

April 17, 2015

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.
Amendment No. 5 to Registration Statement on Form S-1
Filed March 20, 2015
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 April 16, 2015 (the “Letter”) regarding the Company’s above-referenced Amendment No. 5 to Registration Statement on Form S-1 (the “Registration Statement”), as filed with the Commission on March 20, 2015. Contemporaneous with this filing, the Company is filing on the EDGAR system an Amendment No. 6 to 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.

Product Pipeline, page 3

- Please do not include planned events as anticipated near-term milestones in the table on pages 3 and 66 that are dependent on another preliminary step or milestone or that you do not expect to accomplish in the next 12 months.**

Response: The Company respectfully acknowledges the Staff’s Comment and has revised the disclosure on pages 3 and 67 of the Form S-1/A accordingly.

Capitalization, page 46

- Please revise your disclosure of the pro forma as adjusted transaction to include the repayment of your \$1.0 million standby bridge financing as indicated in your Use of Proceeds disclosure on page 43. In addition, please explain why the pro forma as adjusted accumulated deficit related to this transaction appears to reflect only the repayment of principal and exclude the \$300,000 of repayment premium.**

Response: The Company respectfully acknowledges the Staff’s Comment and has revised the disclosure on page 47 of the Form S-1/A accordingly, and made corresponding edits on pages 11 and 49 of the Form S-1/A accordingly. Further, the Company respectfully advises the Staff that although not previously expressly referenced in the explanation of the pro forma adjustments, the repayment of the \$1.0 million standby bridge financing was already reflected in the pro forma, as adjusted column. The Company further advises the Staff that it believes the \$300,000 repayment premium represents a debt discount in accordance with the ASC Master Glossary, which defines a discount as “the difference between the net proceeds, after expense, received upon issuance of debt and the amount payable at its maturity.” In accordance with ASC 835-30-45, such amounts should be initially reported in the balance sheet as a direct deduction from the face amount of the note and, in accordance with ASC 835-30-35, subsequently amortized as interest expense over the life of the note, using either the interest method or another method if the results are not materially different to the interest method. The Company respectfully advises the Staff that straight line amortization of the \$300,000 repayment premium over the 6-month life of the loan (from December 2014 through June 2015) would have resulted in \$50,000 of interest expense being accrued in the year ended December 31, 2014. This entry was not recorded as the amount was deemed immaterial. Because the entry was not recorded in the financial statements, no entry was necessary in the pro forma, as adjusted financials. In the event the interest had been accrued in the financial statements, a corresponding entry would have been reflected in the pro forma, as adjusted financials to the extent of the accrued amount.

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3. **Please continue to provide 2013 executive compensation information in your Summary Compensation Table. Please refer to Instruction 1 to Item 402(c) of Regulation S-K.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page 100 of the Form S-1/A accordingly.

Report of Independent Registered Public Accounting Firm, page F-2

4. **Please explain the reference in the opinion paragraph to the period from "June 6, 2013 (inception) through December 31, 2014," which appears to be inconsistent with your financial statements.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the reference in the opinion paragraph accordingly.

Notes to Financial Statements

7. Commitments and Contingencies, page F-16

5. **Please revise your disclosure of the fees to be paid to Indena S.p.A. to include the €300,000 bonus fee consistent with the information on page 83.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page F-16 of the Form S-1/A accordingly.

8. Debt and Warrants, page F-17:

6. **Please revise your disclosure of your October 30, 2014 standby bridge financing agreement to address the following apparent discrepancies:**

- **You disclose that the fair value of the associated warrants at issuance was recorded as a debt discount of \$505,348 and that the aggregate discount recorded (including the original \$100,000 discount) was only \$504,348.**
- **The net balance derived at December 31, 2014 by taking the \$1 million principal amount, subtracting the \$504,348 aggregate discount recorded and adding back the \$84,057 amortization of debt discount recorded during 2014 is \$579,709, while the amount reflected on your balance sheet is \$478,709.**

Response: The Company respectfully acknowledges the Staff's Comment and has revised the disclosure on page F-19 of the Form S-1/A accordingly.

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7. **Please tell us why you recorded the warrant issued with the August 2014 standby line of credit as research and development expense. Reference for us the authoritative literature you relied upon to support your classification.**

Response: The Company respectfully acknowledges the Staff's Comment and advises the Staff that the warrant issued with the August 2014 standby line of credit was recorded as interest expense and not as research and development expense, and that it has corrected this typographical error on page F-18 of the Form S-1/A accordingly.

15. Subsequent Events, page F-28:

8. **Please explain your planned accounting treatment for the March 2015 amendments to the terms of the outstanding convertible promissory notes and warrants and reference for us the authoritative literature you rely upon to support your accounting treatment. Please tell us how you reflected this accounting treatment in your pro forma and pro forma as adjusted presentation in Capitalization on page 46. In your response, please tell us whether these amendments or your planned IPO causes you to stop accounting for your October and December 2014 warrant issuances as liabilities.**

Response: The Company respectfully acknowledges the Staff's Comment and advises the Staff that the March 2015 amendments to the terms of the outstanding convertible promissory notes and warrants will affect the instruments as follows:

- **Convertible notes issued in June and July 2014** — The Company advises the Staff that no warrants were issued in conjunction with the convertible notes issued in June and July 2014 and that these notes were accounted for as a liability. The Company advises the Staff that while the conversion feature was determined to not be clearly and closely related to the host debt instrument under ASC 815-15-25, the value of the bifurcated conversion feature was immaterial.

The Company further advises the Staff that the March 2015 amendment that fixed the conversion price upon an initial public offering ("IPO") event to \$5.60 per share from the previous 80% of the IPO price will not have a material impact on the accounting and does not affect the pro forma and the pro forma, as adjusted presentation because the convertible notes were originally liability instruments and fixing the conversion price to \$5.60 per share does not change that conclusion. Further, the Company advises the Staff that the provisions that call for automatic conversion of the notes did not change in March 2015 and therefore the pro forma and pro forma, as adjusted presentation both continue to reflect the automatic conversion of those notes.

· **Convertible notes issued in December 2014** — The Company advises the Staff that the historical accounting treated the convertible notes issued in December 2014 as a liability and did not bifurcate the conversion feature under ASC 815-15-25 because the conversion feature is clearly and closely related to the host debt instrument. The ASC 815-15-25 conclusion to not bifurcate the conversion feature was based on several factors, including the fact that the conversion feature (or put and call), although contingently exercisable upon an IPO, did not accelerate the repayment of the contractual principal amount. However, because the conversion of the notes was at 80% of the IPO price, a beneficial conversion feature was recorded.

The Company further advises the Staff that in March 2015, the holders of these notes irrevocably elected to have their notes automatically convert into shares of the Company's common stock upon the closing of the IPO at a conversion price of \$5.60 per share. While the change in the conversion price to \$5.60 per share would normally trigger a remeasurement of the beneficial conversion feature, the Company advises the Staff that because the notes will automatically convert upon the IPO, no such remeasurement is necessary for the pro forma and pro forma, as adjusted balances reflected in the Form S-1/A. Further because the notes now automatically convert into shares of the Company's common stock, the December 31, 2014 balances of the convertible notes and beneficial conversion feature, were both reflected as additional paid-in-capital in the pro forma and pro forma, as adjusted columns in the Form S-1/A (see pages 11, 47 and 49).

· **Convertible notes issued in February 2015** — The Company advises the Staff that the historical accounting treats the convertible notes issued in February 2015 as a liability and does not bifurcate the conversion feature under ASC 815-15-25 because the conversion feature is clearly and closely related to the host debt instrument. The ASC 815-15-25 conclusion to not bifurcate the conversion feature is based on several factors, including the fact that the conversion feature (or put and call), although contingently exercisable upon an IPO, did not accelerate the repayment of the contractual principal amount. However, because the conversion of the notes was at 80% of the IPO price, a beneficial conversion feature was recorded.

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The Company further advises the Staff that in March 2015, the notes were amended to fix the conversion price upon an IPO event to \$5.60 per share from the previous 80% of the IPO price. This amendment did not change the original conclusion to not bifurcate the conversion feature. However, while fixing the conversion price at \$5.60 per share required a remeasurement of the beneficial conversion feature, because the \$5.60 per share was no longer deemed to be below fair market value of the shares, no beneficial conversion feature was reflected in the pro forma and pro forma, as adjusted presentation in the Form S-1/A (see pages 11, 47 and 49).

· **Warrants issued in June and August 2014** — The Company advises the Staff that while the number of shares issuable under these warrant issued in June and August 2014 to its manufacturer and a standby lender was fixed, the exercise price was 90% and 80% of the IPO price, respectively. Accordingly, the warrants were historically classified as equity instruments based on ASC 815-40, as the warrants (1) are indexed to the Company's own stock, (2) will be settled only in shares of the Company, and (3) do not have any restrictions to be settled in unregistered shares, thus qualifying the warrants to be classified as equity. The warrants are considered indexed to the Company's own stock as, even though the settlement amount is variable, the only variables that would affect the instrument's settlement amount would be inputs to the fair value of a "fixed-for fixed" forward or option on equity shares.

The Company further advises the Staff that the March 2015 amendments that fixed the exercise price upon an IPO event to \$6.30 per share from the previous 90% of the IPO price and \$5.60 per share from the previous 80% of the IPO price, respectively, did not change the classification of these warrants as equity.

· **Warrants issued in December 2014 and February 2015** — The Company advises the Staff that the warrants issued in December 2014 and February 2015 to the purchasers of the convertible notes and the bridge financing lenders were originally classified as liabilities (based on ASC 815-10-75 and ASC 815-40-15) because the exercise price of the warrants and the number of shares to be received were not fixed until the IPO price was determinable. As a result, the warrants were not considered indexed to the Company's own stock, as variables that would affect the instrument's settlement amount were not limited to inputs to the fair value of a "fixed-for-fixed" forward or option on equity shares.

The Company further advises the Staff that the March 2015 amendments that fixed the exercise prices upon an IPO event to \$5.60 per share from the previous 80% of the IPO price triggered the warrants to be reclassified as equity because they are now considered to be indexed to the Company's own stock under ASC 815-40-15. Accordingly, the pro forma and pro forma as adjusted columns on pages 11, 47 and 49 of the S-1/A reflect the reclassification of these warrants as equity.

· **Bridge financing of \$1 million in December 2014**- The Company advises the Staff that this debt is not convertible and was not amended in March 2015. The terms continue to require repayment of the debt upon IPO. Therefore there was no change to the pro forma and pro forma, as adjusted amounts reflected on pages 11, 47 and 49 of the Form S-1/A.

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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
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