

September 9, 2014

Jeffrey P. Riedler
Assistant Director
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: Jaguar Animal Health, Inc.
Draft Registration Statement on Form S-1
Filed August 27, 2014
File No. 333-198383

Dear Mr. Riedler:

On behalf of our client, Jaguar Animal Health, Inc., a Delaware corporation (the "Company"), we hereby provide responses to comments (the "Comments") of the Staff (the "Staff") of the Securities and Exchange Commission (the "Commission") issued in a letter dated August 25, 2014 (the "Letter") regarding the Company's above-referenced Draft Registration Statement on Form F-1 (the "Amended DRS"), as confidentially submitted to the Commission on August 11, 2014, and as subsequently publicly filed on Form S-1 on August 27, 2014. Contemporaneous with this submission, the Company is filing on the EDGAR system an amended version of the Registration Statement on Form S-1 (the "Form S-1/A") reflecting the responses of the Company below.

The Company's responses are numbered to correspond to the Comments as numbered in the Letter. For your convenience, each of the Comments contained in the Letter have been restated in bold below in their entirety, with the Company's corresponding response set forth immediately under such comment. In the responses below, page number references are to the Form S-1/A.

Prospectus Summary, page 1

1. **We note your response to comment 4. Please do not include planned events in the table on pages 3 and 64 that you do not expect to accomplish in the next 12 months. Including planned events in a table format that you do not expect to accomplish in the next 12 months may suggest to some readers that the completion date for these milestones is more likely than is justified without the benefit of additional context provided by the same information in the text.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on pages 3 and 64 of the Form S-1/A accordingly.

Use of Proceeds, page 44

2. **We note your response to comment 6. Please expand your disclosure to include the approximate amount you plan to allocate to each clinical study. Alternatively, if you have not yet decided what study to conduct with the allocated proceeds, please clarify this.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page 44 of the Form S-1/A accordingly.

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3. **We note that you have allocated \$3 million for developing other species-specific formulations of your prescription drug product candidates and non-prescription products. Please expand your disclosure to identify which of your product candidates you plan to reformulate and for which species.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page 44 of the Form S-1/A accordingly.

Management's Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Significant Judgments and Estimates Accounting for Stock-Based Compensation, page 59

4. **Please refer to prior comment 8. We acknowledge the information provided in your response but may have additional comments on your accounting for stock compensation once you have disclosed an estimated offering price. When the amendment containing the estimated offering price is filed, please provide us separately a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of your most recent equity issuance.**

Response: The Company respectfully acknowledges the Staff's Comment and undertakes to provide the Staff separately a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of its most recent equity issuance.

Business, page 62

5. **The first time you use the term p-value on page 69 please explain what it measures and the p-value that you have to achieve in order to conclude a statistically significant result.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page 69 of the Form S-1/A accordingly. The Company has also similarly revised the disclosure on page 74 of the Form S-1/A.

6. **We note that there may be third party security or collateral assignment agreements pertaining to the intellectual property licensed to you pursuant to the Napo License Agreement. If applicable, please expand your disclosure to include any limitations that would impact Napo's right to assign or encumber its intellectual property, and how such limitations could affect your license under the Napo License Agreement.**

Response: The Company respectfully acknowledges the Staff's Comment and advises the Staff that, prior to the offering, Napo intends to enter into a non-disturbance agreement with the third-party secured creditor that holds a security interest in the intellectual property licensed to the Company pursuant to the Napo License Agreement. Pursuant to such non-disturbance agreement, Napo's third-party secured creditor will agree not to interfere with, among other things, the Napo License Agreement for so long as the Company meets its payment obligations pursuant to the Napo License Agreement. Further, the consent of the third-party secured creditor will also be required with respect to certain subsequent amendments not previously approved by such secured creditor to the Napo License Agreement regarding (i) the Company's payment obligations, (ii) Napo's equity ownership in the Company or (iii) any change in exclusivity. Neither the Company nor Napo currently anticipate any such amendments to the Napo License Agreement.

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Director Compensation, page 89

7. **We note your response to comment 27. Please also update your disclosure to include any informal director compensation program, if applicable.**

Response: The Company respectfully acknowledges the Staff's Comment and advises the Staff that the Company does not have any informal director compensation program at this time.

Index to Financial Statements, page F-1

8. **Please refer to prior comment 30. Please disclose the information provided in your response in either "Note 1. Organization and Business," MD&A or Business.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page 52 of the Registration Statement accordingly.

Notes to Financial Statements

Redeemable Convertible Preferred Stock, page F-17

9. **Please refer to prior comment 31 and address the following:**

- It is unclear from your response and disclosure in the second paragraph on page F-18 whether the provisions of your Series A redeemable convertible preferred stock that adjust the conversion price are solely triggered by an IPO. As a result, please explain to us each instance that may trigger an adjustment to the conversion price and how that price would change and tell us how you account for each of these instances, referencing the authoritative literature you rely upon to support your accounting.
- In your response to the preceding bullet, please explain to us your consideration of guidance associated with contingently adjustable conversion ratios as presented in ASC 470-20-35-1 through 35-5.
- To the extent that your anticipated IPO price does not trigger automatic conversion of the Series A redeemable convertible preferred stock, please tell us why it is appropriate to include the conversion in your pro forma capitalization and dilution disclosures.

Response: The Company respectfully acknowledges the Staff's Comment and advises the Staff that there are two instances that may trigger an adjustment to the conversion price of the Series A Redeemable Convertible Preferred Stock ("Series A Preferred"). These are as follows:

- (1) Issuance of common stock at less than the conversion price; and
- (2) In the event of an initial public offering ("IPO").

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With respect to issuances of common stock at less than the conversion price, the Company respectfully advises the Staff that no such issuances have occurred, nor are any expected to occur prior to consummation of the IPO. Accordingly, the Company respectfully advises the Staff that it has concluded that no further accounting consideration is required under ASC 470-20-35-1 as the trigger event has not occurred. The Company further advises the Staff that in the event of an IPO, the terms of the Series A Preferred provide that the conversion price is adjusted as set out in a formula provided in the Company's certificate of incorporation. Accordingly, the Company has determined that the Series A Preferred includes a contingent beneficial conversion feature and that such conversion includes an adjustable conversion ratio as defined in ASC 470-20-35-1. In accordance with this guidance, the Company advises the Staff that it has concluded that no accounting is required until the contingent event occurs (e.g., an IPO), which will result in determining the number of shares that would be received pursuant to the new conversion formula. Any incremental amount to be recognized upon an IPO will be recognized when the IPO occurs in accordance with ASC 470-20-35-3.

In response to paragraph three of the Staff's comment, the Company further advises the Staff that it has determined that it is probable that the IPO price will trigger automatic conversion of the Series A Preferred. As such, the Company determined it to be most appropriate to include the conversion in its pro forma capitalization and dilution disclosures to provide full and fair disclosure of what the expected capitalization will be in the event of consummation of an IPO.

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Should you have any questions concerning any of the foregoing, please contact me by telephone at (415) 659-5936.

Sincerely,

/s/ Marianne C. Sarrazin

Marianne C. Sarrazin
Reed Smith LLP

Cc: Lisa A. Conte, Jaguar Animal Health, Inc., by e-mail
Bryan Gendron, BDO USA, LLP, by e-mail
Donald C. Reinke, Reed Smith LLP, by e-mail
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