
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Amendment No. 6
to

FORM S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

JAGUAR ANIMAL HEALTH, INC.
(Exact name of Registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)	2834 (Primary Standard Industrial Classification Code Number)	46-2956775 (I.R.S. Employer Identification No.)
---	--	--

201 Mission Street, Suite 2375
San Francisco, California 94105
(415) 371-8300
(Address, Including Zip Code, and Telephone Number, Including
Area Code, of Registrant's Principal Executive Offices)

Lisa A. Conte
Chief Executive Officer and President
Jaguar Animal Health, Inc.
201 Mission Street, Suite 2375
San Francisco, California 94105
(415) 371-8300
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies of all correspondence to:

Donald C. Reinke, Esq.
David T. Mittelman, Esq.
Reed Smith LLP
1510 Page Mill Road, Suite 110
Palo Alto, California 94304
(650) 352-0500

Approximate date of commencement of proposed sale of the securities to the public:

As soon as practicable after the effectiveness of this registration statement and the satisfaction or waiver of all other conditions under the merger agreement described herein.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a
smaller reporting company)

Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

If applicable, please an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13c-4(i) (Cross-Border Issuer Tender Offer)

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Jaguar Animal Health, Inc. has prepared this Amendment No. 6 to the Registration Statement (the "Registration Statement") on Form S-4 (File No. 333-217364) solely for the purpose of revising Exhibit 5.1. This Amendment No. 6 does not modify any provision of the prospectus that forms a part of the Registration Statement and accordingly such prospectus has not been included herein.

PART II: INFORMATION NOT REQUIRED IN PROSPECTUS

Item 20. Indemnification of Directors and Officers

Section 102(b)(7) of the DGCL authorizes a corporation in its certificate of incorporation to eliminate or limit personal liability of directors of the corporation for violations of the directors' fiduciary duty of care. However, directors remain liable for breaches of duties of loyalty, failing to act in good faith, engaging in intentional misconduct, knowingly violating a law, paying a dividend or approving a stock repurchase which was illegal under DGCL Section 174 or obtaining an improper personal benefit. In addition, equitable remedies for breach of fiduciary duty of care, such as injunction or recession, are available.

Jaguar's current certificate of incorporation eliminates the personal liability of the members of its board of directors to the fullest extent permitted by the DGCL. Any repeal or modification of that provision by the stockholders of the corporation will not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Jaguar's current bylaws provide for indemnification of its officers and directors to the fullest extent permitted by the DGCL.

Jaguar has entered into indemnification agreements with each of its directors and officers, pursuant to which Jaguar has agreed, to the maximum extent permitted by applicable law and subject to the specified terms and conditions set forth in each agreement, to indemnify a director or officer who acts on Jaguar's behalf and is made or threatened to be made a party to any action or proceeding against expenses, judgments, fines and amounts paid in settlement that are incurred by such officer or director in connection with the action or proceeding. The indemnification provisions apply whether the action was instituted by a third party or by Jaguar.

Jaguar has purchased and maintains insurance on behalf of its officers and directors that provides coverage for expenses and liabilities incurred by them in their capacities as officers and directors.

Item 21. Exhibits and Financial Statement Schedules

A list of exhibits included as part of this registration statement is set forth in the Exhibit Index which immediately precedes such exhibits and is hereby incorporated by reference herein

Item 22. Undertakings

(a) The undersigned registrant hereby undertakes as follows:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser: each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned registrant hereby undertakes as follows:

- (1) That prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.
- (2) That every prospectus (i) that is filed pursuant to paragraph (c)(1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To respond to requests for information that is incorporated by reference into this proxy statement/prospectus/information statement pursuant to Item 4, 10(b), 11, or 13 of Form S-4, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.
- (4) To supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

(d) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Signature

Title

Date

*

Ari Azhir

Director

July 5, 2017

*By:

/s/ LISA A. CONTE

Lisa A. Conte, *Attorney in Fact*

II-5

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
2.1	Agreement and Plan of Merger, dated as of March 31, 2017, by and among Jaguar Animal Health, Inc., Napo Acquisition Corporation, Napo Pharmaceuticals, Inc. and Gregory Stock (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K of Jaguar Animal Health, Inc. filed March 31, 2017, File No. 001-36714 and included as a part of Annex A to the joint proxy statement/prospectus which forms part of this registration statement).
3.1	Second Amended and Restated Certificate of Incorporation of Jaguar Animal Health, Inc. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K (No. 001-36714) filed on May 18, 2015).
3.2	Form of Third Amended and Restated Certificate of Incorporation of Jaguar Health, Inc. (included as Annex B to the joint proxy statement/prospectus which forms part of this registration statement).
3.4	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K (No. 001-36714) filed on May 18, 2015).
4.1	Specimen Common Stock Certificate of Jaguar Animal Health, Inc. (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-1/A (No. 333-198383) filed on October 10, 2014).
5.1**	Opinion of Reed Smith LLP as to validity of the securities being registered.
10.1#	Form of Indemnification Agreement by and between Jaguar Animal Health, Inc. and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.2#	Jaguar Animal Health, Inc. Amended and Restated 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on June 20, 2016).
10.3#	Form of Notice of Grant of Stock Option and Stock Option Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.4#	Form of Notice of Grant of Restricted Stock and Restricted Stock Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.7 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.5#	Form of Notice of Grant of Restricted Stock Units and Restricted Stock Unit Agreement under the 2014 Stock Incentive Plan (incorporated by reference to Exhibit 10.8 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.6#	Offer Letter by and between Jaguar Animal Health, Inc. and Lisa A. Conte, dated March 1, 2014 (incorporated by reference to Exhibit 10.9 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.7#	Offer Letter by and between Jaguar Animal Health, Inc. and Steven R. King, Ph.D., dated February 28, 2014 (incorporated by reference to Exhibit 10.11 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.8	Amended and Restated License Agreement by and between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc., dated August 6, 2014 (incorporated by reference to Exhibit 10.13 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).

Exhibit No.	Description
10.9	Employee Leasing and Overhead Allocation Agreement by and between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc., dated July 1, 2013 (incorporated by reference to Exhibit 10.14 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.10	Assignment of Sublease and Landlord Consent by and between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc., dated June 1, 2014 (incorporated by reference to Exhibit 10.15 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.11	Form of Common Stock Warrant, which expires February 5, 2019 (incorporated by reference to Exhibit 10.16 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.12	Form of Common Stock Warrant issued to Indena S.p.A., which expires June 26, 2019 (incorporated by reference to Exhibit 10.17 to the Registration Statement on Form S-1 (No. 333-198383) filed on August 27, 2014).
10.13	Form of Common Stock Warrant issued to Joshua Mailman, which expires August 26, 2016 (incorporated by reference to Exhibit 10.21 to the Registration Statement on Form S-1/A (No. 333-198383) filed on September 9, 2014).
10.14#	Offer Letter by and between Jaguar Animal Health, Inc. and John A. Kallassy, dated as of September 19, 2014 (incorporated by reference to Exhibit 10.22 to the Registration Statement on Form S-1/A (No. 333-198383) filed on October 10, 2014).
10.15	Non-Disturbance Letter Agreement by and between Napo Pharmaceuticals, Inc. and Nantucket Investments Limited, as Administrative Agent and Collateral Agent, dated October 10, 2014 (incorporated by reference to Exhibit 10.23 to the Registration Statement on Form S-1/A (No. 333-198383) filed on October 10, 2014).
10.16	Form of Warrant to Purchase Common Stock issued to GPB Life Science Holdings LLC and 31 Group, LLC, which expires October 30, 2019 (incorporated by reference to Exhibit 10.25 to the Registration Statement on Form S-1/A (No. 333-198383) filed on October 31, 2014).
10.17	Form of Exchange Warrant to Purchase Common Stock, issued to GPB Life Science Holdings LLC and 31 Group, LLC, which expires June 3, 2020, as amended (incorporated by reference to Exhibit 10.27 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.18	Amendment No. 1 to Amended and Restated License Agreement between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc., dated as of January 27, 2015 (incorporated by reference to Exhibit 10.28 to the Registration Statement on Form S-1/A (No. 333-198383) filed on March 20, 2015).
10.19	Offer Letter by and between Jaguar Animal Health, Inc. and Michael Hauser, D.V.M., dated as of March 3, 2015 (incorporated by reference to Exhibit 10.32 to the Registration Statement on Form S-1/A (No. 333-198383) filed on March 20, 2015).
10.20	Form of Representative's Warrant (incorporated by reference to Exhibit 10.33 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.21	Form of Warrant and Note Exercise Amendment pursuant to Convertible Note and Warrant Purchase Agreement dated December 23, 2014 (incorporated by reference to Exhibit 10.35 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).

Exhibit No.	Description
10.22	Convertible Note and Warrant Purchase Agreement dated March 20, 2015 by and between Jaguar Animal Health, Inc., and Dechra Pharmaceuticals PLC (incorporated by reference to Exhibit 10.37 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.23	Common Stock Warrant issued pursuant to the Convertible Note and Warrant Purchase Agreement dated March 20, 2015, which expires December 31, 2017 (incorporated by reference to Exhibit 10.39 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.24	Form of Warrant Exercise Amendment pursuant to Exchange Warrant to Purchase Common Stock dated December 3, 2014 (incorporated by reference to Exhibit 10.40 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.25	Form of Amended and Restated Exchange Warrant to Purchase Common Stock (incorporated by reference to Exhibit 10.41 to the Registration Statement on Form S-1/A (No. 333-198383) filed on April 17, 2015).
10.26	Sublease Agreement by and between SeeChange Health Management LLC and Jaguar Animal Health, Inc., dated June 23, 2015 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36714) filed on June 23, 2015).
10.27	Consent to Sublease by and among CA-Mission Street Limited Partnership, SeeChange Health Management LLC and Jaguar Animal Health, Inc., dated June 19, 2015 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (No. 001-36714) filed on June 23, 2015).
10.28	Loan and Security Agreement between Jaguar Animal Health, Inc., Qualified Subsidiaries thereof, the several banks and other financial institutions or entities from time to time parties thereto as lenders and Hercules Technology Growth Capital, Inc., dated as of August 18, 2015 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K (No. 001-36714) filed on August 20, 2015).
10.29†	Manufacture and Supply Agreement between Jaguar Animal Health, Inc. and Glenmark Pharmaceuticals Ltd., dated September 22, 2015 (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36714) filed with the Securities and Exchange Commission on November 13, 2015).
10.30	Formulation Development and Manufacturing Agreement between Jaguar Animal Health, Inc. and Patheon Pharmaceuticals Inc., dated October 8, 2015 (incorporated by reference to Exhibit 10.30 to the Registration Statement on Form S-1 (No. 333-208905) filed with the Securities and Exchange Commission on January 7, 2016).
10.31#	Offer Letter by and between Jaguar Animal Health, Inc., and Karen Wright, dated as of October 11, 2015 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on December 18, 2015).
10.32	Form of Convertible Promissory Note issued pursuant to the Convertible Note and Warrant Purchase Agreement dated as of December 23, 2014 (incorporated by reference to Exhibit 10.30 to the Registration Statement on Form S-1/A (No. 33-198383) filed on March 20, 2015).
10.33	First Amendment to the Loan and Security Agreement and Waiver, by and among Jaguar Animal Health, Inc., Hercules Capital, Inc. and the lender party thereto, dated April 21, 2016 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36714) filed on April 27, 2016).

Exhibit No.	Description
10.34#	Separation Agreement, by and between Jaguar Animal Health, Inc. and John Kallassy, dated April 28, 2016 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K (No. 001-36714) filed on May 3, 2016).
10.35	Common Stock Purchase Agreement, dated June 8, 2016, by and between Jaguar Animal Health, Inc. and Aspire Capital Fund, LLC (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on June 9, 2016).
10.36	Letter of Intent, between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on October 6, 2016).
10.37	Common Stock Warrant issued pursuant to the Letter Agreement, dated November 8, 2016, between Jaguar Animal Health, Inc. and Serious Change II LP, which expires July 28, 2022 (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on November 14, 2016).
10.38	Form of Securities Purchase Agreement, by and among Jaguar Animal Health, Inc. and the investors in the 2016 Private Placement (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on November 29, 2016).
10.39	Form of Registration Rights Agreement, by and among Jaguar Animal Health, Inc. and the investors in the 2016 Private Placement (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on November 29, 2016).
10.40	Supply and Distribution Agreement, dated as of September 6, 2016, by and between Jaguar Animal Health, Inc. and Integrated Animal Nutrition and Health Inc. (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q/A (No. 001-36714) filed on December 5, 2016).
10.41†	Distribution Agreement, dated December 9, 2016, by and between Jaguar Animal Health, Inc. and Henry Schein, Inc. (incorporated by reference to Exhibit 10.41 to the Annual Report on Form 10-K (No. 001-36714) filed on February 15, 2017).
10.42†	License, Development, Co-Promotion and Commercialization Agreement, dated January 27, 2017, by and between Jaguar Animal Health, Inc. and Elanco US, Inc. (incorporated by reference to Exhibit 10.42 to the Annual Report on Form 10-K (No. 001-36714) filed on February 15, 2017).
10.43	Common Stock Warrant issued pursuant to the Letter Agreement, dated January 30, 2017, between Jaguar Animal Health, Inc. and Serious Change II LP, which expires January 31, 2019 (incorporated by reference to Exhibit 10.43 to the Annual Report on Form 10-K (No. 001-36714) filed on February 15, 2017).
10.44	Binding Agreement of Terms for Jaguar Animal Health, Inc. Acquisition of Napo Pharmaceuticals, dated February 8, 2017, between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated herein by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on February 9, 2017).
10.45*	Note Purchase Agreement, dated March 1, 2017, by and among Napo Pharmaceuticals, Inc. and the purchasers named therein.
10.46*	Form of Original Issue Discount Exchange Promissory Note issued pursuant to the Note Purchase Agreement dated as of March 1, 2017, by and among Napo Pharmaceuticals, Inc. and the Purchasers as defined therein.
10.47*	Amended and Restated Note Purchase Agreement, dated March 31, 2017, by and among Napo Pharmaceuticals, Inc., Kingdon Associates, M. Kingdon Offshore Master Fund L.P., and Kingdon Family Partnership, L.P.

Exhibit No.	Description
10.48*	Form of Kingdon Convertible Promissory Note issued pursuant to the Amended and Restated Note Purchase Agreement, dated March 31, 2017, by and among Napo Pharmaceuticals, Inc., Kingdon Associates, M. Kingdon Offshore Master Fund L.P., and Kingdon Family Partnership, L.P.
10.49*	Limited Subordination Agreement, dated December 30, 2016, by and among Napo Pharmaceuticals, Inc., Kingdon Capital Management, L.L.C., Nantucket Investments Limited, the lenders under the Nantucket Financing Agreement party thereto, Dorsar Investment Company, Alco Investment Company and Two Daughters LLC.
10.50*	Security Agreement, dated December 30, 2016, by and among Napo Pharmaceuticals, Inc., Kingdon Capital Management, L.L.C., and the purchasers named therein.
10.51*	Commitment Letter, dated February 21, 2017, signed by Invesco Asset Management Limited.
10.52*	Settlement and Discounted Payoff Agreement, dated March 31, 2017, by and among the lenders named therein, Nantucket Investments Limited, and Napo Pharmaceuticals, Inc.
10.53*	Debt and Warrant Settlement Agreement, dated March 31, 2017, by and among Dorsar Investment Company, Alco Investment Company, Two Daughters LLC, and Napo Pharmaceuticals, Inc.
10.54*	Debt Settlement Agreement, dated March 31, 2017, by and between Boies Schiller Flexner LLP and Napo Pharmaceuticals, Inc.
10.55*	Debt Settlement Agreement, dated March 31, 2017, by and between Dan Becka and Napo Pharmaceuticals, Inc.
10.56	Investor Rights Agreement, dated March 31, 2017, by and among Jaguar Animal Health, Inc. and Nantucket Investments Limited (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of Jaguar Animal Health, Inc. filed March 31, 2017, File No. 001-36714).
10.57*	Form of Escrow Agreement, by and among Jaguar Animal Health, Inc., Nantucket Investments Limited and Citibank, National Association.
10.58*#	Form of Restricted Stock Unit Indemnification and Forfeiture Agreement, by and among Jaguar Animal Health, Inc., Napo Pharmaceuticals, Inc. and the holders of Napo RSUs.
10.59□*	Collaboration Agreement, dated July 2, 2005, by and between Glenmark Pharmaceuticals Ltd. and Napo Pharmaceuticals, Inc., as amended.
10.60*	Settlement Agreement, dated December 29, 2013, by and between Glenmark Pharmaceuticals Ltd. and Napo Pharmaceuticals, Inc.
10.61□*	Alliance Agreement, dated May 23, 2005, by and among AsiaPharm Investment Limited and its Affiliates, including Shandong Luye Pharmaceuticals Co. Ltd., and Napo Pharmaceuticals, Inc.
10.62□*	Finder's Agreement, dated April 9, 2010, by and among Luye Pharma Group Limited and its Affiliates, including Shandong Luye Pharmaceuticals Co. Ltd., and Napo Pharmaceuticals, Inc.
10.63□*	Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc.

Exhibit No.	Description
10.64*	First Amendment to Settlement, Termination, Asset Transfer and Transition Agreement, dated as of May 10, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc.
10.65*	Form of Note Exchange and Warrant Renewal, Extension and Purchase Agreement, dated as of April 30, 2014, by and between Napo Pharmaceuticals, Inc. and the investors named therein.
10.66*	Form of Warrant to Purchase Common Stock issued pursuant to the Note Exchange and Warrant Renewal, Extension and Purchase Agreement, dated as of April 30, 2014, by and between Napo Pharmaceuticals, Inc. and the investors named therein.
10.67*	Form of First Amendment to Note Exchange and Warrant Renewal, Extension and Purchase Agreement, dated as of October 10, 2014, by and between Napo Pharmaceuticals, Inc. and the investors named therein.
10.68*	Form of Warrant to Purchase Common Stock issued pursuant to the First Amendment to Note Exchange and Warrant Renewal, Extension and Purchase Agreement, dated as of October 10, 2014, by and between Napo Pharmaceuticals, Inc. and the investors named therein.
10.69*	Investment Rights Agreement, dated April 20, 2006, as amended January 25, 2011, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Napo Pharmaceuticals, Inc., and Napo India Private Limited and the Management Team, as defined therein.
10.70*	Investment Rights Agreement, dated October 1, 2007, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Sindu Private Limited, and Napo Pharmaceuticals, Inc., and Indus Pharmaceuticals Inc.
10.71*	Investment Rights Agreement, dated December 21, 2009, by and among IL&FS Trust Company Limited, as trustee of the IL&FS Private Equity Trust, investing through its venture capital scheme Leverage India Fund, acting through its investment manager IL&FS Investment Managers Limited, and Napo Pharmaceuticals, Inc., and Napo Pharmaceuticals India Private Limited.
10.72☐*	Marketing and Distribution Agreement, dated as of April 14, 2016, by and among Napo Pharmaceuticals, Inc. and BexR Logistics, LLC, as amended.
10.73☐*	Strategic Marketing Alliance Agreement, dated as of April 14, 2016, by and between Napo Pharmaceuticals, Inc. and SmartPharma, LLC.
10.74*	Quality Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo Pharmaceuticals, Inc. pursuant to the Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc.
10.75☐*	Master Manufacturing Services Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo Pharmaceuticals, Inc. pursuant to the Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc.

Exhibit No.	Description
10.76☐*	Crofelemer Product Agreement, dated May 21, 2013, between Salix Pharmaceuticals, Inc. and Patheon Pharmaceuticals Inc., as assigned by Salix Pharmaceuticals Inc. to Napo pursuant to the Settlement, Termination, Asset Transfer and Transition Agreement, dated March 4, 2016, by and between Napo Pharmaceuticals, Inc. and Salix Pharmaceuticals, Inc.
10.77☐*	License Agreement, dated February 28, 2007, by and between Insmmed Incorporated and Napo Pharmaceuticals, Inc.
10.78	Employee Leasing and Overhead Allocation Agreement, dated July 1, 2016, by and between Napo Pharmaceuticals, Inc. and Jaguar Animal Health, Inc. (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on May 15, 2017).
10.79	Amendment No. 1 to Employee Leasing and Overhead Allocation Agreement, dated March 2, 2017, by and between Jaguar Animal Health, Inc. and Napo Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q (No. 001-36714) filed on May 15, 2017).
10.80*	Master Service Agreement, dated February 13, 2017, by and between Alamo Pharma Services, Inc. and Napo Pharmaceuticals, Inc.
10.81☐*	Project Agreement, dated February 13, 2017, by and between Alamo Pharma Services, Inc., Mission Pharmacal Company, and Napo Pharmaceuticals, Inc.
10.82☐*	Project Agreement, dated February 27, 2017, by and between Alamo Pharma Services, Inc. and Napo Pharmaceuticals, Inc.
10.83*	Amendment, Waiver & Consent, dated June 27, 2017, by and among Jaguar Animal Health, Inc., Nantucket Investments Limited, and Napo Pharmaceuticals, Inc.
21.1*	Subsidiaries of Jaguar Animal Health, Inc.
23.1*	Consent of BDO USA, LLP, independent registered public accounting firm for Jaguar Animal Health, Inc.
23.2*	Consent of Macias Gini & O'Connell LLP, independent auditor for Napo Pharmaceuticals, Inc.
23.4**	Consent of Reed Smith LLP (included in Exhibit 5.1 hereto).
24.1*	Power of Attorney.
99.1*	Form of Proxy Card of Jaguar Animal Health, Inc.
99.2*	Form of Proxy Card of Napo Pharmaceuticals, Inc.
99.3	Opinion of Stifel, Nicolaus & Company, Incorporated (included as Annex C to the joint proxy statement/prospectus which forms part of this registration statement).
99.4*	Consent of Stifel, Nicolaus & Company, Incorporated
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase
101.DEF*	XBRL Taxonomy Extension Definition Linkbase
101.LAB*	XBRL Taxonomy Extension Label Linkbase

Exhibit No.	Description
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase
* ** <input type="checkbox"/> † #	Previously filed. Filed herewith. Portions of the exhibit have been omitted pursuant to a request for confidential treatment and have been separately filed with the SEC. Confidential treatment granted as to portions of the exhibit. Confidential materials omitted and filed separately with the Securities and Exchange Commission. Management contract or compensatory plan or arrangement.

QuickLinks

[EXPLANATORY NOTE](#)

[PART II: INFORMATION NOT REQUIRED IN PROSPECTUS](#)

[Item 20. Indemnification of Directors and Officers](#)

[Item 21. Exhibits and Financial Statement Schedules](#)

[Item 22. Undertakings](#)

[SIGNATURES](#)

[EXHIBIT INDEX](#)



Reed Smith LLP
 101 Second Street
 Suite 1800
 San Francisco, CA 94105-3659
 Tel +1 415 543 8700
 Fax +1 415 391 8269
 reedsmith.com

July 5, 2017

Jaguar Animal Health, Inc.
 201 Mission Street, Suite 2375
 San Francisco, California 94105

Ladies and Gentlemen:

This opinion is furnished to you in connection with the Registration Statement on Form S-4 (File No. 333-217364) (as amended through the date hereof, the "Registration Statement") filed by Jaguar Animal Health, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") on the date hereof in connection with the registration under the Securities Act of 1933, as amended (the "Securities Act"), of the offering by the Company of (i) up to 32,986,824 shares (the "Shares") of the Company's common stock, par value \$0.0001 per share (the "Common Stock"), and (ii) contingent rights to receive (subject to the fulfillment of certain conditions) the Shares (the "Contingent Rights"), which will be issued pursuant to the terms of the Agreement and Plan of Merger, dated March 31, 2017, by and among the Company, Napo Acquisition Corporation, Napo Pharmaceuticals, Inc. ("Napo") and a representative of Napo (the "Merger Agreement").

In rendering the opinion set forth herein, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary or advisable.

In such examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all items submitted to us as originals, the conformity with originals of all items submitted to us as copies, and the authenticity of the originals of such copies. We also have assumed that the Merger Agreement has been duly authorized, executed and delivered by Napo, Napo Acquisition Corporation and the Napo representative, and that the members of the Board of Directors of the Company have acted in a manner consistent with their fiduciary duties as required under applicable law in adopting the Merger Agreement. As to any facts material to the opinions expressed herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and public officials.

This opinion is based solely on the General Corporation Law of the State of Delaware (including all related provisions of the Delaware Constitution and all reported judicial decisions interpreting the General Corporation Law of the State of Delaware and the Delaware Constitution).

NEW YORK · LONDON · HONG KONG · CHICAGO · WASHINGTON, D.C. · BEIJING · PARIS · LOS ANGELES · SAN FRANCISCO · PHILADELPHIA · SHANGHAI · PITTSBURGH · HOUSTON SINGAPORE · MUNICH · ABU DHABI · PRINCETON · NORTHERN VIRGINIA · WILMINGTON · SILICON VALLEY · DUBAI · CENTURY CITY · RICHMOND · GREECE · KAZAKHSTAN

Based upon and subject to the foregoing, we are of the opinion that when (i) the Registration Statement has been declared effective, (ii) the Third Amended and Restated Certificate of Incorporation of the Company attached as Annex B to the Joint Proxy Statement/Prospectus included in the Registration Statement has been filed with the Secretary of State of the State of Delaware, (iii) the merger pursuant to General Corporation Law of the State of Delaware and the Merger Agreement has been completed, and (iv) issued in accordance with the terms of the Merger Agreement, (A) the Contingent Rights, when delivered pursuant to the terms of the Merger Agreement, and as contemplated by the Merger Agreement and the Registration Statement, will constitute valid and binding obligations of the Company enforceable against the Company under the laws of the jurisdiction governing the Contingent Rights under the Merger Agreement, and (B) the Shares and the associated Contingent Rights will be validly issued and the Shares will be fully paid and nonassessable.

We consent to the inclusion of this opinion as an exhibit to the Registration Statement and further consent to all references to us under the caption "Legal Matters" in the Joint Proxy Statement/Prospectus. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ REED SMITH LLP

REED SMITH LLP

DCR/AI