

Jaguar Animal Health, Inc.  
Form 424B3  
July 13, 2016

Use these links to rapidly review the document

[TABLE OF CONTENTS](#)

[Table of Contents](#)

Filed Pursuant to Rule 424(b)(3)  
Registration No. 333-212173

**3,000,000 Shares**

**Common Stock**

---

This prospectus relates to the sale of up to 3,000,000 shares of our common stock by Aspire Capital Fund, LLC. Aspire Capital is also referred to in this prospectus as the selling stockholder. The prices at which the selling stockholder may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions. We will not receive proceeds from the sale of the shares by the selling stockholder. However, we have received proceeds of \$0.5 million and may receive additional proceeds of up to \$14.5 million, for an aggregate of \$15.0 million, from the sale of our common stock to the selling stockholder, pursuant to a common stock purchase agreement entered into with the selling stockholder on June 8, 2016.

The selling stockholder is an "underwriter" within the meaning of the Securities Act of 1933, as amended. We have paid the expenses of registering these shares, but all selling and other expenses incurred by the selling stockholder will be paid by the selling stockholder.

Our common stock is listed on the Nasdaq Capital Market under the ticker symbol "JAGX." On July 11, 2016, the last reported sale price per share of our common stock was \$1.86 per share.

You should read this prospectus and any prospectus supplement, together with additional information described under the headings "Incorporation of Certain Documents by Reference" and "Where You Can Find More Information," carefully before you invest in any of our securities.

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

**Our business and an investment in our securities involve a high degree of risk. See "Risk Factors" beginning on page 14 of this prospectus for a discussion of information that you should consider before investing in our securities.**

Edgar Filing: Jaguar Animal Health, Inc. - Form 424B3

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

The date of this prospectus is July 12, 2016.

---

Table of Contents





Table of Contents

**TABLE OF CONTENTS**

	<b>Page</b>
<u>Prospectus Summary</u>	<u>1</u>
<u>Risk Factors</u>	<u>14</u>
<u>Special Note Regarding Forward-Looking Statements</u>	<u>46</u>
<u>Industry Data</u>	<u>46</u>
<u>The Aspire Capital Transaction</u>	<u>47</u>
<u>Use of Proceeds</u>	<u>51</u>
<u>Dilution</u>	<u>52</u>
<u>Description of Capital Stock</u>	<u>54</u>
<u>Selling Stockholder</u>	<u>58</u>
<u>Plan of Distribution</u>	<u>59</u>
<u>Legal Matters</u>	<u>61</u>
<u>Experts</u>	<u>61</u>
<u>Where You Can Find More Information</u>	<u>61</u>
<u>Incorporation by Reference</u>	<u>61</u>

Neither we nor the selling stockholder authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under the circumstances and in the jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date. We are not, and the selling stockholder is not, making an offer of these securities in any jurisdiction where such offer is not permitted.

For investors outside the United States: Neither we nor the selling stockholder has done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of securities and the distribution of this prospectus outside the United States.

Jaguar Animal Health, our logo, Canalevia and Neonorm are our trademarks that are used in this prospectus. This prospectus also includes trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, trademarks and tradenames referred to in this prospectus appear without the ©, ® or ™ symbols, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trademarks and tradenames.

---

Table of Contents

**PROSPECTUS SUMMARY**

*This summary highlights information contained elsewhere in or incorporated by reference into this prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this entire prospectus carefully, especially the section in this prospectus titled "Risk Factors" and our financial statements and related notes incorporated by reference herein, before making an investment decision.*

*As used in this prospectus, references to "Jaguar," "we," "us" or "our" refer to Jaguar Animal Health, Inc.*

**Overview**

We are an animal health company focused on developing and commercializing first-in-class gastrointestinal products for companion and production animals, foals, and high value horses. Canalevia is our lead prescription drug product candidate, intended for the treatment of various forms of diarrhea in dogs. We completed a canine proof-of-concept study in February 2015, suggesting that Canalevia treatment is superior to placebo. In December 2015 we initiated a pivotal trial to evaluate the safety and effectiveness of Canalevia for the treatment of acute diarrhea in dogs. Additionally, we intend to address the important unmet medical need of Chemotherapy Induced Diarrhea (CID) with a pilot program later this year for long-term supportive care management. In June 2015 we completed a multi-site pilot safety study involving the anticipated commercial formulation of Canalevia for CID. We have received MUMS designation for Canalevia for the treatment of CID in dogs and are planning to bring the product to market in 2017. SB-300 is Jaguar's prescription drug product candidate for the treatment of gastrointestinal ulcers in horses, specifically equine athletes. Canalevia and SB-300 contain ingredients isolated and purified from the *Croton lechleri* tree, which is sustainably harvested. Neonorm Foal and Neonorm Calf are the Company's lead non-prescription products. Neonorm is a standardized botanical extract derived from the *Croton lechleri* tree. Canalevia and Neonorm are distinct products that act at the same last step in a physiological pathway generally present in mammals. Jaguar has nine active investigational new animal drug applications, or INADs, filed with the FDA and intends to develop species-specific formulations of Neonorm in six additional target species, formulations of SB-300 in horses, and Canalevia for cats and dogs, and potentially for diarrhea associated with acute colitis in horses. Acute colitis can cause sudden, massive fluid loss and severe electrolyte imbalances that can result in death in a matter of hours. We believe colitis affects thousands of horses in the United States each year, and in December 2015 we completed a pilot safety study to evaluate crofelemer in adult horses, the first step in the development program for diarrhea associated with acute colitis in horses.

Crofelemer is the active pharmaceutical ingredient, or API, in Canalevia. A human specific formulation of crofelemer, Mytesi (formerly known as Fulyzaq), was approved by the FDA in 2012 for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy. Members of our management team developed crofelemer, while at Napo Pharmaceuticals, Inc., or Napo, which was Jaguar's parent company until May 13, 2015.

In January 2016 we announced positive topline results from the proof-of-concept study we initiated in November 2015 to evaluate the safety and effectiveness of this investigational new animal drug, currently referred to as SB-300, for the treatment of gastrointestinal ulcers in horses. In April 2016, we announced that standard drug testing in race horses having received SB-300 did not detect any substances commonly disallowed by horse racing authorities. The results of this initial study show that SB-300 may offer horse owners an additional advantage in the competition horse world, where requirements exist for animals to compete free from the effect of any drugs. Future work is being planned to confirm these results. The study also provided visual evidence suggesting that feed does not interfere with the product candidate's local availability in the gut. In May 2016 we initiated a dose

Table of Contents

determination study of the target commercial paste formulation of SB-300, with both a placebo control arm and a positive control comparator, omeprazole.

Ulcers are lesions of the lining of the digestive tract and are very common in horses used for many competitive activities. We believe that because *Croton lechleri*-derived products have been shown to act locally in the gut and have traditional use and rodent model benefit for ulcers, SB-300 has the potential to address ulcers in horses, as well as diarrhea. We are initially developing this product for the indication of equine gastric ulcer syndrome (EGUS), and we plan to potentially investigate the possible efficacy of this product candidate for treatment of colonic ulcers in horses as a potential follow on indication following the anticipated launch of SB-300. EGUS results from both squamous and glandular gastric ulceration. Ulcers can negatively impact the performance of horses which are expected to perform at peak efficiency, including show horses and race horses. We believe a significant market exists for a product that treats both squamous and colonic ulcers in horses without altering stomach pH. According to a 2005 study, 54% of performance horses have both colonic and gastric ulcers and 97% of performance horses have either a gastric (87%) or a colonic (63%) ulcer. Data from the American Horse Council states that there are currently 9.2 million horses in the U.S., a population that includes 844,531 race horses, more than 2.7 million show horses, and more than 3.9 million recreational horses. Data from the Food and Agriculture Organization of the United Nations indicate that there were approximately 5.7 million horses in Europe in 2013 and nearly 60.0 million horses in 2013 worldwide. Our goal is to see SB-300 serve as an important tool in the standard of care for equine ulcers.

Diarrhea is one of the most common reasons for veterinary office visits for dogs and is the second most common reason for visits to the veterinary emergency room, yet there are no FDA-approved anti-secretory products for the treatment of diarrhea in animals. We estimate that in the United States, veterinarians see approximately 6.0 million annual cases of acute and chronic watery diarrhea in dogs, approximately two-thirds of which are acute diarrhea. We believe that Canalevia will be effective in treating acute diarrhea because it acts at the last physiological step, conserved across mammalian species, in the manifestation of acute diarrhea, regardless of cause, by normalizing ion and water flow in the intestinal lumen. We have received MUMS designation for Canalevia for the treatment of CID in dogs. We plan to market Canalevia in 2017, if approved, through our focused direct sales force and to complement our relationships with distribution partners.

According to the Dairy 2007 study conducted by the USDA, almost one in four preweaned dairy heifer, or female, calves suffers from diarrhea or other digestive problems. The preweaning period is generally the first 60 days after birth. Scours, diarrhea or other digestive problems are responsible for more than half of all preweaned heifer calf deaths, and result in impaired weight gain and long-term reduction in milk production. We believe that the incidence rate of scours and its corresponding financial impact represent a health and business opportunity and that Neonorm Calf has the potential to effectively meet this need.

A challenge clinical study was completed in May 2014 by researchers from Cornell, and published in 2015 in the official journal of the American Dairy Science Association, *Journal of Dairy Science*. The results of this study suggest that Neonorm Calf can significantly increase the fecal dry matter of neonatal calves with experimentally-induced enterotoxigenic *E. coli* diarrhea, and suggest a potential benefit of Neonorm Calf in supporting weight gain in calves.

A further analysis, completed in October 2015, of the above-referenced Cornell study supports a benefit of Neonorm Calf on the optimization of the intestinal microbiome profile in preweaned dairy calves, a potential prebiotic benefit. The microbiome is a community of microorganisms that live normally in the gut and are vital to maintenance of gut health.

In January 2016 we announced the initiation of a placebo-controlled study in conjunction with researchers from Cornell to evaluate the efficacy of the prophylactic use of a second-generation



Table of Contents

formulation of Neonorm Calf administered in liquid on naturally occurring diarrhea in preweaned dairy calves and investigate the possible prebiotic benefit of the product. This double-blinded, randomized study involves 40 Holstein bull calves affected with naturally occurring diarrhea. The topline results of the study show significant effect in decreasing the severity of the disease, along with an improvement in the hydrating of the patients. Ongoing characterization of the fecal microbiome throughout the study period will allow us to determine if, under natural conditions, the product may positively alter the intestinal microbiome to the benefit of the host possibly resulting in improved efficiency of feed conversion and increased weight gain.

In November 2015 we completed an initial proof-of-concept study (NEO101) of Neonorm Foal that involved 60 foals. The objective of this randomized, multi-site, blinded, placebo-controlled study was to evaluate the safety and performance of the product for treatment of foals suffering from secretory diarrhea, and the treated animals received Neonorm Foal in combination with a third-party probiotic. In December 2015 we announced positive results for an exploratory, investigator-initiated follow-up study (ARG102) which assessed the safety and performance of Neonorm Foal, without inclusion of a probiotic, in preweaned foals with watery diarrhea. The results of a meta-analysis between the two studies demonstrated a significantly higher percentage of foals with clinical response and resolution of diarrhea for Neonorm Foal, from either ARG102 or NEO101, compared with the placebo group in NEO101.

During the 72-hour administration period, 35% of foals receiving the placebo in NEO101 were identified as clinical responders, compared with 85% of foals treated with Neonorm Foal in ARG102. For the purposes of both studies, clinical responders were defined as foals that achieved a formed stool by the end of the reported period.

During the 72-hour administration period, resolution of diarrhea was observed in 41% of placebo-treated foals in NEO101 compared with 85% of foals receiving Neonorm Foal in ARG102. For the purposes of both studies, resolution of diarrhea was defined as a foal that produced a formed stool at any point during the reported period.

The reception among users of Neonorm Foal, the anti-diarrheal for newborn horses that we launched early this year with a nationwide campaign offering samples, has been overwhelmingly positive. User feedback regarding Neonorm Calf also continues to be very favorable. Commercialization of these two non-prescription products has provided numerous benefits that we intend to leverage during our expected introductions of high value, first-in-class prescription drug products into the U.S. marketplace and beyond. The commercialization process has allowed us to extend to animals the clinical utility of the novel mechanism of action of *Croton lechleri*-derived anti-secretory products, refine messaging to veterinarians, fine-tune internal processes, forge commercial manufacturing relationships, and develop commercial infrastructure with important distributors relevant to both prescription and non-prescription products.

The clinically-proven performance of Neonorm Foal, in combination with our heightened understanding of the vast and unmet need for novel and differentiated ulcer treatment within the equine athlete space, is driving our increased focus on equine product and market development. Data from the American Horse Council states that there are an estimated 9.2 million horses in the U.S. alone, a population that includes nearly 845,000 race horses, more than 2.7 million show horses, and more than 3.9 million recreational horses. We expect the ongoing launches of both Neonorm Foal and Neonorm Calf to drive awareness regarding the utility of our first-in-class anti-secretory *Croton lechleri*-derived products, including our prescription product candidate for acute diarrhea in dogs, Canalevia. The positive reception to Neonorm Foal by early users is helping establish the Jaguar brand among horse owners, horse breeders and equine veterinarians the expected future customers of the equine drug product candidates in our pipeline. As part of our equine franchise, we will continue commercial efforts around Neonorm Foal, and focus on preparations for the expected commercial launch of our

Table of Contents

SB-300 drug product candidate for EGUS. We believe SB-300 will be an important product introduction, with performance attributes differentiated from proton pump inhibitors such as omeprazole. We are also focusing resources on the expected commercial launch of Canalevia for acute diarrhea in dogs.

Canalevia utilizes the same mechanism of action as Neonorm Foal and Neonorm Calf and of Mytesi (formerly known as Fulyzaq), the human drug approved by the FDA in 2012 for the symptomatic relief of noninfectious diarrhea in adults with HIV/AIDS on antiretroviral therapy. Each of these products normalizes ion and water flow into the intestinal lumen. Because this is a physiological pathway generally present in mammals, we have validated our low risk strategy of extending the clinical success in humans to preweaned dairy calves, foals, and dogs; and we believe these clinical benefits will continue to be confirmed in other mammalian species.

We have an exclusive worldwide license to Napo's intellectual property rights and technology related to our products and product candidates, including rights to its library of over 2,300 medicinal plants, for all veterinary treatment uses and indications for all species of animals. This includes rights to Neonorm, Canalevia, and other distinct prescription drug product candidates in our pipeline along with the corresponding existing preclinical and clinical data packages. We also recently expanded our intellectual property portfolio to include combinations of our proprietary anti-secretory product lines, Canalevia and Neonorm, with the non-absorbed antibiotic, rifaximin, for gastrointestinal indications in all animals.

Our management team has significant experience in gastrointestinal and animal health product development. This experience includes the development of crofelemer for human use, from discovery and preclinical and clinical toxicity studies, including the existing animal studies to be used for Canalevia regulatory approvals, through human clinical development. Our team also includes individuals who have prior animal health experience at major pharmaceutical companies including SmithKline Beecham Corporation, now GlaxoSmithKline LLC, Zoetis Inc., Vétoquinol S.A., Merial Inc., the animal health division of Sanofi S.A., Morris Animal Foundation, Virbac Animal Health, and Merck Animal Health, as well as management experience at major veterinary hospital institutions and experience at the FDA's Center for Veterinary Medicine.

**Product Pipeline**

We are developing a pipeline of prescription drug product candidates and non-prescription products to address unmet needs in animal health. Our pipeline currently includes prescription drug product candidates for nine indications across multiple species, and non-prescription products targeting seven species.

Table of Contents

**Prescription Drug Product Candidates**

<b>Product Candidates</b>	<b>Species</b>	<b>Indication</b>	<b>Recent Developments</b>	<b>Anticipated Near-Term Milestones</b>
Canalevia	Dogs	CID	Completed safety study with commercial formulation in June 2015	Initiate pilot study for longer-term management
	Dogs	Acute diarrhea	Concurred protocol	Commercial launch in 2017 Complete clinical development program fourth quarter of 2016
			Initiated pivotal trial to evaluate safety and effectiveness in December 2015	Initiate NADA in 2016
				Commercial launch in 2017
Species-specific formulations of crofelemer	Horses	Diarrhea associated with acute colitis	Completed pilot safety study in December 2015	Product development 2017
	Horses	Ulcers	INAD opened in October 2015	Commence pivotal field trial under CVM concurred protocols second half of 2016
			Proof-of-concept safety and effectiveness results in January 2016	
			Product development meeting with FDA in first half of 2016	

Edgar Filing: Jaguar Animal Health, Inc. - Form 424B3

			Initiated dose confirmation study with positive control	
	Cats	Acute diarrhea		
			INAD opened in 2014	Initiate safety and proof-of-concept, first half of 2017
Virend (topical)	Cats	Herpes virus		
			INAD opened in 2014	Initiate safety and proof of concept, 2017
Species-specific formulations of NP-500	Dogs	Obesity-related metabolic dysfunction		
	Horses	Metabolic syndrome	INAD opened in 2014	
	Cats	Type II diabetes	INAD opened in 2014	

INAD opened in 2014

Table of Contents

**Non-Prescription Products**

<b>Products</b>	<b>Species</b>	<b>Use</b>	<b>Recent Developments</b>	<b>Anticipated Near-Term Milestones</b>
Neonorm Calf	Dairy calves	Helps proactively retain fluid in calves aiding the animals in avoiding debilitating, dangerous levels of dehydration	<p>Initiated study in December, 2015 to investigate possible prophylactic and prebiotic benefits</p> <p>South American distribution agreement signed in first quarter of 2015</p> <p>Shipped \$650,461 of product to distributors since commercial launch</p> <p>Analysis completed in October 2015 supports prebiotic effect</p> <p>Field study completed in September 2015 supports beneficial effect of on prewean weight gain</p>	<p>Launch second generation formulation for administration in liquid</p> <p>Commercial launch in South America</p> <p>Business development activities</p> <p>Further analysis of prophylactic data</p>
Species-specific formulations of Neonorm	Horse foals	Anti-diarrheal for newborn horses	<p>Positive prophylactic results</p> <p>Completed proof-of-concept study in November 2015</p> <p>Soft-launched product in December 2015</p> <p>Shipped \$32,905 of product to distributors since commercial launch</p>	<p>Commercial launch in first quarter of 2016</p>
	Other farm/production animals	Supports gut health normalizing fecal formation		

Edgar Filing: Jaguar Animal Health, Inc. - Form 424B3

Conducted market research in 2015 which was initiated in New Zealand and China in 2014 for global market opportunities	Initiate proof-of-concept studies and partnering discussions based on market research within the next 12 months
--	---

Canalevia is our lead prescription drug product candidate, intended for the treatment of various forms of diarrhea in dogs. SB-300 is our prescription drug product candidate for the treatment of gastrointestinal ulcers in horses. Canalevia and SB-300 contain ingredients isolated and purified from the *Croton lechleri* tree, which is sustainably harvested. Neonorm Calf and Neonorm Foal are our lead non-prescription products. Neonorm is a standardized botanical extract derived from the *Croton lechleri* tree. Canalevia and Neonorm are distinct products that act at the same last step in a physiological pathway generally present in mammals.

We are developing Canalevia as a prescription drug product and Neonorm as a non-prescription product due to differences between the companion, horse and production animal markets. Owners of companion animals and equine athletes generally visit veterinarians, who prescribe a product to treat a disease or condition. We believe the ability to make a disease treatment claim is important in this

Table of Contents

market, and such a claim is only possible with FDA approval as a prescription product. In contrast, dairy farmers and other production animal owners generally make purchasing decisions based on a product's ability to demonstrate an economic benefit from health endpoints, such as weight gain.

For our prescription product line, we are seeking protocol concurrences with the FDA where appropriate. A protocol concurrence in animal drug development means that the FDA agrees that the design and analyses proposed in a protocol are acceptable to support regulatory approval of the product candidate with respect to effectiveness of the indication studied and will not change its view of these matters, unless public or animal health concerns arise that were not recognized at the time of concurrence or we change the protocol. We plan to seek concurrence on all major regulatory trials.

We have licensed intellectual property from Napo to develop prescription drug product candidates for diabetes and metabolic syndrome for dogs, cats and horses, as well as a topical herpes product for cats. Similar to our lead prescription drug product candidate, these products were tested in animals for safety to support their development for use in humans. We recently expanded our gastrointestinal product line to include combinations of our proprietary anti-secretory products derived from *Croton lechleri* with the non-absorbed antibiotic, rifaximin, a human approved product, for gastrointestinal indications in all animals. We are leveraging the data and knowledge gained during the development of human therapeutics into veterinary applications.

**Business Strategy**

Our goal is to become a leading animal health company with first-in-class products that address unmet medical needs in both the companion and production animal markets, and the markets for foals and high-value horses. To accomplish this goal, we plan to:

***Leverage our significant gastrointestinal knowledge, experience and intellectual property portfolio to develop a line of Croton lechleri-derived products for production and companion animals, and horses.***

Our management team collectively has more than 100 years of experience in the development of gastrointestinal prescription drug and non-prescription products. This experience covers all aspects of product development, including discovery, preclinical and clinical development and regulatory strategy.

In addition to our near-term development efforts advancing Canalevia for dogs, Neonorm Calf for preweaned dairy calves, and Neonorm Foal for young horses, we are developing formulations of Canalevia and Neonorm to address the unmet medical need for the treatment of acute diarrhea and to support fluid retention across multiple animal species and market channels. The development of a full suite of products to support and improve gastrointestinal health in adult horses is one of our core focus areas. Gastrointestinal conditions such as acute diarrhea, ulcers and diarrhea associated with acute colitis can be extremely debilitating for horses, and present a significant economic and emotional burden for veterinarians and horse owners around the world. Our products are designed with a thorough understanding of not only species-specific health issues, but also market practices, the economics of current treatment strategies, competitive dynamics, government initiatives such as concern about extensive antibiotic usage, and effective channels for new product introductions. Many of our products are being formulated into separate and distinct gastrointestinal products accounting for multiple specific species, markets and regulatory dynamics.

***Establish commercial capabilities, including third-party sales and distribution networks and our own targeted commercial efforts, through the launch of Neonorm Calf and Neonorm Foal.***

In 2014 we launched Neonorm in the United States under the brand name Neonorm Calf, and in December 2015 we conducted the soft launch of Neonorm Foal. We intend to establish a focused direct sales force. We will direct our sales and marketing efforts on educational activities and outreach to key opinion leaders and decision makers at targeted regional and global accounts and also plan to continue

Table of Contents

to partner with leading distributors to commercialize our products. We expect that our current and future distribution partners will have the presence, name recognition, reputation and reach in the veterinary markets and in both key urban and rural centers, as appropriate. We believe this overall approach is scalable and transferable as we expand our commercialization efforts to companion animals, as well as when we expand internationally.

***Launch Canalevia and our other product candidates for companion animals and horses, if approved, leveraging the commercial capabilities and brand awareness we are currently building.***

We have nine active INADs filed with the FDA and intend to develop species-specific formulations of Neonorm in six additional target species, formulations of SB-300 in horses, and Canalevia for cats and dogs, and potentially for diarrhea associated with acute colitis in horses.

***Expand to international markets.***

We intend to leverage our proprietary product development in the United States to international markets, with meaningful partnerships to address international requirements for product development, registration, and access to commercialization in relevant markets for each of our prescription and non-prescription products. As an example, in February 2015 we signed a distribution agreement with Biogenesis Bagó, a large veterinary biotechnology company in Latin America, a region that contained approximately 401 million dairy and beef cattle in 2009 and produces approximately 11% of the world's milk supply. The distribution agreement provides Biogenesis Bagó with exclusive distribution rights for Neonorm Calf in Argentina, Brazil, Paraguay, Uruguay, and Bolivia. Further, certain markets, such as high performance horses, have strong international synergies benefiting market awareness and demand. We may also enter into partnerships that include payment of upfront licensing fees for our products and product candidates for markets outside the United States where appropriate.

***Identify market needs that can be readily accessed and develop species-specific products by leveraging our broad intellectual property portfolio, deep pipeline and extensive botanical library.***

In addition to our anti-secretory gastrointestinal product development efforts, we have expanded the depth of our gastrointestinal pipeline product candidates to include combinations of our proprietary anti-secretory products derived from *Croton lechleri* with the non-absorbed antibiotic, rifaximin, a human approved product, for gastrointestinal indications in all animals. We are also plan to develop products such as Virend for feline herpes and NP-500 for Type II diabetes and metabolic syndrome. Both of these product candidates have been through Phase 2 human clinical testing. In addition, we have exclusive worldwide rights to Napo's library of over 2,300 medicinal plants for veterinary use in all species. We believe we have the product candidates and expertise to address many unmet animal health needs for companion and production animals and horses. We believe our extensive library of medicinal plants will enable us to develop first-in-class products that address significant health issues and concerns of many markets and geographies.

**Discussions with Napo**

Although we have no present commitments or agreements for any specific acquisitions or investments, we have been engaged in exploratory discussions with Napo since February 2016 regarding a potential merger and/or other ways to cooperate with our respective business endeavors. As of June 1, 2016, Napo owns 26.3% of our outstanding shares. Napo took over ownership of the new drug application, or NDA, and commercial rights for human applications of crofelemer in May 2016 from Valeant Pharmaceuticals International Inc., which acquired those rights from Salix Pharmaceuticals, Inc. in April 2016.



Table of Contents

**Risks Related to Our Business**

Our business, and our ability to execute our business strategy, is subject to a number of risks as more fully described in the section titled "Risk Factors." These risks include, among others, the following:

We have a limited operating history, have not yet generated any material revenues, expect to continue to incur significant research and development and other expenses, and may never become profitable. Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.

We have never generated any material revenue from operations and may need to raise additional capital to achieve our goals.

We are substantially dependent on the success of our current lead prescription drug product candidates, SP-300 and Canalevia, and non-prescription product, Neonorm, and cannot be certain that necessary approvals will be received for Canalevia or SP-300 or that these products will be successfully commercialized, either by us or any of our partners.

We are dependent upon our license agreement with Napo, and if this agreement is terminated, we will be unable to commercialize our products and our business will be harmed.

The results of earlier studies may not be predictive of the results of our pivotal trials or other future studies, and we may be unable to obtain any necessary regulatory approvals for our existing or future prescription drug product candidates under applicable regulatory requirements.

Development of prescription drug products, and to a lesser extent, non-prescription products, for the animal health market is inherently expensive, time-consuming and uncertain, and any delay or discontinuance of our current or future pivotal trials, or dosage or formulation studies, would harm our business and prospects.

Even if we obtain any required regulatory approvals for our current or future prescription drug product candidates, they may never achieve market acceptance or commercial success.

We are dependent upon contract manufacturers for supplies of our current prescription drug product candidates and non-prescription products and intend to rely on contract manufacturers for commercial quantities of any of our commercialized products.

If we are not successful in identifying, developing and commercializing additional prescription drug product candidates and non-prescription products, our ability to expand our business and achieve our strategic objectives would be impaired.

**Corporate Information**

We were founded in San Francisco, California as a Delaware corporation on June 6, 2013. Napo formed our company to develop and commercialize animal health products. Effective as of December 31, 2013, we were a wholly-owned subsidiary of Napo, and until May 13, 2015, we were a majority-owned subsidiary of Napo.

Our executive offices are located at 201 Mission Street, Suite 2375, San Francisco, California 94105, and our telephone number is (415) 371-8300. Our website address is [www.jaguaranimalhealth.com](http://www.jaguaranimalhealth.com). The information contained on, or that can be accessed through, our website is not part of, and is not incorporated by reference into this prospectus and should not be considered to be part of this prospectus.



Table of Contents

**Implications of Being an Emerging Growth Company**

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

reduced disclosure obligations regarding executive compensation; and

exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We can take advantage of these provisions until December 31, 2020 (the fiscal year-end following the fifth anniversary of the closing of our initial public offering, which occurred on May 18, 2015) or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company if we were to generate more than \$1.0 billion in annual revenues, have more than \$700.0 million in market value of our capital stock held by non-affiliates or issue more than \$1.0 billion of non-convertible debt over a three-year period. As an emerging growth company, we may choose to take advantage of some, but not all, of the available exemptions. We have taken advantage of some reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

Table of Contents

**The Offering**

Common stock offered by the selling stockholder	3,000,000 shares
Common stock outstanding	10,821,408 (as of June 15, 2016)
Use of proceeds	The selling stockholder will receive all of the proceeds from the sale of the shares offered for sale by it under this prospectus. We will not receive proceeds from the sale of the shares by the selling stockholder. However, we have received proceeds of \$0.5 million, and may receive up to \$14.5 million in additional proceeds, for an aggregate of \$15.0 million from the sale of our common stock to the selling stockholder under the common stock purchase agreement described below. Any proceeds from the selling stockholder that we receive under the purchase agreement are expected to be used for working capital, general corporate purposes and business development activities. See "Use of Proceeds" for a more detailed description of the intended use of proceeds from this offering.
NASDAQ Capital Market symbol	"JAGX"
Risk factors	See "Risk Factors" and other information included in this prospectus for a discussion of factors that you should consider carefully before deciding to invest in our common stock.

The number of shares of our common stock to be outstanding following this offering is based on an aggregate of 10,821,408 shares outstanding as of June 15, 2016 and includes the 222,222 Initial Purchase Shares and 456,667 Commitment Shares described below, but excludes:

1,587,154 shares of common stock issuable upon exercise of outstanding options as of June 15, 2016, at a weighted average exercise price of \$3.57 per share, of which 786,524 shares are vested as of such date;

1,126,943 shares of common stock reserved for future issuance under the 2014 Stock Incentive Plan;

748,872 shares of common stock issuable upon exercise of warrants outstanding as of June 15, 2016;

20,789 shares issuable upon vesting of outstanding restricted stock unit awards, or RSUs, as of June 15, 2016; and

up to 26,785 shares of common stock issuable upon conversion of outstanding convertible promissory notes in the aggregate principal amount of \$150,000 issued as of June 15, 2016.

On June 8, 2016, we entered into a common stock purchase agreement, or the Purchase Agreement, with Aspire Capital Fund, LLC, an Illinois limited liability company, or Aspire Capital or the selling stockholder, which provides that, upon the terms and subject to the conditions and limitations set forth therein, Aspire Capital is committed to purchase up to an aggregate of \$15.0 million of our shares of common stock over the approximately 30-month term of the Purchase Agreement. In consideration for entering into the Purchase Agreement, concurrently with the execution of the Purchase Agreement, we issued to Aspire Capital 456,667 shares of our common stock as a commitment fee, or the Commitment Shares. Upon execution of the Purchase Agreement, the Company agreed to sell to Aspire Capital 222,222 shares of common stock, or the Initial Purchase

Table of Contents

Shares, at \$2.25 per share for proceeds of \$500,000. Concurrently with entering into the Purchase Agreement, we also entered into a registration rights agreement with Aspire Capital, or the Registration Rights Agreement, in which we agreed to file one or more registration statements, including the registration statement of which this prospectus is a part, as permissible and necessary to register under the Securities Act of 1933, as amended, or the Securities Act, the sale of the shares of our common stock that have been and may be issued to Aspire Capital under the Purchase Agreement.

As of June 15, 2016, there were 10,821,408 shares of our common stock outstanding (6,135,716 shares held by non-affiliates including Aspire Capital), which includes the 222,222 Initial Purchase Shares and 456,667 Commitment Shares but excludes the 2,321,111 shares of common stock that we may issue to Aspire Capital after this registration statement is declared effective under the Securities Act. If all of such 3,000,000 shares of our common stock offered hereby were issued and outstanding as of the date hereof, such shares would represent 22.8% of the total common stock outstanding or 35.5% of the non-affiliate shares of common stock outstanding as of the date hereof. The number of shares of our common stock ultimately offered for sale by Aspire Capital is dependent upon the number of shares purchased by Aspire Capital under the Purchase Agreement.

The aggregate number of shares that we may issue to Aspire Capital under the Purchase Agreement may in no case exceed 2,027,490 shares of our common stock (which is equal to approximately 19.99% of the common stock outstanding on the date of the Purchase Agreement), unless (i) shareholder approval is obtained to issue more, in which case this 2,207,490 share limitation, will not apply, or (ii) shareholder approval has not been obtained and at any time the 2,207,490 share limitation is reached and at all times thereafter the average price paid for all shares issued under the Common Stock Purchase Agreement (including the Commitment Shares) is equal to or greater than \$1.32, the Minimum Price, a price equal to the closing sale price of our common stock on the date of the execution of the Purchase Agreement; provided that at no one point in time shall Aspire Capital (together with its affiliates) beneficially own more than 19.99% of our common stock.

Pursuant to the Purchase Agreement and the Registration Rights Agreement, we have registered 3,000,000 shares of our common stock under the Securities Act, which includes the Commitment Shares and the Initial Purchase Shares that have already been issued to Aspire Capital and 2,321,111 shares of common stock which we may issue to Aspire Capital in the future under the terms of the Purchase Agreement. All 3,000,000 shares of common stock are being offered pursuant to this prospectus.

On July 12, 2016, the conditions necessary for purchases under the Purchase Agreement were satisfied. On any trading day on which the closing sale price of our common stock exceeds \$0.50, we have the right, in our sole discretion, to present Aspire Capital with a purchase notice, or each a Purchase Notice, directing Aspire Capital (as principal) to purchase up to 100,000 shares of our common stock per trading day, up to \$15.0 million of our common stock in the aggregate at a per share price, or the Purchase Price, calculated by reference to the prevailing market price of our common stock (as more specifically described below).

In addition, on any date on which we submit a Purchase Notice for 100,000 shares to Aspire Capital, we also have the right, in our sole discretion, to present Aspire Capital with a volume-weighted average price purchase notice, or each a VWAP Purchase Notice, directing Aspire Capital to purchase an amount of stock equal to up to 30% of the aggregate shares of the Company's common stock traded on the Nasdaq Capital Market on the next trading day, or the VWAP Purchase Date, subject to a maximum number of shares we may determine, or the VWAP Purchase Share Volume Maximum, and a minimum trading price, or the VWAP Minimum Price Threshold (as more specifically described below). The purchase price per Purchase Share pursuant to such VWAP Purchase Notice, or the VWAP Purchase Price, is calculated by reference to the prevailing market price of our common stock (as more specifically described below).

Table of Contents

The Purchase Agreement provides that the Company and Aspire Capital shall not effect any sales under the Purchase Agreement on any purchase date where the closing sale price of our common stock is less than \$0.50 per share, or the Floor Price. This Floor Price and the respective prices and share numbers in the preceding paragraphs shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction. There are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Aspire Capital. Aspire Capital has no right to require any sales by us, but is obligated to make purchases from us as we direct in accordance with the Purchase Agreement. There are no limitations on use of proceeds, financial or business covenants, restrictions on future fundings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. Aspire Capital may not assign its rights or obligations under the Purchase Agreement. The Purchase Agreement may be terminated by us at any time, at our discretion, without any penalty or cost to us.

Table of Contents

**RISK FACTORS**

*Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information contained in or incorporated by reference in this prospectus, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015, as updated in our Quarterly Reports on Form 10-Q, before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may harm our business, financial condition, results of operations and prospects.*

**Risks Related to Our Business and Need for Additional Capital**

***We have a limited operating history, expect to incur further losses as we grow and may be unable to achieve or sustain profitability. Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.***

Since formation in June 2013, our operations have been primarily limited to the research and development of our lead prescription drug product candidate, Canalevia, to treat various forms of diarrhea in dogs, and our non-prescription product, Neonorm Calf, to help dairies and calf farms proactively retain fluid in calves helping the animals avoid debilitating, dangerous levels of dehydration, and the recent commercial launch of Neonorm Foal. As a result, we have limited meaningful historical operations upon which to evaluate our business and prospects and have not yet demonstrated an ability to broadly commercialize any of our products, obtain any required marketing approval for any of our prescription drug product candidates or successfully overcome the risks and uncertainties frequently encountered by companies in emerging fields such as the animal health industry. We also have not generated any material revenue to date, and expect to continue to incur significant research and development and other expenses. Our net loss and comprehensive loss for the year ended December 31, 2015 was \$16,291,550. As of December 31, 2015, we had total stockholders' equity of \$4,399,097. We expect to continue to incur losses for the foreseeable future, which will increase significantly from historical levels as we expand our product development activities, seek necessary approvals for our product candidates, conduct species-specific formulation studies for our non-prescription products and begin commercialization activities. Even if we succeed in developing and broadly commercializing one or more of our products or product candidates, we expect to continue to incur losses for the foreseeable future, and we may never become profitable. If we fail to achieve or maintain profitability, then we may be unable to continue our operations at planned levels and be forced to reduce or cease operations.

Our independent registered public accounting firm has included an explanatory paragraph in its audit report on our financial statements for the year ended December 31, 2015, regarding our assessment of substantial doubt about our ability to continue as a going concern. Our financial statements do not include any adjustments that may result from the outcome of this uncertainty. If we are unable to continue as a viable entity, our stockholders may lose their entire investment.

***We have never generated any material revenue from operations and may not generate any material revenue from our operations in the foreseeable future.***

We are an animal health company focused on developing and commercializing prescription drug and non-prescription products for companion and production animals, foals, and high value horses. Since inception in June 2013, we have not generated any material revenue from operations. There is no guarantee that our recent commercial launch of Neonorm Calf for preweaned dairy calves in the

Table of Contents

United States will be successful or that we will be able to sell any products in the future. Further, in order to commercialize our prescription drug product candidates, we must receive regulatory approval from the FDA in the United States and other regulatory agencies in various jurisdictions. We have not yet received any regulatory approvals for our prescription drug product candidates. In addition, certain of our non-prescription products, such as Neonorm Calf, may be subject to regulatory approval outside the United States prior to commercialization. Accordingly, until and unless we receive any necessary regulatory approvals, we cannot market or sell our products. Moreover, even if we receive the necessary approvals, we may not be successful in generating revenue from sales of our products as we do not have any meaningful experience marketing or distributing our products. Accordingly, we may never generate any material revenue from our operations.

***We expect to incur significant additional costs as we continue commercialization efforts for Neonorm, and undertake the clinical trials necessary to obtain regulatory approvals for Canalevia and SP-300, which will increase our losses.***

We commenced sales of Neonorm for preweaned dairy calves in the United States under the brand name Neonorm Calf at the end of 2014. We will need to continue to invest in developing our internal and third-party sales and distribution network and outreach efforts to key opinion leaders in the dairy industry, including veterinarians. We will also need to conduct clinical trials for SP-300 and Canalevia in order to obtain necessary initial regulatory approvals and to subsequently broaden Canalevia to additional indications and additional species. We will also need to conduct species-specific testing with Neonorm to expand to additional animal populations.

We are actively identifying additional products for development and commercialization, and will continue to expend substantial resources for the foreseeable future to develop SP-300, Canalevia and Neonorm and develop products from the library of over 2,300 medicinal plants that we have licensed. These expenditures will include costs associated with:

identifying additional potential prescription drug product candidates and non-prescription products;

formulation studies;

conducting pilot, pivotal and toxicology studies;

completing other research and development activities;

payments to technology licensors;

maintaining our intellectual property;

obtaining necessary regulatory approvals;

establishing commercial supply capabilities; and

sales, marketing and distribution of our commercialized products.

We also may incur unanticipated costs in connection with developing and commercializing our products. Because the outcome of our development activities and commercialization efforts is inherently uncertain, the actual amounts necessary to successfully complete the development and commercialization of our current or future products and product candidates may be greater than we anticipate.

Because we anticipate incurring significant costs for the foreseeable future, if we are not successful in broadly commercializing any of our current or future products or product candidates or raising additional funding to pursue our research and development efforts, we may never realize the benefit of our development efforts and our business may be harmed.





Table of Contents

*We will need to raise substantial additional capital in the future to fund our operations and we may be unable to raise such funds when needed and on acceptable terms, which would force us to delay, limit, reduce or terminate one or more of our product development programs or future commercialization efforts.*

We are forecasting continued losses and negative cash flows as we continue to fund our operating and marketing activities and research and development programs, and we will not have sufficient cash on hand to fund our operating plan through December 2016 and to complete the development of all the current products in our pipeline, or any additional products we may identify. We will need to seek additional funds sooner than planned through public or private equity or debt financings or other sources such as strategic collaborations. We do not expect that the net proceeds from this offering will be sufficient to complete the development of all the current products in our pipeline, or any additional products we may identify. We may need to raise additional capital to fund these activities. Other than the loan and security agreement (which provided for an initial loan commitment of \$6.0 million) and the Purchase Agreement (which committed Aspire Capital to purchase up to an aggregate of \$15.0 million of our shares of common stock over the term of the Purchase Agreement), we have no current agreements or arrangements with respect to any such financings or collaborations, and any such financings or collaborations may result in dilution to our stockholders, the imposition of debt covenants and repayment obligations or other restrictions that may harm our business or the value of our common stock. We may also seek from time to time to raise additional capital based upon favorable market conditions or strategic considerations such as potential acquisitions.

Our future capital requirements depend on many factors, including, but not limited to:

the scope, progress, results and costs of researching and developing our current and future prescription drug product candidates and non-prescription products;

the timing of, and the costs involved in, obtaining any regulatory approvals for our current and any future products;

the number and characteristics of the products we pursue;

the cost of manufacturing our current and future products and any products we successfully commercialize;

the cost of commercialization activities for Neonorm, SP-300 and Canalevia, if approved, including sales, marketing and distribution costs;

the expenses needed to attract and retain skilled personnel;

the costs associated with being a public company;

our ability to establish and maintain strategic collaborations, distribution or other arrangements and the financial terms of such agreements; and

the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing possible patent claims, including litigation costs and the outcome of any such litigation.

Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate one or more of our product development programs or future commercialization efforts.

The extent to which we utilize the Purchase Agreement with Aspire Capital as a source of funding will depend on a number of factors, including the prevailing market price of our common stock, the volume of trading in our common stock and the extent to which we are able to secure funds from other sources. The number of shares that we may sell to Aspire Capital under the Purchase Agreement on any given day and

during the term of the agreement is limited. See "The Aspire Capital Transaction"

Table of Contents

section of this prospectus for additional information. Additionally, we and Aspi