registrable Securities pursuant to the Registration Statement giving rise to such contribution obligation, except in the case of fraud by such Holder.

The indemnity and contribution agreements contained in this Section are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties.

6. Reports Under Exchange Act. With a view to making available to the Holder the benefits of Rule 144 promulgated under the Securities Act and any other rule or regulation of the Commission that may at any time permit a Holder to sell Registrable Shares of the Company to the public without registration, the Company agrees to:

(a) Make and keep public information available, as those terms are used in Rule 144, at all times;

(b) File with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act, the Exchange Act and the rules and regulations of the Trading Market;

(c) Furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith on request, (i) a written statement by the Company that it has complied with the reporting requirements of Rule 144, the Securities Act and the Exchange Act, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the Commission that permits the selling of any such securities without registration; and



(d) Undertake any additional actions reasonably necessary to maintain the availability of the use of Rule 144, the Company's eligibility to file and maintain continuously effective Form S-3 registration statements and any future rules adopted by the Commission permitting the resale of the Registrable Securities.

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7. Transferees and Assignees. If any of the Registrable Securities are transferred or assigned by a Holder in accordance with the terms of the Transaction Documents, then, upon request by the transferring Holder, the Company shall use its best efforts (to the greatest extent and at the earliest opportunity practicable and in any event not later than 20 days after the earliest practicable date permitted under applicable guidance of the Commission and the Trading Market upon which the Registrable Securities are listed and traded) to enable such transferee or assignee to resell such transferred or assigned Registrable Securities using the Registration Statement filed and made effective pursuant to this Agreement and the related Prospectus by filing a post-effective amendment or prospectus supplement, naming such transferee or assignee as a selling holder under such Registration Statement and Prospectus.

8. Miscellaneous.

(a) Remedies. In the event of a breach by the Company or by a Holder, of any of their obligations under this Agreement, each Holder or the Company, as the case may be, in addition to being entitled to exercise all rights granted by law and under this Agreement, including recovery of damages, will be entitled to specific performance of its rights under this Agreement. The Company and each Holder agree that monetary damages would not provide adequate compensation for any losses incurred by reason of a breach by it of any of the provisions of this Agreement and hereby further agrees that, in the event of any action for specific performance in respect of such breach, it shall waive the defense that a remedy at law would be adequate.

(b) No Piggyback on Holder Registrations. No Person has any right to cause the Company to effect a registration under the Securities Act of any securities of the Company or to include securities of the Company in the Mandatory Registration Statement other than the Registrable Securities, except for rights that have been duly waived. Neither the Company nor any of its security holders (other than the Holders in such capacity pursuant hereto) may include securities of the Company in the Mandatory Registration Statement other than the Registrable Securities.

(c) Compliance. Each Holder covenants and agrees that it will comply with the prospectus delivery requirements of the Securities Act as applicable to it in connection with sales of Registrable Securities pursuant to a Registration Statement.

(d) Discontinued Disposition. Each Holder agrees by its acquisition of such Registrable Securities that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 3(c), such Holder will forthwith discontinue disposition of such Registrable Securities under a Registration Statement until such Holder's receipt of the copies of the supplemented Prospectus and/or amended Registration Statement, or until it is advised in writing (the "Advice") by the Company that the use of the applicable Prospectus may be resumed, and, in either case, has received copies of any additional or supplemental filings that are incorporated or deemed to be incorporated by reference in such Prospectus or Registration Statement. The Company will use its best efforts to ensure that the use of the Prospectus may be resumed as promptly as it practicable. The Company agrees and acknowledges that any periods during which the Holder is required to discontinue the disposition of the Registrable Securities hereunder shall be subject to the provisions of Section 2(d).

(e) Piggy-Back Registrations. If at any time during the period from the Closing Date (as defined in the Purchase Agreement) to the second anniversary of the Closing Date, any Registrable Securities are not able to be resold pursuant to an effective Registration Statement and the Company shall determine to prepare and file with the Commission a registration statement relating to an underwritten offering or a "registered direct" offering to be placed by a placement agent, either for the Company's own account or the account of others under the Securities Act of any of its equity securities, other than on Form S-4 or Form S-8 (each as promulgated under the Securities Act) or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with stock option or other employee benefit plans, then the Company shall send to the Holder written notice of such determination and, if within ten days after receipt of such notice, the Holder shall so request in writing, the Company shall include in such registration statement all or any part of the Registrable

Securities such Holder requests to be registered, subject to customary underwriter or placement agent cutbacks applicable to all holders of registration rights, if any, due to a reasonable objection from the underwriters or placement agents that the inclusion of such Registrable Securities would materially adversely affect the contemplated offering; provided, however, that no other stockholder's securities are included in any offering in which a Holder's Registrable Securities are cutback. All Holders requesting registration of their securities through such underwritten offering or "registered direct" offering shall (together with the Company and the other holders registering their securities through such offering) enter into an underwriting agreement or placement agent agreement, as applicable, with the underwriters or placement agents for such offering.

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(f) Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holders of a majority of the then outstanding Registrable Securities. Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of Holders and that does not directly or indirectly affect the rights of other Holders may be given by Holders of all of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified, or supplemented except in accordance with the provisions of the immediately preceding sentence.

(g) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be delivered as set forth in the Purchase Agreement.

(h) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties and shall inure to the benefit of each Holder. The Company may not assign its rights or obligations hereunder without the prior written consent of all of the Holders of the then outstanding Registrable Securities. Each Holder may assign their respective rights hereunder in the manner and to the Persons as permitted under the Purchase Agreement, including, without limitation, to affiliates of any Holder or any general partner, limited partners or members of a Holder or of such Holder's affiliates.

(i) No Inconsistent Agreements. Neither the Company nor any of its subsidiaries has entered, as of the date hereof, nor shall the Company or any of its subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Neither the Company nor any of its subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full or waived.

(j) Execution and Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and, all of which taken together shall constitute one and the same Agreement. In the event that any signature is delivered by facsimile transmission (or electronic transmission of a PDF file), such signature shall create a valid binding obligation of the party executing (or on whose behalf such signature is executed) the same with the same force and effect as if such facsimile signature (or PDF file) were the original thereof.

(k) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be determined in accordance with the provisions of the Purchase Agreement.

(l) Cumulative Remedies. The remedies provided herein are cumulative and not exclusive of any other remedies provided by law.

(m) Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their best efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.



(n) Headings. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(o) Independent Nature of Holders' Obligations and Rights. The obligations of each Holder hereunder are several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holders as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Holders are in any way acting in concert with respect to such obligations or the transactions contemplated by this Agreement. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose.

(p) Aggregation of Stock. All shares of Registrable Securities held or acquired by affiliated entities (including affiliated venture capital funds) or persons shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

[Signature Pages Follow]

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

ACHILLION PHARMACEUTICALS, INC.

By:

\_\_\_\_\_  
Name: Mary Kay Fenton  
Title: CFO

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK  
SIGNATURE PAGE FOR PURCHASERS FOLLOW]

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

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates  
VIII, L.L.C.

Its: General Partner

By:

---

Name: Kathleen Shoemaker  
Title: Managing Member

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates  
VIII, L.L.C.

Its: General Partner

By:

---

Name: Kathleen Shoemaker  
Title: Managing Member

---



CLARUS LIFESCIENCES II, L.P.

By: Clarus Ventures II GP, LP.  
Its: General Partner

By: Clarus Ventures II LLC  
Its: General Partner

By:

---

Name:

Title: Managing Member

QUAKER BIOVENTURES II, L.P.

By: Quaker Bioventures Capital II, L.P.  
its General Partner

Its: Quaker Bioventures Capital II,  
L.L.C.  
its General Partner

By:

---

Name: Adele C. Oliva  
Title: Vice President

QUAKER BIOVENTURES II, L.P.

By: Quaker Bioventures Capital II, L.P.  
its General Partner

Its: Quaker Bioventures Capital II,  
L.L.C.  
its General Partner

By:

---

Name: Adele C. Oliva  
Title: Vice President

A.M. PAPPAS LIFE SCIENCE VENTURES  
IV, L.P.

By: AMP&A Management IV, LLC.  
Its: General Partner

By:

---

Name: Ford S. Worthy  
Title: Partner & CFO

PV IV CEO FUND, L.P.

By: AMP&A Management IV, LLC.  
Its: General Partner

By:

---

Name: Ford S. Worthy  
Title: Partner & CFO

EXHIBIT A

Schedule of Purchasers

Purchaser Name and Address

Domain Partners VIII, L.P.

One Palmer Square

Suite 515

Princeton, NJ 08542

DP VIII Associates, L.P.

One Palmer Square

Suite 515

Princeton, NJ 08542

Clarus Lifesciences II, L.P.

c/o Clarus Ventures, LLC

101 Main Street, Suite 1210

Cambridge, MA 02142

Quaker Bioventures II, L.P.

Cira Centre

2929 Arch Street

Philadelphia, PA 19104-2868

A.M. Pappas Life Science Ventures IV, L.P.

c/o Pappas Ventures

P.O. Box 110287

Research Triangle Park, NC 27709

PV IV CEO Fund L.P.

c/o Pappas Ventures

P.O. Box 110287

Research Triangle Park, NC 27709

ANNEX A

Plan of Distribution

Each Selling Stockholder (the “Selling Stockholders”) of the common stock (“Common Stock”) of Achillion Pharmaceuticals, Inc., a Delaware corporation (the “Company”) and any of their pledges, assignees and successors-in-interest may, from time to time, sell any or all of their shares of Common Stock on the Trading Market or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
  - purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
    - an exchange distribution in accordance with the rules of the applicable exchange;
    - privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the Selling Stockholders to sell a specified number of such shares at a stipulated price per share;
  - a combination of any such methods of sale;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; or
  - any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell shares under Rule 144 under the Securities Act of 1933, as amended (the “Securities Act”), if available, rather than under this prospectus. The Selling Stockholders have the sole and absolute discretion not to accept any purchase offer or make any sale of shares if they deem the purchase price to be unsatisfactory at any particular time.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with NASDR Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with NASDR IM-2440.

In connection with the sale of the Common Stock or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the

Common Stock in the course of hedging the positions they assume. The Selling Stockholders may also sell shares of the Common Stock short and deliver these securities to close out their short positions, or loan or pledge the Common Stock to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

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The Selling Stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Common Stock.

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the shares. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

[Because Selling Stockholders may be deemed to be “underwriters” within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act.] In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. Each Selling Stockholder has advised us that they have not entered into any written or oral agreements, understandings or arrangements with any underwriter or broker-dealer regarding the sale of the resale shares. There is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the Selling Stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date all of the Registrable Securities covered by such Registration Statement have been sold and (ii) the later of (A) the second anniversary of the Effectiveness Date or (B) the date upon which the Registrable Securities may be sold without volume or manner-of-sale restrictions under Rule 144 as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and acceptable to the Company’s transfer agent and the affected Holders. The resale shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the Common Stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale.



ANNEX B

ACHILLION PHARMACEUTICALS, INC.

Selling Securityholder Notice and Questionnaire

The undersigned beneficial owner of common stock, par value \$0.001 per share (the “Common Stock”), of Achillion Pharmaceuticals, Inc., a Delaware corporation (the “Company”), (the “Registrable Securities”) understands that the Company has filed or intends to file with the Securities and Exchange Commission (the “Commission”) a registration statement on Form S-3 or other form as may be available for use by the Company (the “Registration Statement”) for the registration and resale under Rule 415 of the Securities Act of 1933, as amended (the “Securities Act”), of the Registrable Securities, in accordance with the terms of the Registration Rights Agreement, dated as of August 18, 2010 (the “Registration Rights Agreement”), among the Company and the Purchasers named therein. A copy of the Registration Rights Agreement is available from the Company upon request at the address set forth below. All capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Registration Rights Agreement.

Certain legal consequences arise from being named as a selling securityholder in the Registration Statement and the related prospectus. Accordingly, holders and beneficial owners of Registrable Securities are advised to consult their own securities law counsel regarding the consequences of being named or not being named as a selling securityholder in the Registration Statement and the related prospectus.

NOTICE

The undersigned beneficial owner (the “Selling Securityholder”) of Registrable Securities hereby elects to include the Registrable Securities owned by it and listed below in Item 3 (unless otherwise specified under such Item 3) in the Registration Statement.

The undersigned hereby provides the following information to the Company and represents and warrants that such information is accurate:

QUESTIONNAIRE

1. Name.

(a) Full Legal Name of Selling Securityholder:

\_\_\_\_\_

(b) Full Legal Name of Registered Holder (if not the same as (a) above) through which Registrable Securities Listed in Item 3 below are held:

\_\_\_\_\_

(c) Full Legal Name of Natural Control Person (which means a natural person who directly or indirectly alone or with others has power to vote or dispose of the securities covered by the questionnaire):

\_\_\_\_\_

2. Address for Notices to Selling Securityholder:

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Telephone:

Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_

3. Beneficial Ownership of Registrable Securities:

(a) Type and Principal Amount of Registrable Securities beneficially owned (not including the Registrable Securities that are issuable pursuant to the Purchase Agreement):

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4. Broker-Dealer Status:

(a) Are you a broker-dealer?

Yes            No

(b) If “yes” to Section 4(a), did you receive your Registrable Securities as compensation for investment banking services to the Company.

Yes            No

Note: If no, the Commission’s staff has indicated that you should be identified as an underwriter in the Registration Statement.

(c) Are you an affiliate of a broker-dealer?

Yes            No

(d) If you are an affiliate of a broker-dealer, do you certify that you bought the Registrable Securities in the ordinary course of business, and at the time of the purchase of the Registrable Securities to be resold, you had no agreements or understandings, directly or indirectly, with any person to distribute the Registrable Securities?

Yes            No

Note: If no, the Commission's staff has indicated that you should be identified as an underwriter in the Registration Statement.

5. Beneficial Ownership of Other Securities of the Company Owned by the Selling Securityholder.

Except as set forth below in this Item 5, the undersigned is not the beneficial or registered owner of any securities of the Company other than the Registrable Securities listed above in Item 3.

(a) Type and Amount of Other Securities beneficially owned by the Selling Securityholder:

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6. Relationships with the Company:

Except as set forth below, neither the undersigned nor any of its affiliates, officers, directors or principal equity holders (owners of 5% or more of the equity securities of the undersigned) has held any position or office or has had any other material relationship with the Company (or its predecessors or affiliates) during the past three years.

State any exceptions here:

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The undersigned agrees to promptly notify the Company of any inaccuracies or changes in the information provided herein that may occur subsequent to the date hereof at any time while the Registration Statement remains effective.

By signing below, the undersigned consents to the disclosure of the information contained herein in its answers to Items 1 through 6 and the inclusion of such information in the Registration Statement and the related prospectus and any amendments or supplements thereto. The undersigned understands that such information will be relied upon by the Company in connection with the preparation or amendment of the Registration Statement and the related prospectus.

IN WITNESS WHEREOF the undersigned, by authority duly given, has caused this Notice and Questionnaire to be executed and delivered either in person or by its duly authorized agent.

Dated:

Beneficial Owner:

By:  
Name:  
Title:

PLEASE FAX A COPY OF THE COMPLETED AND EXECUTED NOTICE AND QUESTIONNAIRE, AND RETURN THE ORIGINAL BY OVERNIGHT MAIL, TO:

Achillion Pharmaceuticals, Inc.  
300 George Street  
New Haven, CT 06511  
Attention: Mary Kay Fenton  
Fax: (203) 624-7003



EXHIBIT D

Form of Opinion of Company Counsel

WilmerHale

WilmerHale Venture Group

+1 781 966 2000 (t)

+1 781 966 2100 (f)  
wilmerhale.com

August [ ], 2010

To the Purchasers named on  
Schedule A attached hereto

Re: Securities Purchase Agreement by and between Achillion Pharmaceuticals, Inc. and the Purchasers named on the  
signature pages thereto

Ladies and Gentlemen:

This opinion is being furnished pursuant to Section 2.3(b)(iii)(A) of the Securities Purchase Agreement, dated as of August [ ], 2010 (the "Agreement"), by and among Achillion Pharmaceuticals, Inc., a Delaware corporation (the "Company"), and each of the persons identified in the Agreement as a "Purchasers" (each of whom is named on Schedule A attached hereto (collectively, the "Purchasers" and individually, a "Purchaser")). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings ascribed to them in the Agreement.

We have acted as counsel to the Company in connection with the preparation, execution and delivery of the Agreement, the Registration Rights Agreement and the Common Warrants (the "Transaction Documents"). As such counsel, we have examined and are familiar with and have relied upon the following documents:

1. the Certificate of Incorporation and By-laws, each as amended to date, of the Company;
2. a Certificate of the Secretary of State of the State of Delaware, dated August [ ], 2010, attesting to the continued legal existence and corporate good standing of the Company in Delaware (the "Domestic Certificate");
3. a Certificate of the Secretary of State of the State of Connecticut, dated August [ ], 2010, attesting to the good standing and due qualification of the Company to transact business in the state of Connecticut (the "Foreign Qualification Certificate");
4. the Transaction Documents; and
5. a Secretary's Certificate from the Company, dated as of the date hereof (the "Secretary's Certificate"), attesting to the Company's charter and by-laws, certain resolutions adopted by the Board of Directors of the Company and as to certain other matters.

In our examination of the documents described above, we have assumed the genuineness of all signatures, the legal capacity of all individual signatories, the completeness of all corporate and stock records provided to us, the

authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, and the authenticity of the originals of such latter documents.

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In rendering this opinion, we have relied, as to all questions of fact material to this opinion, upon certificates of public officials and officers of the Company and upon the representations and warranties made by the Purchasers and the Company in the Transaction Documents. We have not attempted to verify independently such facts. We have not conducted a search of any electronic databases or the dockets of any court, administrative or regulatory body, agency or other filing office in any jurisdiction.

For purposes of this opinion, we have assumed that the Transaction Documents have been duly authorized, executed and delivered by all parties thereto other than the Company, and that all such other parties have all requisite power and authority to effect the transactions contemplated by the Transaction Documents. We have also assumed that each Transaction Document is the valid and binding obligation of each party thereto other than the Company and is enforceable against such other parties in accordance with its terms. We do not render any opinion as to the application of any federal or state law or regulation to the power, authority or competence of any party to the Transaction Documents other than the Company.

For purposes of this opinion we have assumed that the Board of Directors of the Company has complied with its fiduciary duties in connection with the transactions contemplated by the Transaction Documents. We have also assumed for the purposes of Section 144 of the DGCL

(as defined below) that the Transaction Documents are fair as to the Company as of the time they were authorized, approved or ratified by the Board of Directors of the Company or a committee thereof.

Our opinions set forth below are qualified to the extent that they may be subject to or affected by (i) applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or similar laws relating to or affecting the rights of creditors generally, (ii) statutory or decisional law concerning recourse by creditors to security in the absence of notice or hearing, (iii) duties and standards imposed on creditors and parties to contracts, including, without limitation, requirements of good faith, reasonableness and fair dealing, and (iv) general equitable principles. We express no opinion as to the availability of any equitable or specific remedy upon any breach of any of the agreements as to which we are opining herein, or any of the agreements, documents or obligations referred to therein, or to the successful assertion of any equitable defenses, inasmuch as the availability of such remedies or the success of any equitable defense may be subject to the discretion of a court. We are expressing no opinion herein as to the enforceability of any securities law indemnification and contribution provisions in the Transaction Documents. We are expressing no opinion herein with respect to compliance by the Company with state securities or “blue sky” laws, or with any state or federal securities antifraud laws.

We also express no opinion herein as to any provision of any agreement (a) which may be deemed to or construed to waive any right of the Company, (b) to the effect that rights and remedies are not exclusive, that every right or remedy is cumulative and may be exercised in addition to or with any other right or remedy and does not preclude recourse to one or more other rights or remedies, (c) relating to the effect of invalidity or unenforceability of any provision of the Transaction Documents on the validity or enforceability of any other provision thereof, (d) requiring the payment of penalties, consequential damages or liquidated damages, (e) which is in violation of public policy, including, without limitation, any provision relating to indemnification and contribution with respect to securities law matters, (f) purporting to indemnify any person against his, her or its own negligence or intentional misconduct, (g) which provides that the terms of the Transaction Documents may not be waived or modified except in writing or (h) relating to choice of law or consent to jurisdiction.

Our opinions expressed in paragraph 1 below, insofar as they relate to the valid existence, due qualification and good standing of the Company, are based solely on the Domestic Certificate and the Foreign Qualification Certificate and are limited accordingly, and, as to such matters, our opinions are rendered as of the respective dates of such certificates. We express no opinion as to the tax good standing of the Company in any jurisdiction.



For purposes of our opinions in paragraphs 5 and 6 below, we have relied upon representations made by the Purchasers in Section 3.2 of the Agreement, and have assumed (without any independent investigation) the accuracy of such representations. For purposes of our opinions in paragraphs 5 and 6 below, we have also assumed that in connection with the offer and sale of securities to the Purchasers, neither the Company nor any person acting on its behalf has engaged in any form of “general solicitation or general advertising” within the meaning contemplated by Rule 502 (c) of Regulation D.

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We are opining herein solely as to the state laws of the Commonwealth of Massachusetts, the Delaware General Corporation Law statute (the "DGCL") and the federal laws of the United States of America. To the extent that any other laws govern any of the matters as to which we are opining below, we have assumed, with your permission and without independent investigation, that such laws are identical to the state laws of the Commonwealth of Massachusetts, and we express no opinion as to whether such assumption is reasonable or correct.

For purposes of our opinions rendered below, we have assumed that the facts and law governing the future performance by the Company of its obligations under the Transaction Documents will be identical to the facts and law governing its performance on the date of this opinion.

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

1. The Company is a corporation validly existing and in good standing under the laws of the State of Delaware and has all requisite corporate power and authority to conduct its business as described in the SEC Reports, and to carry out the transactions contemplated by the Transaction Documents. The Company is duly qualified to do business as a foreign corporation in the State of Connecticut.
2. Immediately prior to the Closing, the authorized capital stock of the Company consists of (i) 100,000,000 shares of Common Stock, par value \$0.001 per share, and (ii) 5,000,000 shares of Preferred Stock, par value \$0.01 per share.
3. The Closing Securities have been duly authorized for issuance and sale to the Purchasers pursuant to the Agreement and, when issued and delivered by the Company against payment therefor in accordance with the terms of the Agreement will be duly and validly issued and fully paid and nonassessable. The Common Warrant Shares have been duly and validly authorized and reserved for issuance and upon exercise of the Common Warrants, in accordance with their terms, including the payment of any exercise price therefor, will be duly and validly issued, fully paid and nonassessable.
4. The execution and delivery by the Company of the Transaction Documents, and the consummation by the Company of the transactions contemplated thereby, have been duly authorized by all necessary corporate action on the part of the Company, and the Transaction Documents have been duly executed and delivered by the Company. Each of the Transaction Documents constitutes the valid and binding obligation of the Company, enforceable against the Company in accordance with its terms.
5. The execution and delivery by the Company of the Transaction Documents, and the consummation by the Company of the transactions contemplated thereby, do not (a) subject to the Required Approvals and based in part on the representations and warranties in Section 3.2 of the Agreement, violate the provisions of any U.S. federal law, rule or regulation applicable to the Company or the DGCL; (b) violate the provisions of the Company's Certificate of Incorporation or By-laws, each as amended to date; or (c) with or without notice and/or the passage of time, conflict with or result in the breach or termination of any term or provision of, or constitute a default under, or cause the creation of any lien, charge or encumbrance upon the properties or assets of the Company pursuant to, any agreement to which the Company is a party and which is attached as an exhibit to the Company's annual report on Form 10-K for the year ended December 31, 2009 and any current or periodic reports filed by the Company since the date of such annual report on Forms 8-K or 10-Q.
6. The Company is not required under applicable United States Federal law or the DGCL to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other governmental authority or agency in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than the Required Approvals.



7. 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.

8. Based in part on the representations of each of the Purchasers in Section 3.2 of the Agreement, the offer, issuance and sale of the Shares pursuant to the Agreement are exempt from registration under the Securities Act of 1933, as amended.

This opinion is provided to the Purchasers as a legal opinion only and not as a guaranty or warranty of the matters discussed herein. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions and is rendered as of the date hereof, and we disclaim any obligation to advise you of any change in any of the foregoing sources of law or subsequent developments in law or changes in facts or circumstances which might affect any matters or opinions set forth herein.

This opinion is rendered only to the Purchasers and is solely for the benefit of the Purchasers in connection with the transactions contemplated by the Transaction Documents. This opinion may not be relied upon by the Purchasers for any other purpose, nor may this opinion be provided to, quoted to or relied upon by any other person or entity for any purpose without our prior written consent.

Very truly yours,

WILMER CUTLER PICKERING  
HALE AND DORR LLP

By:  
Susan L. Mazur, Partner

Schedule A

Schedule of Purchasers

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EXHIBIT E

Representation Letter

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Investment Representation Letter

August \_\_\_\_, 2010

Achillion Pharmaceuticals, Inc.

300 George Street

New Haven, CT 06511

Dear Sirs:

In order to induce Achillion Pharmaceuticals, Inc., a Delaware corporation (the "Company"), to issue to the undersigned shares of Common Stock, \$.001 par value per share (the "Common Stock"), and warrants to purchase shares of Common Stock of the Company, the undersigned represents, warrants and covenants as follows:

- (a) As of the date of this Letter, the undersigned holds \_\_\_\_\_ shares of the Company's Common Stock.
- (b) Prior to the closing of the transactions contemplated by the Securities Purchase

Agreement, dated as of August \_\_\_\_, 2010 (the "SPA"), by and among the Company, the undersigned and the other parties named therein (the "Financing"), the undersigned shall not purchase any shares of the Company's Common Stock, and immediately following the

Financing, the undersigned will not hold more than \_\_\_\_\_ shares of the Company's

Common Stock and warrants to purchase \_\_\_\_\_ shares of the Company's Common Stock.

The undersigned agrees that the Company may rely upon this Letter in rendering certain representations and warranties pursuant to the SPA.

The undersigned has carefully read this Letter and discussed its requirements, to the extent the undersigned believed necessary, with its counsel.

Very truly yours,

CLARUS VENTURES, LLC

By:  
Name:  
Title: