Axovant Sciences Ltd.
Form S-1/A
June 01, 2015

Use these links to rapidly review the document

As filed with the Securities and Exchange Commission on June 1, 2015

Registration No. 333-204073

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

AMENDMENT No. 2
TO
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Axovant Sciences Ltd.
(Exact name of registrant as specified in its charter)

Bermuda	**2834**	**Not Applicable**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

Clarendon House
2 Church Street
Hamilton HM 11, Bermuda
+1 (441) 295-5950
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Corporate Services Company
2711 Centerville Road
Wilmington, DE 19808

(866) 846-8765

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Frank F. Rahmani
John T. McKenna
Divakar Gupta
Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304
(650) 843-5000

Marc D. Jaffe
Nathan Ajiashvili
Latham & Watkins LLP
885 Third Avenue
New York, NY 10022
(212) 906-1200

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. o

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. o

If this Form is a post-effective amendment filed pursuant to Rule 462(c) 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. o

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 number of the earlier effective registration statement for the same offering. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 under the Securities Exchange Act of 1934. (Check one):

Large accelerated filer o	Accelerated filer o	Non-accelerated filer ý (Do not check if a smaller reporting company)	Smaller reporting company o

CALCULATION OF REGISTRATION FEE

Title of Securities being Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(2)	Proposed Maximum Aggregate Offering Price(2)	Amount of Registration Fee(2)(3)
Common shares, $0.00001 par value per common share	20,585,000	$ 15.00	$ 308,775,000	$ 35,880

(1) Includes shares that the underwriters have the option to purchase.

(2) Estimated solely for purposes of computing the amount of the registration fee pursuant to Rule 457(a) under the Securities Act.

(3) The Registrant previously paid a registration fee of $20,045 with the initial filing of this registration statement and is paying an additional registration fee of $15,835 herewith.

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 that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JUNE 1, 2015

PRELIMINARY PROSPECTUS

17,900,000 Shares

Common Shares

We are offering 17,900,000 common shares. This is our initial public offering and no public market currently exists for our common shares. We expect the initial public offering price to be between $13.00 and $15.00 per common share.

We have applied to list our common shares on the New York Stock Exchange under the symbol "AXON." Upon the closing of this offering, we expect to be a "controlled company" within the meaning of applicable New York Stock Exchange rules.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, and, as such, will be subject to reduced public company reporting requirements.

Investing in our common shares involves risks. See the section titled "Risk Factors" beginning on page 11.

Neither the Securities and Exchange Commission in the United States nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

Consent under the Exchange Control Act 1972 (and its related regulations) has been obtained from the Bermuda Monetary Authority for the issue and transfer of our common shares to and between residents and non-residents of Bermuda for exchange control purposes provided our common shares remain listed on an appointed stock exchange, which includes the New York Stock Exchange. In granting such consent, neither the Bermuda Monetary Authority nor the Registrar of Companies in Bermuda accepts any responsibility for our financial soundness or the correctness of any of the statements made or opinions expressed in this prospectus.

	PER SHARE	TOTAL
Public offering price	$	$
Underwriting discounts and commissions[(1)]	$	$
Proceeds to us, before expenses	$	$

(1) We refer you to the section titled "Underwriting" for additional information regarding underwriter compensation.

Entities affiliated with Visium Asset Management, LP and RA Capital Management, LLC have indicated an interest in purchasing up to an aggregate of approximately $150.0 million of our common shares in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these entities, or any of these entities may determine to purchase more, fewer or no shares in this offering. Any shares

purchased by these entities in this offering will be subject to a 90-day lock-up agreement with the underwriters.

Delivery of the common shares is expected to be made on or about , 2015. We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase an additional 2,685,000 common shares. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $ and the total proceeds to us, before expenses, will be $.

Jefferies **Evercore** **RBC Capital Markets**

JMP Securities

Baird

Prospectus dated , 2015

Table of Contents

Table of Contents

You should rely only on the information contained in this prospectus and any free writing prospectus prepared by or on behalf of us or to which we have referred you. We have not authorized anyone to provide you with information that is different from that contained in such prospectuses. We are offering to sell our common shares, and seeking offers to buy our common shares, only in jurisdictions where such offers and sales are permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common shares.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common shares, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes thereto and the information set forth in the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Unless the context otherwise requires, we use the terms "company," "we," "us" and "our" in this prospectus to refer to Axovant Sciences Ltd. and our wholly-owned subsidiary, Axovant Sciences, Inc.

Company Overview

We are a clinical-stage biopharmaceutical company focused on the acquisition, development and commercialization of novel therapeutics for the treatment of neurodegenerative disorders. Our goal is to be the leading biopharmaceutical company focused on the treatment of dementia, a condition characterized by a significant decline in mental capacity and impaired daily function. Our near-term focus is to develop our product candidate, which we refer to as RVT-101, for the treatment of Alzheimer's disease and other forms of dementia. We acquired worldwide rights to RVT-101 from Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited, collectively GSK, in December 2014. We plan to commence a Phase 3 pivotal program of RVT-101 for the treatment of mild-to-moderate Alzheimer's disease in the fourth quarter of 2015. If our Phase 3 program is successful, we plan to seek regulatory approval and commercialize RVT-101 in the United States and the European Union. In the long-term, we intend to develop a pipeline of product candidates to comprehensively address the cognitive, behavioral and functional components of dementia.

Alzheimer's disease, a form of dementia, is a progressive neurodegenerative disorder that results in significant impairments in cognition and day-to-day functioning. According to the Alzheimer's Association, Alzheimer's disease affects approximately 5.3 million people in the United States. It is estimated that between 70% and 90% of Alzheimer's disease patients age 65 and older are classified as having mild-to-moderate Alzheimer's disease. No new chemical entity has been approved by the U.S. Food and Drug Administration, or the FDA, for the treatment of Alzheimer's disease since 2003.

RVT-101 is an orally administered, potent antagonist of the 5-hydroxytryptamine 6, or 5-HT6, serotonin receptors in the brain. Antagonism of the 5-HT6 receptor is a novel mechanism that promotes the release of acetylcholine, glutamate and other neurotransmitters. These neurotransmitters are believed to be critical for alertness, memory, thought and judgment, key components of cognition and function that are impaired in patients with Alzheimer's disease. We plan to develop RVT-101 for use in combination with donepezil and potentially other cholinesterase inhibitors. Donepezil, a generic drug also marketed under the trade name Aricept by Eisai Co., Ltd. and Pfizer, Inc., is one of the most commonly used cholinesterase inhibitors. Cholinesterase inhibitors are the current standard of care for the treatment of mild-to-moderate Alzheimer's disease, and the only class of drugs approved by the FDA for the treatment of patients with mild Alzheimer's disease. Based on preclinical and clinical data collected to date, we believe RVT-101, when used in combination with donepezil, works additively to increase the concentration of acetylcholine and other neurotransmitters and thereby synergistically improve cognition and function in patients with Alzheimer's disease.

We believe RVT-101, which is being developed as a once-daily oral medication, has the potential to be a best-in-class 5-HT6 receptor antagonist for the treatment of Alzheimer's disease based on its safety, tolerability and efficacy for up to 48 weeks, as demonstrated in a 684-subject, randomized, placebo-controlled Phase 2b trial conducted by GSK. We believe this is meaningful, in part, because currently marketed Alzheimer's disease drugs were approved on efficacy data of 28 weeks or less. In this Phase 2b trial, subjects that received 35 mg RVT-101 in combination with donepezil achieved a statistically significant improvement in cognition and function, as compared to those receiving donepezil alone.

Table of Contents

Cognition and function are the two endpoints that have historically been the basis for FDA approval for drugs to treat Alzheimer's disease. To determine whether an outcome is statistically significant, a "p-value" is calculated. Historically, the FDA and European Medicines Agency, or the EMA, have generally required newly approved drugs to demonstrate an effect with a p-value of less than 0.05, which suggests there is a less than 5.0% probability that the observed effect is due to chance alone. When the p-value is less than 0.05, the result is generally considered "statistically significant." We intend to conduct a Phase 3 pivotal program in subjects with mild-to-moderate Alzheimer's disease designed to confirm the results of the Phase 2b clinical trial conducted by GSK, and we plan to commence this program in the fourth quarter of 2015.

We have assembled a team with substantial experience in developing and obtaining approval for drugs for central nervous system disorders, including Dr. Lawrence Friedhoff, the Chief Development Officer of Axovant Sciences, Inc., who previously led the development of Aricept at Eisai Co., Ltd.

Alzheimer's Disease: Overview and Market Opportunity

According to Alzheimer's Disease International, more than 44 million individuals worldwide suffer from dementia, and based on scientific literature, approximately 34 million individuals are affected by Alzheimer's disease. In addition, the prevalence of Alzheimer's disease is expected to increase over time, with 13.8 million people age 65 and older projected to have the disease by 2050 in the United States, up from 5.0 million in 2014. This projection does not include Alzheimer's disease patients under the age of 65, who currently account for approximately 4% of the overall Alzheimer's disease population.

In addition to its debilitating effect on patients' cognition and day-to-day functioning, Alzheimer's disease places a significant burden on the healthcare system. According to the Alzheimer's Association, the aggregate cost of care in 2014 for patients with Alzheimer's disease and other types of dementia in the United States was estimated to be $214 billion, over half of which is borne by the Medicare system.

Alzheimer's disease is often grouped into three categories based on severity: mild, moderate and severe. Although the relative prevalence of each of these categories is not well-defined in the literature, a report published by the Alzheimer's Society, a leading care and research charity in the United Kingdom for individuals and families that suffer from dementia, estimates that between 70% and 90% of all Alzheimer's disease patients age 65 and older have mild-to-moderate Alzheimer's disease.

The current standard of care for the treatment of patients with mild-to-moderate Alzheimer's disease includes the use of cholinesterase inhibitors initiated at the time of diagnosis. Currently marketed cholinesterase inhibitors include donepezil (marketed by Eisai Co., Ltd. and Pfizer, Inc. as Aricept), rivastigmine (marketed by Novartis AG as Exelon) and galantamine (marketed by Janssen Pharmaceuticals, Inc. as Razadyne). Cholinesterase inhibitors continue to be used widely for the treatment of patients with Alzheimer's disease and can lead to clinically significant improvements in cognition. However, most patients require additional therapy due to progression of their disease.

Our Product Candidate: RVT-101

We acquired worldwide rights to RVT-101 from GSK in December 2014. RVT-101 is an orally administered, potent antagonist of the 5-HT6 serotonin receptor. By antagonizing the 5-HT6 receptor, RVT-101 helps enhance the release of acetylcholine, glutamate and other neurotransmitters that are essential to cognition.

5-HT6 receptors are primarily localized to the central nervous system, or CNS, particularly in regions of the brain that modulate cognition. Because 5-HT6 receptor antagonists do not significantly increase levels of acetylcholine outside of the CNS, it is believed that 5-HT6 receptor antagonists have limited peripheral side effects, including many that are commonly associated with cholinesterase inhibitors. In addition, we believe that RVT-101's action as a 5-HT6 receptor antagonist provides a strong mechanistic rationale to support its use in combination with cholinesterase inhibitors. While cholinesterase inhibitors help prevent the breakdown of acetylcholine, 5-HT6 receptor antagonists promote the release of acetylcholine. Therefore, when used in combination with one another, we believe that 5-HT6 receptor antagonists and cholinesterase

Table of Contents

inhibitors increase the concentration of acetylcholine through complementary mechanisms without exacerbating the toxicities associated with cholinesterase inhibitors.

Clinical Development

Prior to our acquisition of RVT-101 in December 2014, GSK conducted 13 clinical trials for RVT-101 involving over 1,250 individuals, which included healthy subjects as well as subjects with mild-to-moderate Alzheimer's disease. In a Phase 2b clinical trial of 684 subjects with mild-to-moderate Alzheimer's disease, subjects that received 35 mg RVT-101 in combination with donepezil achieved a statistically significant improvement in cognition at 12, 24 and 48 weeks following initiation of treatment, compared to subjects that received donepezil alone, as measured by the Alzheimer's Disease Assessment Scale-cognitive, or ADAS-cog, subscale. We believe this is a meaningful result because currently marketed Alzheimer's disease drugs were approved on efficacy data of 28 weeks or less. In addition to RVT-101's effect on cognition, subjects that received 35 mg RVT-101 in combination with donepezil achieved a statistically significant improvement in function at 12, 24 and 36 weeks following the initiation of treatment, compared to subjects that received donepezil alone, as measured by the Alzheimer's Disease Cooperative Study Activities of Daily Living, or ADCS-ADL, a commonly used scale evaluating function in which a subject's ability to perform a list of daily activities is evaluated based on information obtained from the subject and his or her caregiver. We believe these ADCS-ADL results are particularly noteworthy in light of the fact that the decline in the ability of Alzheimer's disease patients to perform activities essential to daily living places a significant burden on caregivers and the healthcare system.

The graphs below present the results from the Phase 2b clinical trial described above on ADAS-cog and ADCS-ADL.

ADAS-cog Change Over 48 Weeks

Table of Contents

ADCS-ADL Change Over 48 Weeks

The tolerability profile of RVT-101 in the Phase 2b clinical trial conducted by GSK, with the relevant comparisons to placebo when added to a stable dose of donepezil, is shown in the table below.

		35 mg RVT-101 plus Donepezil	Placebo plus Donepezil
24 weeks	Withdrawals from trial	11%	12%
48 weeks	Withdrawals from trial	20%	22%
24 weeks	Drug-related serious adverse events	0%	< 1%
48 weeks	Drug-related serious adverse events	0%	< 1%
24 weeks	Drug-related adverse events	6%	9%
48 weeks	Drug-related adverse events	7%	13%

Phase 3 Development Plan

We intend to conduct a Phase 3 pivotal program in subjects with mild-to-moderate Alzheimer's disease designed to confirm the results of the Phase 2b clinical trial conducted by GSK. We met with the FDA at the end of March 2015 to discuss our development plan for RVT-101. We believe that this meeting confirmed the results of the prior end-of-Phase 2 meeting between the FDA and GSK and that our proposed Phase 3 trial, if successful, would, in conjunction with GSK's Phase 2b clinical trial, be sufficient to support the filing of a new drug application, or NDA. The proposed trial would randomize patients already on a stable background of donepezil therapy to receive adjunctive treatment with either 35 mg RVT-101 or placebo once daily for a period of at least 24 weeks. We intend to begin this pivotal trial in the fourth quarter of 2015, and if the results of this trial are positive, our goal is to submit an NDA to the FDA and a marketing authorization application, or MAA, to the EMA by the end of 2017. We may conduct additional clinical trials to further support the commercial potential of RVT-101 in the United States, the European Union, Japan and other major markets.

Table of Contents

Other Potential Indications for RVT-101

Beginning in the second half of 2015, we plan to evaluate RVT-101 as a potential treatment for forms of dementia other than mild-to-moderate Alzheimer's disease, such as severe Alzheimer's disease, dementia with Lewy bodies, Parkinson's disease dementia and vascular dementia. We also intend to augment our current pipeline through the acquisition or in-license of additional late-stage product candidates for the treatment of other aspects of dementia that we believe can be developed and commercialized in a capital-efficient manner.

Our Strategy

Our goal is to be the leading biopharmaceutical company focused on the treatment of dementia. The key elements of our strategy to achieve this goal include the following:

- *Rapidly advance RVT-101 for the treatment of mild-to-moderate Alzheimer's disease.*
- *Develop RVT-101 for severe Alzheimer's disease and other forms of dementia.*
- *Acquire or in-license late-stage product candidates for the treatment of other aspects of dementia in a capital-efficient manner.*
- *Maximize the commercial potential of our product candidates.*

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common shares. These risks are discussed more fully in the section titled "Risk Factors" and include, among others:

- We have a limited operating history and have never generated any product revenues.
- We expect to incur significant losses for the foreseeable future and may never achieve or maintain profitability. Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.
- We are heavily dependent on the success of RVT-101, our only product candidate, and if RVT-101 does not receive regulatory approval or is not successfully commercialized, our business may be harmed.
- We will require additional capital to fund our operations, and if we fail to obtain necessary financing, we may not be able to complete the development and commercialization of RVT-101.
- We may be required to make significant payments in connection with our acquisition of RVT-101 from GSK.
- Under our amended and restated bye-laws, we may reduce the voting power of your common shares without your consent.
- Clinical trials are very expensive, time-consuming, difficult to design and implement and involve an uncertain outcome.
-

We intend to rely on third parties to conduct, supervise and monitor our clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

§ If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

§ We do not have our own manufacturing capabilities and will rely on third parties to produce clinical and commercial supplies of RVT-101 and any future product candidate.

§ We face significant competition from other biotechnology and pharmaceutical companies and our operating results will suffer if we fail to compete effectively.

§ We currently have a limited number of employees who are employed by our wholly-owned subsidiary, Axovant Sciences, Inc., and we rely on Roivant Sciences, Inc. to provide various administrative, research and development and other services.

Table of Contents

If we are unable to adequately address these and other risks we face, our business, financial condition, operating results and prospects may be adversely affected.

In addition, we are an emerging growth company, as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012, and therefore we intend to take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in this prospectus, our periodic reports and our proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. We may take advantage of these exemptions for up to five years or until we are no longer an "emerging growth company."

Relationship with Roivant Sciences Ltd., Roivant Sciences, Inc. and Axovant Sciences, Inc.

Roivant Sciences Ltd. will be our controlling shareholder. We are a wholly-owned subsidiary of Roivant Sciences Ltd., a company focused on the acquisition, development and commercialization of late-stage product candidates that are non-strategic, deprioritized or under-resourced at other biopharmaceutical companies. After the closing of this offering, we expect to be a "controlled company" within the meaning of the corporate governance rules of the New York Stock Exchange, or the NYSE. Assuming we sell the number of the shares set forth on the cover page of this prospectus, Roivant Sciences Ltd. will own, in the aggregate, approximately 80.7% of our outstanding common shares, or approximately 78.5% if the underwriters exercise their option to purchase additional common shares in full. Roivant Sciences Ltd. will be able to exercise control over all matters requiring shareholder approval, including the election of our directors and approval of significant corporate transactions. We have entered into an information sharing and cooperation agreement with Roivant Sciences Ltd. For a description of this agreement, see the section titled "Certain Relationships and Related Party Transactions Information Sharing and Cooperation Agreement."

Services Agreement with Roivant Sciences, Inc. We and our wholly-owned subsidiary, Axovant Sciences, Inc., have received, and will continue to receive, various services provided by our affiliate, Roivant Sciences, Inc., which is also a wholly-owned subsidiary of Roivant Sciences Ltd. These services include, but are not limited to, the identification of potential product candidates, project management of clinical trials and other development, administrative and financial activities. Following the completion of this offering, we expect that our reliance on Roivant Sciences, Inc. will decrease over time as we, Axovant Sciences, Inc. and any other future subsidiary of ours continue to hire the necessary personnel to manage the development and potential commercialization of RVT-101. We and Axovant Sciences, Inc. have entered into a services agreement with Roivant Sciences, Inc. in connection with the provision of these services. For a description of this agreement, see the section titled "Certain Relationships and Related Party Transactions Services Agreement with Roivant Sciences, Inc."

Corporate Information

We are an exempted limited company incorporated under the laws of Bermuda on October 31, 2014. Our registered office is located in Bermuda at Clarendon House, 2 Church Street, Hamilton HM11, Bermuda, and we also have business operations at 14 Par-La-Ville Road, Hamilton HM08, Bermuda. The telephone number of our registered office is +1 (441) 295 5950. Our website address is www.axovant.com. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common shares.

Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

Table of Contents

THE OFFERING

Common shares offered by us	17,900,000 common shares
Option to purchase additional shares	We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase an additional 2,685,000 common shares.
Common shares to be outstanding immediately after this offering	92,900,000 common shares (or 95,585,000 common shares if the underwriters exercise their option to purchase additional common shares in full)
Use of proceeds	We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $230.1 million, assuming the shares are offered at $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus. We intend to use the net proceeds from this offering primarily for the clinical development of our product candidate, RVT-101. The remaining proceeds, if any, will be used for working capital and general corporate purposes. See the section titled "Use of Proceeds" for additional information.
Controlled company	Upon the closing of this offering, Roivant Sciences Ltd. will beneficially own a controlling interest in us and we expect to be a "controlled company" under NYSE rules. As a controlled company, we may elect to avail ourselves of the controlled company exemption under the corporate governance requirements of the NYSE.
Risk factors	You should read the section titled "Risk Factors" for a discussion of factors to consider carefully before deciding to invest in our common shares.
Dividend policy	We have never declared or paid any dividends on our common shares. We anticipate that we will retain all of our future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying cash dividends in the foreseeable future.
Proposed New York Stock Exchange symbol	"AXON"

Entities affiliated with Visium Asset Management, LP and RA Capital Management, LLC have indicated an interest in purchasing up to an aggregate of approximately $150.0 million of our common shares in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these entities, or any of these entities may determine to purchase more, fewer or no shares in this offering. Any shares purchased by these entities in this offering will be subject to a 90-day lock-up agreement with the underwriters.

Table of Contents

The number of common shares that will be outstanding immediately after this offering is based on 75,000,000 common shares outstanding as of March 31, 2015, and excludes:

- 4,012,500 common shares issuable upon the exercise of stock options outstanding as of March 31, 2015, with an exercise price of $0.90 per share; and
- 5,487,500 common shares reserved for future issuance under our 2015 Equity Incentive Plan, as amended, of which stock options for 527,500 common shares, with an exercise price of $1.04 per share, were granted in April 2015, as well as any automatic increases in the number of common shares reserved for future issuance under this plan.

Except as otherwise indicated herein, all information in this prospectus, including the number of common shares that will be outstanding after this offering, assumes or gives effect to:

- no exercise by the underwriters of their option to purchase an additional 2,685,000 common shares; and
- the effectiveness of our amended and restated bye-laws immediately prior to the closing of this offering.

Table of Contents

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth our summary consolidated statement of operations data for the period from October 31, 2014 (date of inception) through March 31, 2015 and the consolidated balance sheet data as of March 31, 2015 from our audited consolidated financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future, and our operating results for the period ended March 31, 2015 are not indicative of the results that may be expected for a full fiscal year or any other future period. You should read this summary consolidated financial data below, together with our consolidated financial statements and related notes thereto appearing elsewhere in this prospectus, as well as the sections titled "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." Our fiscal year ends on March 31.

		Period from October 31, 2014 (Date of Inception) to March 31, 2015 (in thousands, except share and per share data)
Consolidated Statement of Operations Data:		
Operating expenses:		
Research and development	$	14,324
General and administrative		6,722
Total operating expenses		21,046
Loss before provision for income tax		(21,046)
Income tax expense		(1)
Net loss and comprehensive loss	$	(21,047)
Net loss per common share basic and diluted[1]	$	(1.32)
Weighted average common shares outstanding basic and diluted[1]		15,986,842

(1) See Note B[7] to our consolidated financial statements for an explanation of the method used to compute basic and diluted net loss per common share.

As of March 31, 2015

	Actual	As Adjusted(1)(2)
	(in thousands)	
Consolidated Balance Sheet Data:		
Cash	$	$ 230,058
Total assets	1,117	230,071
Total liabilities	8,868	7,789
Accumulated deficit	(21,047)	(21,047)
Total shareholders' (deficit) equity	(7,751)	222,307

(1) The as adjusted balance sheet data gives effect to our sale of 17,900,000 common shares in this offering at an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

(2) Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, would increase or decrease each of cash, total assets and total shareholders' (deficit) equity on an as adjusted basis by approximately $16.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Similarly, each increase or decrease of

Table of Contents

1.0 million common shares offered by us at the assumed initial public offering price $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions, would increase or decrease each of cash, total assets and total shareholders' (deficit) equity on an as adjusted basis by approximately $13.0 million. The as adjusted information is illustrative only, and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

Table of Contents

RISK FACTORS

Investing in our common shares involves a high degree of risk. You should carefully consider the risks described below, together with the other information contained in this prospectus, including our consolidated financial statements and the related notes appearing at the end of this prospectus, before making your decision to invest in our common shares. We cannot assure you that any of the events discussed in the risk factors below will not occur. These risks could have a material and adverse impact on our business, results of operations, financial condition and cash flows and if so our future prospects would likely be materially and adversely affected. If any of such events were to happen, the trading price of our common shares could decline, and you could lose all or part of your investment.

Risks Related to Our Business, Financial Position and Capital Requirements

We have a limited operating history and have never generated any product revenues.

We are a clinical-stage biopharmaceutical company with a limited operating history. We were formed in October 2014, and our operations to date have been limited to organizing and staffing our company and acquiring worldwide rights to RVT-101. We have not yet demonstrated an ability to successfully complete a large-scale, pivotal clinical trial, obtain marketing approval, manufacture a commercial scale product, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, we have no meaningful operations upon which to evaluate our business and predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing pharmaceutical products.

Our ability to generate revenue and become profitable depends upon our ability to successfully complete the development of our product candidate, RVT-101, for the treatment of Alzheimer's disease and other forms of dementia and obtain the necessary regulatory approvals for its commercialization. We have never been profitable, have no products approved for commercial sale and to date have not generated any revenue from product sales.

Even if we receive regulatory approval for the sale of RVT-101, we do not know when RVT-101 will generate revenue, if at all. Our ability to generate product revenue depends on a number of factors, including our ability to:

- successfully complete clinical trials and obtain regulatory approval for the marketing of RVT-101;
- set an acceptable price for RVT-101 and obtain coverage and adequate reimbursement from third-party payors;
- establish sales, marketing and distribution systems for RVT-101;
- add operational, financial and management information systems and personnel, including personnel to support our clinical, manufacturing and planned future commercialization efforts and operations as a public company;
- initiate and continue relationships with third-party manufacturers and have commercial quantities of RVT-101 manufactured at acceptable cost levels;
- attract and retain an experienced management and advisory team;
- achieve broad market acceptance of our products in the medical community and with third party payors and consumers;
- launch commercial sales of our products, whether alone or in collaboration with others; and
-

maintain, expand and protect our intellectual property portfolio.

Table of Contents

Because of the numerous risks and uncertainties associated with product development, we are unable to predict the timing or amount of increased expenses, or when, or if, we will be able to achieve or maintain profitability. Our expenses could increase beyond expectations if we are required by the U.S. Food and Drug Administration, or the FDA, and comparable non-U.S. regulatory authorities, to perform studies or clinical trials in addition to those that we currently anticipate. Even if RVT-101 is approved for commercial sale, we anticipate incurring significant costs associated with the commercial launch of this product. If we cannot successfully execute any one of the foregoing, our business may not succeed and your investment will be adversely affected.

We expect to incur significant losses for the foreseeable future and may never achieve or maintain profitability. Our independent registered public accounting firm has expressed substantial doubt about our ability to continue as a going concern.

Investment in pharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that a product candidate will fail to gain regulatory approval or become commercially viable. We have never generated any revenues, and we cannot estimate with precision the extent of our future losses. We do not currently have any products that are available for commercial sale and we may never generate revenue from selling products or achieve profitability. We expect to continue to incur substantial and increasing losses through the projected commercialization of RVT-101. RVT-101 has not been approved for marketing in the United States and may never receive such approval. As a result, we are uncertain when or if we will achieve profitability and, if so, whether we will be able to sustain it. Our ability to produce revenue and achieve profitability is dependent on our ability to complete the development of RVT-101, obtain necessary regulatory approvals, and have RVT-101 manufactured and successfully marketed. We cannot assure you that we will be profitable even if we successfully commercialize RVT-101. If we do successfully obtain regulatory approval to market RVT-101, our revenues will be dependent, in part, upon, among other things, the size of the markets in the territories for which we gain regulatory approval, the number of competitors in such markets, the accepted price for RVT-101 and whether we own the commercial rights for that territory. If the indication approved by regulatory authorities is narrower than we expect, or the treatment population is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from sales of RVT-101, even if approved. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Failure to become and remain profitable may adversely affect the market price of our common shares and our ability to raise capital and continue operations. As of March 31, 2015, we had an accumulated deficit of $21.0 million.

We expect our research and development expenses to be significant in connection with our planned Phase 3 pivotal program for RVT-101 for the treatment of Alzheimer's disease. In addition, if we obtain regulatory approval for RVT-101, we expect to incur increased sales and marketing expenses. As a result, we expect to continue to incur significant and increasing operating losses and negative cash flows for the foreseeable future. These losses have had and will continue to have an adverse effect on our financial position and working capital.

Our auditors have issued a going concern opinion on our financial statements as of March 31, 2015 and for the period from October 31, 2014 (date of inception) to March 31, 2015, expressing substantial doubt that we can continue as an ongoing business due to insufficient capital for us to fund our operations. Our financial statements do not include any adjustments that may result from the outcome of this uncertainty. If we are unable to successfully complete this offering, we will need to create alternate financing or operational plans to continue as a going concern.

Table of Contents

We are heavily dependent on the success of RVT-101, our only product candidate, which is still under clinical development, and if RVT-101 does not receive regulatory approval or is not successfully commercialized, our business may be harmed.

We currently have no products that are approved for commercial sale and may never be able to develop marketable drug products. We expect that a substantial portion of our efforts and expenditures over the next few years will be devoted to RVT-101. Accordingly, our business currently depends heavily on the successful development, regulatory approval and commercialization of RVT-101. We cannot be certain that RVT-101 will receive regulatory approval or be successfully commercialized even if we receive regulatory approval. The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of drug products are and will remain subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries that each have differing regulations. We are not permitted to market RVT-101 in the United States until it receives approval of a new drug application, or NDA, from the FDA, or in any foreign countries until it receives the requisite approval from such countries. We have not submitted an NDA to the FDA or comparable applications to other regulatory authorities and do not expect to be in a position to do so for the foreseeable future. Obtaining approval of an NDA is an extensive, lengthy, expensive and inherently uncertain process, and the FDA may delay, limit or deny approval of RVT-101 for many reasons, including:

- we may not be able to demonstrate that RVT-101 is safe and effective as a treatment for our targeted indications to the satisfaction of the FDA;
- the FDA may require additional Phase 3 trials of RVT-101 in mild-to-moderate Alzheimer's disease, which would increase our costs and prolong our development;
- the results of its clinical trials may not meet the level of statistical or clinical significance required by the FDA for marketing approval;
- the FDA may disagree with the number, design, size, conduct or implementation of our clinical trials;
- the contract research organizations, or CROs, that we retain to conduct clinical trials may take actions outside of our control that materially adversely impact our clinical trials;
- the FDA may not find the data from preclinical studies and clinical trials sufficient to demonstrate that the clinical and other benefits of RVT-101 outweigh its safety risks;
- the FDA may disagree with our interpretation of data from our preclinical studies and clinical trials or may require that we conduct additional studies;
- the FDA may not accept data generated at our clinical trial sites;
- if our NDA is reviewed by an advisory committee, the FDA may have difficulties scheduling an advisory committee meeting in a timely manner or the advisory committee may recommend against approval of our application or may recommend that the FDA require, as a condition of approval, additional preclinical studies or clinical trials, limitations on approved labeling or distribution and use restrictions;
- the FDA may require development of a risk evaluation and mitigation strategy, or REMS, as a condition of approval;
- the FDA may identify deficiencies in the manufacturing processes or facilities of our third-party manufacturers; or
-

the FDA may change its approval policies or adopt new regulations.

We will require additional capital to fund our operations, and if we fail to obtain necessary financing, we may not be able to complete the development and commercialization of RVT-101.

We expect to spend substantial amounts to complete the development of, seek regulatory approvals for and commercialize RVT-101. These expenditures will include costs associated with our asset purchase

Table of Contents

agreement with Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited, collectively GSK. Under the terms of this agreement, we are obligated to make significant cash payments upon the achievement of specified development, regulatory and sales performance milestones, as well as royalty payments in connection with the sale of resulting products.

Even with the net proceeds of this offering, we may require additional capital to complete the development and potential commercialization of RVT-101 for mild-to-moderate Alzheimer's disease and the development of RVT-101 for other potential indications. If we are unable to raise capital when needed or on acceptable terms, we could be forced to delay, reduce or eliminate our development program or any future commercialization efforts. In addition, attempting to secure additional financing may divert the time and attention of our management from day-to-day activities and harm our product candidate development efforts.

Based upon our current operating plan, we believe that the net proceeds from this offering will enable us to fund our operating expenses and capital expenditure requirements through 2017 and the completion of our Phase 3 pivotal program for RVT-101 and the submission of our NDA to the FDA for the approval of RVT-101 in the United States. This estimate is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because the length of time and activities associated with successful development of RVT-101 is highly uncertain, we are unable to estimate the actual funds we will require for development and any approved marketing and commercialization activities. Our future funding requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the initiation, progress, timing, costs and results of our planned clinical trials for RVT-101;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA, the European Medicines Agency, or EMA, and other comparable foreign regulatory authorities;
- the cost of filing, prosecuting, defending and enforcing our patent claims and other intellectual property rights;
- the cost of defending potential intellectual property disputes, including patent infringement actions brought by third parties against us or RVT-101 or any future product candidates;
- the effect of competing technological and market developments;
- the cost and timing of completion of commercial-scale manufacturing activities;
- the cost of establishing sales, marketing and distribution capabilities for RVT-101 in regions where we choose to commercialize our products on our own; and
- the initiation, progress, timing and results of our commercialization of RVT-101, if approved for commercial sale.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of RVT-101 or potentially discontinue operations.

We may be required to make significant payments in connection with our acquisition of RVT-101 from GSK.

In December 2014, we acquired rights to RVT-101 pursuant to an asset purchase agreement with GSK, or the GSK Agreement. Under the GSK Agreement, we are subject to significant obligations, including payment obligations upon achievement of specified milestones and royalties on product sales, as well as other material obligations. We are obligated to pay GSK an additional $5 million upon the earliest to occur of specified events that indicate a single Phase 3 trial may be sufficient to obtain FDA approval for RVT-101 for Alzheimer's disease. We are also obligated to pay GSK $35 million, $25 million and $10 million upon approval of RVT-101 in the United States, the European Union and Japan, respectively, as well as an additional one-time payment of $85 million for the first calendar year in which we achieve global net sales of

$1.2 billion for RVT-101. Under the GSK Agreement we are also obligated to pay a fixed 12.5% royalty based on net sales of RVT-101. If these payments become due under the terms of the GSK Agreement, we may not have sufficient funds available to meet our obligations and our development efforts may be materially harmed.

Table of Contents

Raising additional funds by issuing securities may cause dilution to existing shareholders, and raising funds through lending and licensing arrangements may restrict our operations or require us to relinquish proprietary rights.

We expect that significant additional capital will be needed in the future to continue our planned operations. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, strategic alliances and license and development agreements in connection with any collaborations. We do not have any committed external source of funds. To the extent that we raise additional capital by issuing equity securities, our existing shareholders' ownership may experience substantial dilution, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common shareholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. Any debt financing we enter into may involve covenants that restrict our operations. These restrictive covenants may include limitations on additional borrowing and specific restrictions on the use of our assets as well as prohibitions on our ability to create liens, pay dividends, redeem our shares or make investments. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise develop and market ourselves.

We currently have a limited number of employees who are employed by our wholly-owned subsidiary, Axovant Sciences, Inc., and we rely on Roivant Sciences, Inc. to provide various administrative, research and development and other services.

As of March 31, 2015, we had one employee and our wholly-owned subsidiary, Axovant Sciences, Inc., had seven employees. We rely on the administrative and support and research and development services provided by our affiliate, Roivant Sciences, Inc., a wholly-owned subsidiary of Roivant Sciences Ltd. We and Axovant Sciences, Inc., have entered into a services agreement with Roivant Sciences, Inc. Personnel and support staff that provide services to us under this services agreement are not required to, and we do not expect that they will, have as their primary responsibility the management and administration of our business or act exclusively for us. Under this services agreement, Roivant Sciences, Inc. has the discretion to determine which of its employees will perform services under the agreement. Further, each of Vivek Ramaswamy, Alan S. Roemer and Lawrence T. Friedhoff, M.D., Ph.D. is an employee of Roivant Sciences, Inc., and Marianne L. Romeo is an employee of Roivant Sciences Ltd. As a result, such individuals are unlikely to allocate all of their time and resources to us. For a description of the terms of the services agreement and these arrangements, see the section titled "Certain Relationships and Related Party Transactions."

Roivant Sciences, Inc. has limited financing and accounting and other resources. If Roivant Sciences, Inc. fails to perform its obligations in accordance with the terms of the services agreement, it could be difficult for us to operate our business. In addition, the termination of our relationship with Roivant Sciences, Inc. and any delay in appointing or finding a suitable replacement provider (if one exists) could make it difficult for us to operate our business. Any failure by Roivant Sciences, Inc. to effectively manage our administrative, research and development or other services could harm our business, financial condition and results of operations.

Table of Contents

We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of March 31, 2015, we had one employee and our wholly-owned subsidiary, Axovant Sciences, Inc., had seven employees. We expect to hire, either directly or through Axovant Sciences, Inc., additional employees for our managerial, clinical, scientific and engineering, operational, sales and marketing teams. We may have operational difficulties in connection with identifying, hiring and integrating new personnel. Future growth would impose significant additional responsibilities on our management, including the need to identify, recruit, maintain, motivate and integrate additional employees, consultants and contractors. Also, our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational mistakes, loss of business opportunities, loss of employees and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenues could be reduced, and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize RVT-101 and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Many of the other pharmaceutical companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer history in the industry than we do. They also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates and consultants than what we have to offer. If we are unable to continue to attract and retain high-quality personnel and consultants, the rate and success at which we can discover and develop product candidates and our business will be limited.

Our employees, independent contractors, principal investigators, consultants, commercial collaborators, service providers and other vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have an adverse effect on our results of operations.

We are exposed to the risk that our employees and contractors, including principal investigators, consultants, commercial collaborators, service providers and other vendors may engage in fraudulent or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or other unauthorized activities that violate the laws and regulations of the FDA and other similar regulatory bodies, including those laws that require the reporting of true, complete and accurate information to such regulatory bodies; manufacturing standards; federal and state healthcare fraud and abuse and health regulatory laws and other similar foreign fraudulent misconduct laws; or laws that require the true, complete and accurate reporting of financial information or data. Activities subject to these laws also involve the improper use or misrepresentation of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter third-party misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and financial results, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Table of Contents

Our business and operations would suffer in the event of system failures.

Our computer systems, as well as those of Axovant Sciences, Inc., Roivant Sciences, Inc. and our CROs and other contractors and consultants, are vulnerable to damage from computer viruses, unauthorized access, natural disasters (including hurricanes), terrorism, war and telecommunication and electrical failures. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our drug development programs. For example, the loss of preclinical or clinical trial data from completed, ongoing or planned trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of or damage to our data or applications, or inappropriate disclosure of personal, confidential or proprietary information, we could incur liability and the further development of RVT-101 or any future product candidate could be delayed.

Potential product liability lawsuits against us could cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

The use of RVT-101 in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, health care providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. On occasion, large judgments have been awarded in class action lawsuits based on drugs that had unanticipated adverse effects. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation and significant negative media attention;
- withdrawal of participants from our clinical trials;
- significant costs to defend the related litigation and related litigation;
- distraction of management's attention from our primary business;
- substantial monetary awards to patients or other claimants;
- inability to commercialize RVT-101 or any future product candidate;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- decreased demand for RVT-101 or any future product candidate, if approved for commercial sale; and
- loss of revenue.

The product liability insurance we currently carry, and any additional product liability insurance coverage we acquire in the future, may not be sufficient to reimburse us for any expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and in the future we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If we obtain marketing approval for RVT-101, we intend to acquire insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. A successful product liability claim or series of claims brought against us could cause our share price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business, including preventing or limiting the commercialization of any product candidates we develop.

Table of Contents

Risks Related to Clinical Development, Regulatory Approval and Commercialization

Clinical trials are very expensive, time-consuming, difficult to design and implement and involve an uncertain outcome.

Our only product candidate, RVT-101, is still in development and will require extensive clinical testing before we are prepared to submit an NDA for regulatory approval. We cannot predict with any certainty if or when we might submit an NDA for regulatory approval for RVT-101 or whether any such NDA will be approved by the FDA. Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. For instance, the FDA may not agree with our proposed endpoints for any clinical trial of RVT-101, which may delay the commencement of our clinical trials. The clinical trial process is also time-consuming. We estimate that clinical trials of RVT-101 will take at least several years to complete. Furthermore, failure can occur at any stage of the trials, and we could encounter problems that cause us to abandon or repeat clinical trials. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials, and the results of early clinical trials of RVT-101 therefore may not be predictive of the results of our planned Phase 3 pivotal program. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier trials.

The commencement and completion of clinical trials may be delayed by several factors, including:

- failure to obtain regulatory approval to commence a trial;
- unforeseen safety issues;
- determination of dosing issues;
- lack of effectiveness during clinical trials;
- inability to reach agreement on acceptable terms with prospective CROs and clinical trial sites;
- slower than expected rates of patient recruitment or failure to recruit suitable patients to participate in a trial;
- failure to manufacture sufficient quantities of a drug candidate for use in clinical trials;
- inability to monitor patients adequately during or after treatment; and
- inability or unwillingness of medical investigators to follow our clinical protocols.

Further, we, the FDA or an institutional review board, or IRB, at a clinical trial site may suspend our clinical trials at any time if it appears that we or our collaborators are failing to conduct a trial in accordance with regulatory requirements, including the FDA's current Good Clinical Practice, or GCP, regulations, that we are exposing participants to unacceptable health risks, or if the FDA finds deficiencies in our investigational new drug, or IND, submissions or the conduct of these trials. Therefore, we cannot predict with any certainty the schedule for commencement and completion of future clinical trials. If we experience delays in the commencement or completion of our clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of RVT-101 could be harmed, and our ability to generate revenues from RVT-101 may be delayed. In addition, any delays in our clinical trials could increase our costs, slow down the approval process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition and results of operations.

Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

Table of Contents

In addition, we recently acquired worldwide rights to RVT-101 and were not involved in the development of RVT-101 prior to December 2014. We may experience difficulties in the transition of this product candidate from GSK to us, which may result in delays in clinical trials as well as problems in our development efforts and regulatory filings, particularly if we do not receive all of the necessary products, information, reports and data from GSK in a timely manner. Further, we have had no involvement with or control over the preclinical and clinical development of RVT-101 to date. We are dependent on GSK having conducted such research and development in accordance with the applicable protocol, legal, regulatory and scientific standards, having accurately reported the results of all clinical trials conducted prior to our acquisition of RVT-101 and having correctly collected and interpreted the data from these trials. These problems could result in increased costs and delays in the development of RVT-101 which could adversely affect any future revenues from this product candidate.

The results of our clinical trials may not support our RVT-101 claims.

Even if our clinical trials are completed as planned, we cannot be certain that their results will support the safety and effectiveness of RVT-101 for Alzheimer's disease or any other potential indication. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the results of later clinical trials will replicate the results of prior clinical trials and preclinical testing. A failure of a clinical trial to meet its predetermined endpoints would likely cause us to abandon a product candidate and may delay development of any other product candidates. Any delay in, or termination of, our clinical trials will delay the submission of our NDAs with the FDA and, ultimately, our ability to commercialize RVT-101 and generate product revenues.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control.

We may encounter delays in enrolling, or be unable to enroll, a sufficient number of patients to complete any of our clinical trials, and even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials. Patient enrollment and retention in clinical trials depends on many factors, including the size of the patient population, the nature of the trial protocol, the existing body of safety and efficacy data with respect to the study drug, the number and nature of competing treatments and ongoing clinical trials of competing drugs for the same indication, the proximity of patients to clinical sites and the eligibility criteria for the study. Furthermore, any negative results we may report in clinical trials of our product candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate. Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop RVT-101, or could render further development impossible. In addition, we expect to rely on CROs and clinical trial sites to ensure proper and timely conduct of our future clinical trials and, while we intend to enter into agreements governing their services, we will be limited in our ability to compel their actual performance.

We face significant competition from other biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.

Drug development is highly competitive and subject to rapid and significant technological advancements. As a significant unmet medical need exists for the treatment of Alzheimer's disease, there are several large and small pharmaceutical companies focused on delivering therapeutics for the treatment of Alzheimer's disease. Further, it is likely that additional drugs will become available in the future for the treatment of Alzheimer's disease.

We are aware of several companies that are working to develop drugs that would compete against RVT-101 for Alzheimer's disease treatment. Many of our existing or potential competitors have substantially greater

Table of Contents

financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, as well as in obtaining regulatory approvals of those product candidates in the United States and in foreign countries. Our current and potential future competitors also have significantly more experience commercializing drugs that have been approved for marketing. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drugs that are more effective or less costly than any product candidate that we may develop.

We will face competition from other drugs currently approved or that will be approved in the future for the treatment of Alzheimer's disease. Therefore, our ability to compete successfully will depend largely on our ability to:

- develop and commercialize medicines that are superior to other products in the market;
- demonstrate through our clinical trials that RVT-101 is differentiated from existing and future therapies;
- attract qualified scientific, product development and commercial personnel;
- obtain patent or other proprietary protection for our medicines;
- obtain required regulatory approvals;
- obtain coverage and adequate reimbursement from, and negotiate competitive pricing with, third-party payors; and
- successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new medicines.

The availability of our competitors' products could limit the demand, and the price we are able to charge, for any product candidate we develop. The inability to compete with existing or subsequently introduced drugs would have an adverse impact on our business, financial condition and prospects.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make RVT-101 less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, discovering, developing, receiving FDA approval for or commercializing medicines before we do, which would have an adverse impact on our business and results of operations.

If we are not able to obtain required regulatory approvals, we will not be able to commercialize RVT-101, and our ability to generate revenue will be materially impaired.

RVT-101 and the activities associated with its development and commercialization, including its design, research, testing, manufacture, safety, efficacy, recordkeeping, labeling, packaging, storage, approval, advertising, promotion, sale and distribution, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and similar regulatory authorities outside the United States. Failure to obtain marketing approval for RVT-101 will prevent us from commercializing it.

We have not received approval from regulatory authorities to market any product candidate in any jurisdiction, and it is possible that neither RVT-101 nor any product candidates we may seek to develop in the future will ever obtain the appropriate regulatory approvals necessary for us to commence product sales.

Table of Contents

Prior to submitting an NDA to the FDA, a marketing authorization application, or MAA, to the EMA, or an equivalent application to other foreign regulatory authorities for approval of RVT-101, we will need to complete our planned Phase 3 pivotal program.

We expect to rely on third-party CROs and consultants to assist us in filing and supporting the applications necessary to gain marketing approvals. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish RVT-101's safety and efficacy for that indication. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the regulatory authorities.

RVT-101 may cause adverse effects or have other properties that could delay or prevent its regulatory approval or limit the scope of any approved label or market acceptance.

Adverse events caused by RVT-101 could cause us, other reviewing entities, clinical trial sites or regulatory authorities to interrupt, delay or halt clinical trials and could result in the denial of regulatory approval. If an unacceptable frequency or severity of adverse events are reported in our clinical trials for RVT-101 or any future product candidates, our ability to obtain regulatory approval for such product candidates may be negatively impacted.

Furthermore, if any of our products are approved and then cause serious or unexpected side effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product or require a REMS to impose restrictions on its distribution or other risk management measures;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications;
- we may be required to change the way the product is administered or to conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients;
- we could elect to discontinue the sale of our product; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product candidate and could substantially increase the costs of commercializing RVT-101.

Even if we obtain FDA approval for RVT-101 in the United States, we may never obtain approval for or commercialize it in any other jurisdiction, which would limit our ability to realize its full market potential.

In order to market any products in any particular jurisdiction, we must establish and comply with numerous and varying regulatory requirements on a country-by-country basis regarding safety and efficacy. Approval by FDA in the United States does not ensure approval by regulatory authorities in other countries or jurisdictions. In addition, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not guarantee regulatory approval in any other country. Approval processes vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approval could result in difficulties and costs for us and require additional preclinical studies or clinical trials which could be costly and time consuming. Regulatory requirements can vary widely from country to country and could delay or prevent the introduction of our products in those countries. We do not have any product candidates approved for sale in any jurisdiction, including in international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in

Table of Contents

international markets or to obtain and maintain required approvals, or if regulatory approvals in international markets are delayed, our target market will be reduced and our ability to realize the full market potential of any product we develop will be unrealized.

Even if we obtain regulatory approval for RVT-101, we will still face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, packaging, distribution, adverse event reporting, storage, recordkeeping, export, import, advertising and promotional activities for such product, among other things, will be subject to extensive and ongoing requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, establishment registration and drug listing requirements, continued compliance with current Good Manufacturing Practice, or cGMP, requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping and current GCP requirements for any clinical trials that we conduct post-approval. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, including any requirement to implement a REMS. If RVT-101 receives marketing approval, the accompanying label may limit the approved use of our drug, which could limit sales of the product.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product. The FDA closely regulates the post-approval marketing and promotion of drugs to ensure drugs are marketed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA imposes stringent restrictions on manufacturers' communications regarding off-label use and if we do not market our products for their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the Federal Food, Drug, and Cosmetic Act relating to the promotion of prescription drugs may lead to FDA enforcement actions and investigations alleging violations of federal and state health care fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may yield various results, including:

- restrictions on manufacturing such products;
- restrictions on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenues;
-

- suspension or withdrawal of marketing approvals;
- refusal to permit the import or export of our products;
- product seizure; or
- injunctions or the imposition of civil or criminal penalties.

Table of Contents

The FDA's policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of RVT-101 or any future product candidate. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained.

Even if RVT-101 receives marketing approval, it may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.

If RVT-101 receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. If it does not achieve an adequate level of acceptance, we may not generate significant product revenues and become profitable. The degree of market acceptance of RVT-101, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the efficacy and potential advantages compared to alternative treatments;
- effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments, including any similar generic treatments;
- our ability to offer our products for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our product together with other medications.

Because we expect sales of RVT-101, if approved, to generate substantially all of our product revenues for the foreseeable future, the failure of this product to find market acceptance would harm our business and could require us to seek additional financing.

If we are unable to establish sales, marketing and distribution capabilities either on our own or in collaboration with third-parties, we may not be successful in commercializing RVT-101, if approved.

We do not have any infrastructure for the sales, marketing or distribution of our products, and the cost of establishing and maintaining such an organization may exceed the cost-effectiveness of doing so. In order to market any product that may be approved, we must build our sales, distribution, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. To achieve commercial success for any product for which we have obtained marketing approval, we will need a sales and marketing organization.

We expect to build a focused sales, distribution and marketing infrastructure to market RVT-101 in the United States and European Union, if approved. There are significant expenses and risks involved with establishing our own sales, marketing and distribution capabilities, including

our ability to hire, retain and appropriately incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. Any failure or delay in the development of our internal sales, marketing and distribution capabilities could delay any product launch, which would adversely impact the commercialization of RVT-101. For example, if the commercial launch of RVT-101 for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily

Table of Contents

incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to physicians or attain adequate numbers of physicians to prescribe any drugs; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

We do not anticipate having the resources in the foreseeable future to allocate to the sales and marketing of RVT-101 in certain markets overseas. Therefore, our future success will depend, in part, on our ability to enter into and maintain collaborative relationships for such capabilities, the collaborator's strategic interest in the product and such collaborator's ability to successfully market and sell the product. We intend to pursue collaborative arrangements regarding the sale and marketing of RVT-101, if approved, for certain markets overseas; however, we cannot assure you that we will be able to establish or maintain such collaborative arrangements, or if able to do so, that they will have effective sales forces. To the extent that we depend on third parties for marketing and distribution, any revenues we receive will depend upon the efforts of such third parties, and there can be no assurance that such efforts will be successful.

If we are unable to build our own sales force or negotiate a collaborative relationship for the commercialization of RVT-101 we may be forced to delay the potential commercialization of RVT-101 or reduce the scope of our sales or marketing activities for RVT-101. If we elect to increase our expenditures to fund commercialization activities ourselves, we will need to obtain additional capital, which may not be available to us on acceptable terms, or at all. If we do not have sufficient funds, we will not be able to bring RVT-101 to market or generate product revenue. We could enter into arrangements with collaborative partners or otherwise at an earlier stage than otherwise would be ideal and we may be required to relinquish rights to RVT-101 or otherwise agree to terms unfavorable to us, any of which may have an adverse effect on our business, operating results and prospects.

If we are unable to establish adequate sales, marketing and distribution capabilities, either on our own or in collaboration with third parties, we will not be successful in commercializing RVT-101 and may not become profitable. We will be competing with many companies that currently have extensive and well-funded marketing and sales operations. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

If we obtain approval to commercialize any products outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

If RVT-101 is approved for commercialization, we intend to enter into agreements with third parties to market it in certain jurisdictions outside the United States. We expect that we will be subject to additional risks related to international operations or entering into international business relationships, including:

- different regulatory requirements for drug approvals and rules governing drug commercialization in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;

Table of Contents

- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign reimbursement, pricing and insurance regimes;
- foreign taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- potential noncompliance with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act 2010 and similar anti-bribery and anticorruption laws in other jurisdictions;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires.

We have no prior experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by both the European Union and many of the individual countries in Europe with which we will need to comply. Many U.S.-based biopharmaceutical companies have found the process of marketing their own products in Europe to be very challenging.

Our current and future relationships with investigators, health care professionals, consultants, third-party payors, and customers will be subject to applicable healthcare regulatory laws, which could expose us to penalties.

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors and customers, may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. These laws may constrain the business or financial arrangements and relationships through which we conduct our operations, including how we research, market, sell and distribute our products for which we obtain marketing approval. Such laws include:

- the federal Anti-Kickback Statute prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it to have committed a violation; in addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;
- the federal false claims laws, including the civil False Claims Act, impose criminal and civil penalties, including civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for, among other things, executing a scheme to defraud any healthcare benefit program or making false statements relating to

healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

Table of Contents

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal Physician Payment Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the government information related to payments or other "transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, and requires applicable manufacturers and group purchasing organizations to report annually to the government ownership and investment interests held by the physicians described above and their immediate family members and payments or other "transfers of value" to such physician owners (covered manufacturers are required to submit reports to the government by the 90th day of each calendar year); and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third party payors, including private insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures; and state and foreign laws governing the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our current and future business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable healthcare laws. If our operations are found to be in violation of any of these or any other health regulatory laws that may apply to us, we may be subject to significant penalties, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgement, individual imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. Defending against any such actions can be costly, time-consuming and may require significant financial and personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize RVT-101 and affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of RVT-101, restrict or regulate post-approval activities and affect our ability to profitably sell any products for which we obtain marketing approval.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, collectively the Affordable Care Act, was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Although it is too early to

Table of Contents

determine the full effect of the Affordable Care Act, the law has continued the downward pressure on pharmaceutical pricing, especially under the Medicare program, and increased the industry's regulatory burdens and operating costs. Among the provisions of the Affordable Care Act of importance to our potential drug candidates are the following:

- an annual, nondeductible fee payable by any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries under their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D;
- extension of manufacturers' Medicaid rebate liability to individuals enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs in certain states;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. For example, in August 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This included further reductions to Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will stay in effect through 2024 unless additional Congressional action is taken. Additionally, in January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers.

Moreover, the Drug Supply Chain Security Act, which was enacted in 2012 as part of the Food and Drug Administration Safety and Innovation Act, imposes new obligations on manufacturers of pharmaceutical products related to product tracking and tracing. Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We are not sure whether additional legislative changes will be enacted, or whether the current regulations, guidance or interpretations will be changed, or what the impact of such changes on our business, if any, may be.

We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

Table of Contents

Coverage and adequate reimbursement may not be available for RVT-101, which could make it difficult for us to sell our products profitably.

Market acceptance and sales of any product candidates that we develop, will depend in part on the extent to which reimbursement for these products and related treatments will be available from third-party payors, including government health administration authorities and private health insurers. Third-party payors decide which drugs they will pay for and establish reimbursement levels. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for any product candidates that we develop will be made on a plan-by-plan basis. One payor's determination to provide coverage for a product does not assure that other payors will also provide coverage, and adequate reimbursement, for the product. Additionally, a third-party payor's decision to provide coverage for a drug does not imply that an adequate reimbursement rate will be approved. Each plan determines whether or not it will provide coverage for a drug, what amount it will pay the manufacturer for the drug, and on what tier of its formulary the drug will be placed. The position of a drug on a formulary generally determines the co-payment that a patient will need to make to obtain the drug and can strongly influence the adoption of a drug by patients and physicians. Patients who are prescribed treatments for their conditions and providers prescribing such services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Inadequate coverage and reimbursement may impact the demand for, or the price of, any product for which we obtain marketing approval. If coverage and adequate reimbursement are not available, or are available only to limited levels, we may not be able to successfully commercialize any product candidates that we develop.

Additionally, there have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions that could affect our ability to sell any future drugs profitably. These legislative and regulatory changes may negatively impact the reimbursement for any future drugs, following approval.

Risks Related to Our Dependence on Third Parties

We do not have our own manufacturing capabilities and will rely on third parties to produce clinical and commercial supplies of RVT-101 and any future product candidate.

We have no experience in drug formulation or manufacturing and do not own or operate, and we do not expect to own or operate, facilities for product manufacturing, storage and distribution, or testing. While RVT-101 was being developed by GSK, it was also being manufactured by GSK. We expect that the drug substance transferred from GSK under the GSK Agreement will be sufficient for us to complete our planned Phase 3 pivotal program, and we have contracted with a third-party to fill, finish, supply, store and distribute RVT-101 for this program. We also will rely on third-party manufacturers to supply us with sufficient quantities of RVT-101 to be used, if approved, for the commercialization of RVT-101. If we are unable to initiate or continue our relationship with one or more of these third-party contractors, we could experience delays in our development efforts as we locate and qualify new manufacturers.

Further, our reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including:

- inability to meet our product specifications and quality requirements consistently;
- delay or inability to procure or expand sufficient manufacturing capacity;
- manufacturing and product quality issues related to scale-up of manufacturing;

Table of Contents

- costs and validation of new equipment and facilities required for scale-up;
- failure to comply with cGMP and similar foreign standards;
- inability to negotiate manufacturing agreements with third parties under commercially reasonable terms;
- termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- reliance on a limited number of sources, and in some cases, single sources for product components, such that if we are unable to secure a sufficient supply of these product components, we will be unable to manufacture and sell RVT-101 or any future product candidate in a timely fashion, in sufficient quantities or under acceptable terms;
- lack of qualified backup suppliers for those components that are currently purchased from a sole or single source supplier;
- operations of our third-party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier;
- carrier disruptions or increased costs that are beyond our control; and
- failure to deliver our products under specified storage conditions and in a timely manner.

Any of these events could lead to clinical trial delays, failure to obtain regulatory approval or impact our ability to successfully commercialize our products. Some of these events could be the basis for FDA action, including injunction, recall, seizure, or total or partial suspension of production.

We intend to rely on third parties to conduct, supervise and monitor our clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We intend to rely on CROs and clinical trial sites to ensure the proper and timely conduct of our clinical trials, and we expect to have limited influence over their actual performance.

We intend to rely upon CROs to monitor and manage data for our clinical programs, as well as the execution of future nonclinical studies. We expect to control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs will be required to comply with the Good Laboratory Practices and GCPs, which are regulations and guidelines enforced by the FDA and are also required by the Competent Authorities of the Member States of the European Economic Area and comparable foreign regulatory authorities in the form of International Conference on Harmonization guidelines for any of our product candidates that are in preclinical and clinical development. The Regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of subjects, we may be required to repeat clinical trials, which would delay the regulatory approval process.

Our CROs will not be our employees, and we will not control whether or not they devote sufficient time and resources to our future clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may

also be conducting clinical trials, or other drug development activities which could harm our competitive position. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs, which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet

Table of Contents

expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize any product candidate that we develop. As a result, our financial results and the commercial prospects for any product candidate that we develop would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

If our relationship with these CROs terminate, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we intend to carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have an adverse impact on our business, financial condition and prospects.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for our technology and products or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our drug development programs and product candidates. Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to RVT-101 and any future product candidates. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our development programs and product candidates. The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner.

It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own or in-license may fail to result in issued patents with claims that cover RVT-101 or any future product candidate in the United States or in other foreign countries. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue and even if such patents cover RVT-101 or any future product candidate, third parties may challenge their validity, enforceability or scope, which may result in such patents being narrowed, invalidated, or held unenforceable. Any successful opposition to these patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any product candidates or companion diagnostic that we may develop. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate and companion diagnostic under patent protection could be reduced.

If the patent applications we hold or have in-licensed with respect to our development programs and product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for RVT-101 or any future product candidate, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize, future drugs. Any such outcome could have a materially adverse effect on our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the

Table of Contents

United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Publications of discoveries in scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to make the inventions claimed in our owned or licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection.

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. On September 16, 2011, the Leahy-Smith America Invents Act, or the Leahy-Smith Act, was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications are prosecuted and may also affect patent litigation. The United States Patent Office recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective on March 16, 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have an adverse effect on our business and financial condition.

Moreover, we may be subject to a third party pre-issuance submission of prior art to the U.S. Patent and Trademark Office, or USPTO, or become involved in opposition, derivation, reexamination, inter partes review, post-grant review or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Moreover, patents have a limited lifespan. In the United States, the natural expiration of a patent is generally 20 years after it is filed. Various extensions may be available; however the life of a patent, and the protection it affords, is limited. Without patent protection for our current or future product candidates, we may be open to competition from generic versions of such products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Table of Contents

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and other foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign national or international patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of patent rights include, but are not limited to, failure to timely file national and regional stage patent applications based on our international patent application, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we or our licensors fail to maintain the patents and patent applications covering RVT-101 or any future product candidate, our competitors might be able to enter the market, which would have an adverse effect on our business.

Third party claims or litigation alleging infringement of patents or other proprietary rights or seeking to invalidate patents or other proprietary rights, may delay or prevent the development and commercialization of RVT-101 and any future product candidate.

Our commercial success depends in part on our avoiding infringement and other violations of the patents and proprietary rights of third parties. There is a substantial amount of litigation, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, derivation and administrative law proceedings, inter party review, and post-grant review before the USPTO, as well as oppositions and similar processes in foreign jurisdictions. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, and as we gain greater visibility and market exposure as a public company, the risk increases that our product candidates or other business activities may be subject to claims of infringement of the patent and other proprietary rights of third parties. Third parties may assert that we are infringing their patents or employing their proprietary technology without authorization. We have conducted searches for information in support of patent protection and otherwise evaluating the patent landscape for RVT-101, and, based on these searches and evaluations to date, we do not believe that there are valid patents which contain granted claims that could be asserted with respect to RVT-101, however, we may be incorrect.

There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that our product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire. Similarly, if any third-party patent were held by a court of competent jurisdiction to cover aspects of our formulations, processes for manufacture or methods of use, including combination therapy, the holders of any such patent may be able to block our ability to develop and commercialize the applicable product candidate unless we obtained a license or until such patent expires. In either case, such a license may not be available on commercially reasonable terms or at all. In addition, we may be subject to claims that we are infringing

Table of Contents

other intellectual property rights, such as trademarks or copyrights, or misappropriating the trade secrets of others, and to the extent that our employees, consultants or contractors use intellectual property or proprietary information owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful infringement or other intellectual property claim against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties or redesign our affected products, which may be impossible or require substantial time and monetary expenditure. We cannot predict whether any such license would be available at all or whether it would be available on commercially reasonable terms. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our drugs or product candidates, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties.

We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe or otherwise violate our patents, the patents of our licensors or our other intellectual property rights. To counter infringement or unauthorized use, we may be required to file legal claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours or our licensors is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing. The initiation of a claim against a third party may also cause the third party to bring counter claims against us such as claims asserting that our patents are invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, non-enablement or lack of statutory subject matter. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant material information from the USPTO, or made a materially misleading statement, during prosecution. Third parties may also raise similar validity claims before the USPTO in post-grant proceedings such as ex parte reexaminations, inter partes review, or post-grant review, or oppositions or similar proceedings outside the United States, in parallel with litigation or even outside the context of litigation. The outcome following legal assertions of invalidity and unenforceability is unpredictable. We cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. For the patents and patent applications that we have licensed, we may have limited or no right to participate in the defense of any licensed patents against challenge by a third party. If a defendant were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of any future patent protection on our current or future product candidates. Such a loss of patent protection could harm our business.

We may not be able to prevent, alone or with our licensors, misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States. Our business could be harmed if in litigation the prevailing party does not offer us a license on

Table of Contents

commercially reasonable terms. Any litigation or other proceedings to enforce our intellectual property rights may fail, and even if successful, may result in substantial costs and distract our management and other employees.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have an adverse effect on the price of our common shares.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

The United States has recently enacted and implemented wide-ranging patent reform legislation. The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce patents that we have licensed or that we might obtain in the future.

We may not be able to protect our intellectual property rights throughout the world, which could impair our business.

Filing, prosecuting and defending patents covering RVT-101 and any future product candidate throughout the world would be prohibitively expensive. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we may obtain patent protection, but where patent enforcement is not as strong as that in the United States. These products may compete with our products in jurisdictions where we do not have any issued or licensed patents and any future patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we expect to rely on third parties to manufacture RVT-101 and any future product candidates, and we expect to collaborate with third parties on the development of RVT-101 and any future product candidates, we must, at times, share trade secrets with them. We also conduct joint research and development programs that may require us to share trade secrets under the terms of our research and development partnerships or similar agreements. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations.

In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our trade secrets, although our agreements may contain certain limited publication rights. Despite our efforts to protect our trade secrets, our competitors

Table of Contents

may discover our trade secrets, either through breach of our agreements with third parties, independent development or publication of information by any of our third-party collaborators. A competitor's discovery of our trade secrets would impair our competitive position and have an adverse impact on our business.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of their former employers or other third parties.

We employ individuals who were previously employed at other biotechnology or pharmaceutical companies. Although we seek to protect our ownership of intellectual property rights by ensuring that our agreements with our employees, collaborators and other third parties with whom we do business include provisions requiring such parties to assign rights in inventions to us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed confidential information of our employees' former employers or other third parties. We may also be subject to claims that former employers or other third parties have an ownership interest in our patents. Litigation may be necessary to defend against these claims. There is no guarantee of success in defending these claims, and if we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Even if we are successful, litigation could result in substantial cost and be a distraction to our management and other employees.

Risks Related to this Offering and Our Common Shares

No public market for our common shares currently exists, and a public market may not develop or be liquid enough for you to sell your shares quickly or at market price.

Prior to this offering, there has not been a public market for our common shares. If an active trading market for our common shares does not develop following this offering, you may not be able to sell your shares quickly or at the market price. An inactive market may also impair our ability to raise capital to continue to fund operations by selling common shares and may impair our ability to acquire other companies or technologies by using our common shares as consideration. The initial public offering price of our common shares will be determined by negotiations between us and representatives of the underwriters, and may not be indicative of the market prices of our common shares that will prevail in the trading market.

The market price of our common shares is likely to be highly volatile, and you may lose some or all of your investment.

The market price of our common shares is likely to be highly volatile and may be subject to wide fluctuations in response to a variety of factors, including the following:

- any delay in the commencement, enrollment and ultimate completion of clinical trials;
- results of clinical trials of RVT-101 or those of our competitors;
- any delay in filing an NDA for RVT-101 and any adverse development or perceived adverse development with respect to the FDA's review of that NDA;
- failure to successfully develop and commercialize RVT-101 or any future product candidate;
- inability to obtain additional funding;
- regulatory or legal developments in the United States and other countries applicable to RVT-101 or any future product candidate;
- adverse regulatory decisions;
- changes in the structure of healthcare payment systems;
- inability to obtain adequate product supply for RVT-101 or any future product candidate, or the inability to do so at acceptable prices;

Table of Contents

- introduction of new products, services or technologies by our competitors;
- failure to meet or exceed financial projections we provide to the public;
- failure to meet or exceed the estimates and projections of the investment community;
- changes in the market valuations of similar companies;
- market conditions in the pharmaceutical and biotechnology sectors, and the issuance of new or changed securities analysts' reports or recommendations;
- announcements of significant acquisitions, strategic partnerships, joint ventures or capital commitments by us or our competitors;
- significant lawsuits, including patent or shareholder litigation, and disputes or other developments relating to our proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- additions or departures of key scientific or management personnel;
- sales of our common shares by us or our shareholders in the future;
- trading volume of our common shares;
- general economic, industry and market conditions; and
- the other factors described in this "Risk Factors" section.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors, as well as general economic, political, regulatory and market conditions, may negatively affect the market price of our common shares, regardless of our actual operating performance. The market price of our common shares may decline below the initial public offering price, and you may lose some or all of your investment.

Volatility in our share price could subject us to securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because pharmaceutical companies have experienced significant share price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

We expect to be a "controlled company" within the meaning of the applicable rules of the New York Stock Exchange and, as a result, will qualify for exemptions from certain corporate governance requirements. If we rely on these exemptions, you will not have the same protections afforded to shareholders of companies that are subject to such requirements.

Upon the closing of this offering, Roivant Sciences Ltd. will continue to control a majority of the voting power of our outstanding common shares. As a result, we expect to be a "controlled company" within the meaning of the New York Stock Exchange, or NYSE, corporate governance requirements. Under these rules, a company of which more than 50% of the voting power for the election of directors is held by an individual, group or another company is a "controlled company" and may elect not to comply with certain corporate governance requirements, including the requirements:

- that a majority of the board of directors consists of independent directors;
- for an annual performance evaluation of the nominating and corporate governance and compensation committees;

Table of Contents

- that we have a nominating and corporate governance committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities; and

- that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibility.

We intend to use these exemptions upon the closing of this offering and we may continue to use all or some of these exemptions in the future. As a result, you may not have the same protections afforded to shareholders of companies that are subject to all of the NYSE corporate governance requirements.

Roivant Sciences Ltd. will continue to own a significant percentage of our common shares and will be able to exert significant control over matters subject to shareholder approval.

Roivant Sciences Ltd. is currently our only shareholder, and after this offering is completed we will continue to be controlled by Roivant Sciences Ltd. Upon the closing of this offering, Roivant Sciences Ltd. will beneficially own approximately 80.7% of the voting power of our outstanding common shares, or approximately 78.5% if the underwriters exercise their option to purchase additional common shares from us in full. Therefore, even after this offering, they will have the ability to substantially influence us through this ownership position. For example, they may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. Roivant Sciences Ltd.'s interests may not always coincide with our corporate interests or the interests of other shareholders, and they may act in a manner with which you may not agree or that may not be in the best interests of our other shareholders. So long as they continue to own a significant amount of our equity, Roivant Sciences Ltd. will continue to be able to strongly influence or effectively control our decisions.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common shares will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If our financial performance fails to meet analyst estimates or one or more of the analysts who cover us downgrade our common shares or change their opinion of our common shares, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Because we do not anticipate paying any cash dividends on our common shares in the foreseeable future, capital appreciation, if any, would be your sole source of gain.

We have never declared or paid any cash dividends on our common shares. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. As a result, capital appreciation, if any, of our common shares would be your sole source of gain on an investment in our common shares for the foreseeable future. Additionally, we are subject to Bermuda legal constraints that may affect our ability to pay dividends on our common shares and make other payments. See "Dividend Policy" for additional information.

Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and our shareholders will not have the opportunity as part of their investment decision to assess whether the net proceeds are being used appropriately. You may not agree with our decisions, and our use of the proceeds may not yield any return on your investment. Because of the number and variability of factors that will

Table of Contents

determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our failure to apply the net proceeds of this offering effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, on our investment of these net proceeds. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering. For a period of six months after the closing of this offering, we have agreed to invest any cash and cash equivalents in a non-interest bearing account, and as a result, such investment will not yield a return.

If certain new investors participate in this offering, the available public float for our common shares will be reduced and the liquidity of our common shares may be adversely affected.

Entities affiliated with Visium Asset Management, LP and RA Capital Management, LLC have indicated an interest in purchasing up to an aggregate of approximately $150.0 million of our common shares in this offering at the initial public offering price. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these entities, or any of these entities may determine to purchase more, fewer or no shares in this offering.

Any shares purchased by these entities in this offering will be subject to a 90-day lock-up agreement with the underwriters and any such purchases will reduce the available public float for our common shares. As a result, any purchase of common shares by such entities in this offering may reduce the liquidity of our common shares relative to what it would have been had these shares been purchased by other investors or not subject to lock-up agreements.

Future sales of our common shares may depress our share price.

After this offering, based on the 75,000,000 common shares outstanding as of March 31, 2015, there will be 92,900,000 common shares outstanding, assuming no exercise by the underwriters of their option to purchase additional common shares from us. Sales of a substantial number of our common shares in the public market after this offering, or the perception that these sales might occur, could depress the market price of our common shares and could impair our ability to raise capital through the sale of additional equity securities. Of our issued and outstanding our common shares, all of the shares sold in this offering will be freely transferable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares acquired by entities affiliated with Visium Asset Management, LP and RA Capital Management, LLC who have entered into a 90-day lock-up agreement with the underwriters or by our affiliates, as defined in Rule 144 under the Securities Act. The remaining 75,000,000 shares outstanding after this offering will be restricted as a result of securities laws, lock-up agreements or other contractual restrictions that restrict transfers for 180 days after the date of this prospectus. See the section titled "Shares Eligible for Future Sale Lock-Up Agreements" for a more detailed description of the lock-up period.

We intend to file a registration statement on Form S-8 under the Securities Act to register the total number of our common shares that may be issued under our equity incentive plans. See the information in the section titled "Shares Eligible for Future Sale Form S-8 Registration Statements" for a more detailed description of the common shares that will be available for future sale upon the registration and issuance of such shares, subject to any applicable vesting or lock-up period or other restrictions provided under the terms of the applicable plan or the option agreements entered into with the option holders. Sales of these shares have an adverse effect on the trading price of our common shares. In addition, in the future we may issue common shares or other securities if we need to raise additional capital. The number of our new common shares issued in connection with raising additional capital could constitute a material portion of our then outstanding common shares.

Table of Contents

If you purchase our common shares in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The initial public offering price of our common shares will be substantially higher than the as adjusted net tangible book value per common share of our common shares. Therefore, if you purchase our common shares in this offering, you will pay a price per common share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. Based on an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of $11.61 per common share, representing the difference between our as adjusted net tangible book value per common share, after giving effect to this offering, and the assumed initial public offering price. Further, the future exercise of any outstanding options to purchase our common shares will cause you to experience additional dilution. See the section titled "Dilution" for additional information.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to compliance with our public company responsibilities and corporate governance practices.

As a public company, and particularly after we are no longer an "emerging growth company," we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the NYSE and other applicable securities rules and regulations impose various requirements on public companies. Our management and other personnel will need to devote a substantial amount of time to compliance with these requirements. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain directors' and officers' liability insurance, which could make it more difficult for us to attract and retain qualified members of our board of directors. We cannot predict or estimate the amount of additional costs we will incur as a public company or the timing of such costs.

We have identified a material weakness in our internal control over financial reporting and may identify additional material weaknesses in the future or otherwise fail to maintain an effective system of internal controls, which may result in material misstatements of our financial statements or cause us to fail to meet our reporting obligations; in which case, our shareholders and other investors could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our common shares.

Prior to this offering we were a private company and had limited accounting and financial reporting personnel and other resources with which to address our internal controls and procedures. In connection with the preparation of our financial statements as of and for the period from October 31, 2014 (date of inception) to March 31, 2015, we and our independent registered public accounting firm identified a material weakness in our internal control over financial reporting, as defined in the standards established by the Public Company Accounting Oversight Board of the United States. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

We did not design or maintain an effective control environment because we did not maintain a sufficient complement of personnel with an appropriate level of knowledge of accounting, experience and training commensurate with our financial reporting requirements. This material weakness resulted in material audit adjustments related to the affiliate charge for stock compensation. Our limited personnel also resulted in our inability to consistently establish appropriate authorities and responsibilities in pursuit of our financial reporting objectives, as demonstrated by, among other things, our insufficient segregation of duties in our finance and accounting functions. We rely on Roivant Sciences, Inc. for information systems and financial

Table of Contents

and accounting support. Roivant Sciences, Inc. has limited staff and performed nearly all aspects of our financial reporting process, including, but not limited to, accessing the underlying accounting records and systems, posting and recording journal entries and taking responsibility for the preparation of the financial statements. This material weakness could result in a material misstatement of our interim or annual financial statements that would not be prevented or detected.

As the adoption of the appropriate resources becomes economically feasible, we intend to take appropriate and reasonable steps to remediate this material weakness through the hiring of additional resources and implementation of more robust review, supervision and monitoring of the financial reporting process. Due to our size, segregation of conflicting duties has not always been possible and may not be economically feasible. We are just beginning the process of implementing processes and procedures intended to mitigate the identified material weakness and the measures we have taken to date, or any measures we may take in the future, may not be sufficient to remediate these material weaknesses or to avoid potential future material weaknesses.

The Sarbanes-Oxley Act of 2002 requires, among other things, that we assess the effectiveness of our internal control over financial reporting annually and disclosure controls and procedures quarterly. In particular, beginning with the fiscal year ending on March 31, 2017, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, or Section 404. If other material weaknesses are identified in the future or we are not able to comply with the requirements of Section 404 in a timely manner, our reported financial results could be materially misstated or could be restated, we could receive an adverse opinion regarding our controls from our accounting firm, we could be subject to investigations or sanctions by regulatory authorities (which would require additional financial and management resources) and the market price of our common shares could decline.

As a result of becoming a public company, we will be obligated to develop and maintain proper and effective internal controls over financial reporting and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common shares.

We will be required, pursuant to Section 404, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting for the first fiscal year beginning after the effective date of this offering. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. Our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting until our first annual report required to be filed with the SEC following the date we are no longer an emerging growth company, as defined in the JOBS Act. We will be required to disclose significant changes made in our internal control procedures on a quarterly basis.

We are beginning the costly and challenging process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404, and we may not be able to complete our evaluation, testing and any required remediation in a timely fashion. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and we will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge and compile the system and process documentation necessary to perform the evaluation needed to comply with Section 404.

During the evaluation and testing process of our internal control, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to

Table of Contents

maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common shares could decline, and we could be subject to sanctions or investigations by the NYSE, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

We are an emerging growth company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common shares less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies," including exemption from compliance with the auditor attestation requirements of Section 404, 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 will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.0 billion or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common shares that is held by non-affiliates exceeds $700.0 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which would allow us to take advantage of many of the same exemptions from disclosure requirements including exemption from compliance with the auditor attestation requirements of Section 404 and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements.

We cannot predict if investors will find our common shares less attractive because we may rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and our share price may be more volatile.

We are a Bermuda company and it may be difficult for you to enforce judgments against us or our directors and executive officers.

We are a Bermuda exempted company. As a result, the rights of our shareholders will be governed by Bermuda law and our memorandum of association and bye-laws. The rights of shareholders under Bermuda law may differ from the rights of shareholders of companies incorporated in another jurisdiction. It may be difficult for investors to enforce in the United States judgments obtained in U.S. courts against us based on the civil liability provisions of the U.S. securities laws. It is doubtful whether courts in Bermuda will enforce judgments obtained in other jurisdictions, including the United States, against us or our directors or officers under the securities laws of those jurisdictions or entertain actions in Bermuda against us or our directors or officers under the securities laws of other jurisdictions. See "Enforcement of Civil Liabilities under United States Federal Securities Laws" for additional information.

Table of Contents

Bermuda law differs from the laws in effect in the United States and may afford less protection to our shareholders.

We are organized under the laws of Bermuda. As a result, our corporate affairs are governed by the Bermuda Companies Act 1981, as amended, or the Companies Act, which differs in some material respects from laws typically applicable to U.S. corporations and shareholders, including the provisions relating to interested directors, amalgamations, mergers and acquisitions, takeovers, shareholder lawsuits and indemnification of directors. Generally, the duties of directors and officers of a Bermuda company are owed to the company only. Shareholders of Bermuda companies typically do not have rights to take action against directors or officers of the company and may only do so in limited circumstances. Shareholder class actions are not available under Bermuda law. The circumstances in which shareholder derivative actions may be available under Bermuda law are substantially more proscribed and less clear than they would be to shareholders of U.S. corporations. The Bermuda courts, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong to the company where the act complained of is alleged to be beyond the corporate power of the company or illegal, or would result in the violation of the company's memorandum of association or bye-laws. Furthermore, consideration would be given by a Bermuda court to acts that are alleged to constitute a fraud against the minority shareholders or, for instance, where an act requires the approval of a greater percentage of the company's shareholders than those who actually approved it.

When the affairs of a company are being conducted in a manner that is oppressive or prejudicial to the interests of some shareholders, one or more shareholders may apply to the Supreme Court of Bermuda, which may make such order as it sees fit, including an order regulating the conduct of the company's affairs in the future or ordering the purchase of the shares of any shareholders by other shareholders or by the company. Additionally, under our bye-laws and as permitted by Bermuda law, each shareholder has waived any claim or right of action against our directors or officers for any action taken by directors or officers in the performance of their duties, except for actions involving fraud or dishonesty. In addition, the rights of our shareholders and the fiduciary responsibilities of our directors under Bermuda law are not as clearly established as under statutes or judicial precedent in existence in jurisdictions in the United States, particularly the State of Delaware. Therefore, our shareholders may have more difficulty protecting their interests than would shareholders of a corporation incorporated in a jurisdiction within the United States.

There are regulatory limitations on the ownership and transfer of our common shares.

Common shares may be offered or sold in Bermuda only in compliance with the provisions of the Companies Act and the Bermuda Investment Business Act 2003, which regulates the sale of securities in Bermuda. In addition, the Bermuda Monetary Authority must approve all issues and transfers of shares of a Bermuda exempted company. However, the Bermuda Monetary Authority has, pursuant to its statement of June 1, 2005, given its general permission under the Exchange Control Act 1972 and related regulations for the issue and free transfer of our common shares to and among persons who are non-residents of Bermuda for exchange control purposes as long as the shares are listed on an appointed stock exchange, which includes the NYSE. This general permission would cease to apply if we were to cease to be listed on the NYSE.

We have anti-takeover provisions in our bye-laws that may discourage a change of control.

Our bye-laws contain provisions that could make it more difficult for a third party to acquire us without the consent of our board of directors. These provisions provide for:

- a classified board of directors with staggered three-year terms;
- directors only to be removed for cause;
- an affirmative vote of $66^{2}/_{3}\%$ of our voting shares for certain "business combination" transactions that have not been approved by our board of directors;

Table of Contents

- restrictions on the time period in which directors may be nominated; and
- our board of directors to determine the powers, preferences and rights of our preference shares and to issue the preference shares without shareholder approval.

These anti-takeover defenses could discourage, delay or prevent a transaction involving a change in control of our company and may prevent our shareholders from receiving the benefit from any premium to the market price of our common shares offered by a bidder in a takeover context. Even in the absence of a takeover attempt, the existence of these provisions may adversely affect the prevailing market price of our common shares if the provisions are viewed as discouraging takeover attempts in the future. These provisions could also discourage proxy contests, make it more difficult for you and other shareholders to elect directors of your choosing and cause us to take corporate actions other than those you desire. See "Description of Share Capital."

We may reduce the voting power of your common shares without your consent.

Under our amended and restated bye-laws, in the event that any U.S. person holds, directly, indirectly or constructively, 9.5% or more of the total voting power of our issued share capital, excluding any U.S. person that holds, directly, indirectly or constructively, 9.5% or more of the total voting power of issued share capital immediately prior to the closing of this offering, the aggregate votes conferred by the common shares held by such person (or by any person through which such U.S. person indirectly or constructively holds shares) will be reduced by our board of directors to the extent necessary such that the common shares held, directly, indirectly or constructively, by such U.S. person will constitute less than 9.5% of the voting power of all issued and outstanding shares. Roivant Sciences Ltd., certain of its affiliates, and Vivek Ramaswamy, our principal executive officer, will not be subject to these provisions. Further, our board of directors may determine that shares shall carry different or no voting rights as it reasonably determines, based on the advice of counsel, to be appropriate to (1) avoid the existence of any U.S. person who holds 9.5% or more of the total voting power of our issued share capital or (2) avoid adverse tax, legal or regulatory consequences to us, any subsidiary of ours or any holder of our common shares or its affiliates. These provisions may discourage potential investors from acquiring a stake or making a significant investment in our company as well as discourage a takeover attempt, which may prevent our shareholders from receiving the benefit of any such transactions as well as adversely affect the prevailing market price of our common shares if viewed as discouraging takeover attempts in the future.

We may become subject to unanticipated tax liabilities.

We are incorporated under the laws of, and managed and controlled from, Bermuda. We may, however, become subject to income, withholding or other taxes in certain jurisdictions by reason of our activities and operations, and it is also possible that taxing authorities in any such jurisdictions could assert that we are subject to greater taxation than we currently anticipate. Any such non-Bermudan tax liability could materially adversely affect our results of operations.

Taxing authorities could reallocate our taxable income among our subsidiaries, which could increase our overall tax liability.

We and Roivant Sciences Ltd., our principal shareholder, are based in Bermuda, and we currently have a subsidiary in the United States. If we succeed in growing our business, we expect to conduct increased operations through our subsidiaries in various tax jurisdictions pursuant to transfer pricing arrangements between us, our parent company and our subsidiaries. If two or more affiliated companies are located in different countries, the tax laws or regulations of each country generally will require that transfer prices be the same as those between unrelated companies dealing at arms' length and that appropriate documentation is maintained to support the transfer prices. While we believe that we operate in compliance with applicable transfer pricing laws and intend to continue to do so, our transfer pricing procedures are not binding on applicable tax authorities.

Table of Contents

If tax authorities in any of these countries were to successfully challenge our transfer prices as not reflecting arms' length transactions, they could require us to adjust our transfer prices and thereby reallocate our income to reflect these revised transfer prices, which could result in a higher tax liability to us. In addition, if the country from which the income is reallocated does not agree with the reallocation, both countries could tax the same income, resulting in double taxation. If tax authorities were to allocate income to a higher tax jurisdiction, subject our income to double taxation or assess interest and penalties, it would increase our consolidated tax liability, which could adversely affect our financial condition, results of operations and cash flows.

Changes in our effective tax rate may reduce our net income in future periods.

Our tax position could be adversely impacted by changes in tax rates, tax laws, tax practice, tax treaties or tax regulations or changes in the interpretation thereof by the tax authorities in Europe, the United States, Bermuda and other jurisdictions as well as being affected by certain changes currently proposed by the OECD and their action plan on *Base Erosion and Profit Shifting*. Such changes may become more likely as a result of recent economic trends in the jurisdictions in which we operate, particularly if such trends continue. If such a situation was to arise, it could adversely impact our tax position and our effective tax rate. Failure to manage the risks associated with such changes, or misinterpretation of the laws providing such changes, could result in costly audits, interest, penalties and reputational damage, which could adversely affect our business, results of our operations and our financial condition.

Our actual effective tax rate may vary from our expectation and that variance may be material. A number of factors may increase our future effective tax rates, including: (1) the jurisdictions in which profits are determined to be earned and taxed; (2) the resolution of issues arising from any future tax audits with various tax authorities; (3) changes in the valuation of our deferred tax assets and liabilities; (4) increases in expenses not deductible for tax purposes, including transaction costs and impairments of goodwill in connection with acquisitions; (5) changes in the taxation of share-based compensation; (6) changes in tax laws or the interpretation of such tax laws, and changes in generally accepted accounting principles; and (7) challenges to the transfer pricing policies related to our structure.

U.S. holders of our common shares may suffer adverse tax consequences if we are characterized as a passive foreign investment company.

Generally, if, for any taxable year, at least 75% of our gross income is passive income, or at least 50% of the value of our assets is attributable to assets that produce passive income or are held for the production of passive income, including cash, we would be characterized as a passive foreign investment company, or PFIC, for U.S. federal income tax purposes. For purposes of these tests, passive income includes dividends, interest, and gains from the sale or exchange of investment property and rents and royalties other than rents and royalties which are received from unrelated parties in connection with the active conduct of a trade or business. If we are characterized as a PFIC, U.S. holders of our common shares may suffer adverse tax consequences, including having gains realized on the sale of our common shares treated as ordinary income, rather than capital gain, the loss of the preferential rate applicable to dividends received on our common shares by individuals who are U.S. holders, and having interest charges apply to distributions by us and the proceeds of sales of our common shares. See the section titled "Material Bermuda and U.S. Federal Income Tax Considerations U.S. Federal Income Tax Considerations Passive Foreign Investment Company Rules."

Our status as a PFIC will depend on the composition of our income and the composition and value of our assets (which, assuming we are not a "controlled foreign corporation," or a CFC, under Section 957(a) of the Code for the year being tested, may be determined in large part by reference to the market value of our common shares, which may be volatile) from time to time. Our status may also depend, in part, on how quickly we utilize the cash proceeds from this offering in our business. We believe that we were not a CFC prior to this offering in the current taxable year which will end on March 31, 2016. Based on this belief, with respect to the taxable year beginning in 2014 and foreseeable future taxable years, we presently do not anticipate that we will be a PFIC based upon the expected value of our assets, including any goodwill, and the expected composition of our income and assets. However, our status as a PFIC is a fact-intensive determination made on an annual basis and we cannot provide any assurances regarding our PFIC status for the current or future taxable years.

Table of Contents

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. The forward-looking statements are contained principally in the sections titled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," but are also contained elsewhere in this prospectus. In some cases, you can identify forward-looking statements by the words "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue" and "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain. Forward-looking statements include statements about:

- the timing of and our ability to obtain and maintain regulatory approval of RVT-101;
- our ability to successfully commercialize RVT-101;
- the rate and degree of market acceptance of RVT-101, if approved;
- our estimates of our expenses, ongoing losses, future revenue, capital requirements and our needs for or ability to obtain additional financing;
- our expectation that the net proceeds from this offering will be sufficient to enable us to complete our planned Phase 3 pivotal program;
- our ability to maintain intellectual property protection for RVT-101;
- our ability to identify and develop new product candidates;
- our ability to identify, recruit and retain key personnel;
- our use of proceeds from this offering;
- our financial performance; and
- developments and projections relating to our competitors or our industry.

You should refer to the section titled "Risk Factors" for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

Table of Contents

INDUSTRY AND MARKET DATA

Certain industry data and market data included in this prospectus were obtained from independent third-party surveys, market research, publicly available information, reports of governmental agencies and industry publications and surveys. All of management's estimates presented herein are based upon management's review of independent third-party surveys and industry publications prepared by a number of sources and other publicly available information. All of the market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. We believe that the information from these industry publications and surveys included in this prospectus is reliable. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 17,900,000 common shares in this offering will be approximately $230.1 million, or approximately $265.0 million if the underwriters exercise their option to purchase additional common shares in full, based upon an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, would increase or decrease the net proceeds to us from this offering by approximately $16.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million in the number of shares we are offering at the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions would increase or decrease the net proceeds to us from this offering by approximately $13.0 million, assuming the assumed initial public offering price stays the same.

We intend to use the net proceeds from this offering for the following purposes:

- approximately $95.0 million to $105.0 million to fund our planned Phase 3 registration program for RVT-101 for the treatment of mild-to-moderate Alzheimer's disease; and
- the remainder to fund working capital and general corporate purposes, which may include research and development of RVT-101 for other indications and the satisfaction of any milestone payment obligations that become due under our asset purchase agreement with GSK, as described in the section titled "Business Asset Purchase Agreement with GlaxoSmithKline."

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development, the status of and results from preclinical studies and clinical trials, as well as any collaborations that we may enter into with third parties, and any unforeseen cash needs.

We believe opportunities may exist from time to time to expand our current business through the acquisition or in-license of complementary product candidates. While we have no current agreements or commitments for any specific acquisitions or in-licenses at this time, we may use a portion of the net proceeds for these purposes.

Our management will have broad discretion in the application of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds of this offering. The timing and amount of our actual expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. Pending these uses, for a period of six months after the closing of this offering, we plan to invest these net proceeds in a non-interest bearing account. Thereafter, we may choose to invest these net proceeds in short-term, interest bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States. The goal with respect to the investment of these net proceeds is capital preservation and liquidity so that such funds are readily available to fund our operations.

We believe that the net proceeds from this offering will be sufficient to enable us to fund our operating expenses and capital expenditure requirements through 2017 and the completion of our Phase 3 pivotal program for RVT-101 and the submission of our NDA with the FDA for the approval of RVT-101 in the United States. We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect.

Table of Contents

DIVIDEND POLICY

We have never declared or paid any dividends on our common shares. We anticipate that we will retain all of our future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying cash dividends in the foreseeable future. Any decision to declare and pay dividends in the future will be made at the sole discretion of our board of directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions and other factors that our board of directors may deem relevant. In addition, pursuant to Bermuda law, a company may not declare or pay dividends if there are reasonable grounds for believing that (1) the company is, or would after the payment be, unable to pay its liabilities as they become due or (2) that the realizable value of its assets would thereby be less than its liabilities. Under our bye-laws, each common share is entitled to dividends if, as and when dividends are declared by our board of directors, subject to any preferred dividend right of the holders of any preference shares.

Table of Contents

CAPITALIZATION

The following table sets forth our cash and capitalization as of March 31, 2015:

- on an actual basis; and
- on an as adjusted basis to give effect to our sale of 17,900,000 common shares in this offering at an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The following information is illustrative only of our capitalization following the closing of this offering and will change based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with the sections titled "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes appearing elsewhere in this prospectus.

	As of March 31, 2015	
	Actual	As Adjusted(1)
Cash	$	$ 230,058,000
Shareholders' (deficit) equity:		
Common shares, $0.00001 par value; 1,000,000,000 shares authorized, 75,000,000 shares issued and outstanding, actual; 1,000,000,000 shares authorized, 92,900,000 shares issued and outstanding, as adjusted	$ 750	$ 929
Common shares subscribed	(750)	(750)
Additional paid-in capital	13,296,173	243,353,994
Accumulated deficit	(21,047,019)	(21,047,019)
Total shareholders' (deficit) equity	(7,750,846)	222,307,154
Total capitalization	$ (7,750,846)	$ 222,307,154

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, would increase or decrease the as adjusted amount of each of cash, additional paid-in capital, total shareholders' (deficit) equity and total capitalization by approximately $16.6 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Each increase or decrease of 1.0 million in the number of common shares we are offering at the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions, would increase or decrease each of cash, additional

paid-in capital, total shareholders' (deficit) equity and total capitalization on an as adjusted basis by approximately $13.0 million.

The number of common shares outstanding in the table above excludes:

- 4,012,500 common shares issuable upon the exercise of stock options outstanding as of March 31, 2015, with an exercise price of $0.90 per share; and
- 5,487,500 common shares reserved for future issuance under our 2015 Equity Incentive Plan, as amended, of which stock options for 527,500 common shares, with an exercise price of $1.04 per share, were granted in April 2015, as well as any automatic increases in the number of common shares reserved for future issuance under this plan.

Table of Contents

DILUTION

If you invest in our common shares in this offering, your interest will be diluted to the extent of the difference between the initial public offering price per common share and the as adjusted net tangible book value per common share of our common shares immediately after this offering. Net tangible book value per common share is determined by dividing our total tangible assets less total liabilities by the number of outstanding common shares.

As of March 31, 2015, we had a net tangible book deficit of $(7.8) million, or $(0.10) per common share.

After giving effect to the issuance and sale of 17,900,000 common shares in this offering at an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2015 would have been $222.3 million, or $2.39 per common share. This represents an immediate increase in the as adjusted net tangible book value of $2.49 per common share to our sole shareholder, and an immediate dilution in the as adjusted net tangible book value of $11.61 per common share to investors purchasing our common shares in this offering. The following table illustrates this per common share dilution:

Assumed initial public offering price per common share		$ 14.00
Net tangible book deficit per common share as of March 31, 2015	$ (0.10)	
Increase in net tangible book value per common share attributable to new investors participating in this offering	2.49	
As adjusted net tangible book value per common share after this offering		2.39
Dilution per common share to investors participating in this offering		$ 11.61

Each $1.00 increase (decrease) in the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our as adjusted net tangible book value as of March 31, 2015 by $0.18 per common share, and would increase (decrease) dilution to investors in this offering by $0.82 per common share, assuming that the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting underwriting discounts and commissions.

Similarly, each increase (decrease) of 1.0 million shares in the number of common shares we are offering would increase (decrease) our as adjusted net tangible book value as of March 31, 2015 by $0.11 and $(0.12) per common share, respectively, and would (decrease) increase dilution to investors in this offering by $(0.11) and $0.12 per common share, respectively, assuming the assumed initial public offering price remains the same, and after deducting underwriting discounts and commissions. The as adjusted information is illustrative only, and we will adjust this information based on the actual initial public offering price and other terms of this offering determined at pricing.

If the underwriters exercise their option in full to purchase an additional 2,685,000 common shares in this offering, the as adjusted net tangible book value per common share after the offering would be $2.69 per common share, the increase in the as adjusted net tangible book value per common share to our sole shareholder would be $2.79 per common share and the dilution to new investors purchasing common shares in this offering would be $11.31 per common share.

Table of Contents

The following table sets forth as of March 31, 2015, on the as adjusted basis described above, the differences between the number of common shares purchased from us, the total consideration paid and the weighted average price per common share paid by our sole shareholder and by investors purchasing our common shares in this offering at an assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page on this prospectus, before deducting underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Weighted Average Price Per Common Share
Sole shareholder	75,000,000	81%	$ 5,000,750	2%	$ 0.07
New investors	17,900,000	19%	250,600,000	98%	14.00
Total	92,900,000	100%	$ 255,600,750	100%	

Each $1.00 increase or decrease in the assumed initial public offering price of $14.00 per common share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the total consideration paid by new investors by $17.9 million, and increase or decrease the percent of total consideration paid by new investors by less than a quarter of a percentage point, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same.

The table and discussion above exclude:

- 4,012,500 common shares issuable upon the exercise of stock options outstanding as of March 31, 2015, with an exercise price of $0.90 per share; and
- 5,487,500 common shares reserved for future issuance under our 2015 Equity Incentive Plan, as amended, of which stock options for 527,500 common shares, with an exercise price of $1.04 per share, were granted in April 2015, as well as any automatic increases in the number of common shares reserved for future issuance under this plan.

To the extent any options are issued under our equity incentive plans, or we issue additional common shares in the future, there will be further dilution to investors participating in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

Table of Contents

SELECTED CONSOLIDATED FINANCIAL DATA

The following tables set forth our selected financial data for the period indicated. We derived the consolidated statement of operations data for the period from October 31, 2014 (date of inception) through March 31, 2015 and the consolidated balance sheet data as of March 31, 2015 from our audited consolidated financial statements appearing elsewhere in this prospectus. The data should be read together with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future, and our operating results for the period ended March 31, 2015 are not indicative of the results that may be expected for a full fiscal year or any other future period. Our fiscal year ends on March 31.

		Period from October 31, 2014 (Date of Inception) to March 31, 2015 (in thousands, except share and per share data)
Consolidated Statement of Operations Data:		
Operating expenses:		
Research and development	$	14,324
General and administrative		6,722
Total operating expenses		21,046
Loss before provision for income tax		(21,046)
Income tax expense		(1)
Net loss and comprehensive loss	$	(21,047)
Net loss per common share basic and diluted[1]	$	(1.32)
Weighted average shares outstanding basic and diluted[1]		15,986,842

(1) See Note B[7] to our consolidated financial statements for an explanation of the method used to compute basic and diluted net loss per common share.

	As of March 31, 2015 (in thousands)
Consolidated Balance Sheet Data:	
Cash	$
Total assets	1,117
Total liabilities	8,868
Accumulated deficit	(21,047)
Total shareholders' deficit	(7,751)

Table of Contents

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and the related notes thereto included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the section titled "Risk Factors" for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. Our fiscal year ends on March 31.

Overview

We are a clinical-stage biopharmaceutical company focused on the acquisition, development and commercialization of novel therapeutics for the treatment of neurodegenerative disorders. We are a wholly-owned subsidiary of Roivant Sciences Ltd., a company focused on the acquisition, development and commercialization of late-stage product candidates that are non-strategic, deprioritized or under-resourced at other biopharmaceutical companies.

Our near-term focus is to develop RVT-101 for the treatment of Alzheimer's disease and other forms of dementia. We acquired the worldwide rights to RVT-101 from Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited, collectively GSK, in December 2014. We plan to commence a Phase 3 pivotal program of RVT-101 for the treatment of mild-to-moderate Alzheimer's disease in the fourth quarter of 2015. Should our Phase 3 program be successful, we plan to rapidly seek regulatory approval and commercialization of RVT-101 in the United States and the European Union. In the long-term, we intend to develop a pipeline of product candidates to comprehensively address the cognitive, behavioral and functional components of dementia.

We were founded in October 2014 and our operations to date have been limited to organizing and staffing our company, raising capital from Roivant Sciences Ltd. and acquiring RVT-101. To date, we have not generated any revenue and have financed our operations exclusively through capital contributions from Roivant Sciences Ltd. As of March 31, 2015, we had an accumulated deficit of $21.0 million. We recorded a net loss of $21.0 million for the period from inception to March 31, 2015.

Asset Purchase Agreement with GlaxoSmithKline

In December 2014, we entered into an asset purchase agreement with GSK, or the GSK Agreement, pursuant to which GSK assigned to us all of their rights to certain patents, regulatory documentation, data records and materials related to SB-742457, which we now refer to as RVT-101, and other related compounds claimed by a specific patent application.

Under the GSK Agreement, GSK received an upfront payment of $5 million and we are obligated to pay GSK an additional $5 million upon the earliest to occur of specified events that indicate a single Phase 3 trial may be sufficient to obtain FDA approval for RVT-101 for the treatment of Alzheimer's disease. We are also obligated to pay GSK $35 million, $25 million and $10 million upon approval of RVT-101 in the United States, the European Union and Japan, respectively, as well as an additional one-time payment of $85 million for the first calendar year in which we achieve global net sales of $1.2 billion for RVT-101.

Under the GSK Agreement we are also obligated to pay a fixed 12.5% royalty based on net sales of RVT-101, subject to reduction on account of expiration of patent and regulatory exclusivity or upon generic entry. See the section titled "Business Asset Purchase Agreement with GlaxoSmithKline" for additional information.

Table of Contents

Services Agreement with Roivant Sciences, Inc.

We and our wholly-owned subsidiary, Axovant Sciences, Inc., have entered into a services agreement with Roivant Sciences, Inc., a wholly-owned subsidiary of Roivant Sciences Ltd., or the Services Agreement, pursuant to which Roivant Sciences, Inc. provides us with services in relation to the identification of potential product candidates, project management of clinical trials and other development, administrative and financial activities. Under the terms of our services agreement with Roivant Sciences, Inc., we are obligated to pay or reimburse Roivant Sciences, Inc. for the costs it, or third parties acting on its behalf, incurs in providing services to us, including administrative and support services as well as research and development services. In addition, we are obligated to pay to Roivant Sciences, Inc. an amount equal to 10% of the costs incurred in connection with research and development service. Following the completion of this offering, we expect that our reliance on Roivant Sciences, Inc. will decrease over time as we, Axovant Sciences, Inc. and any other future subsidiary of ours continue to hire the necessary personnel to manage the development and potential commercialization of RVT-101. See the section titled "Certain Relationships and Related Party Transactions Services Agreement with Roivant Sciences, Inc." for additional information.

For the period from October 31, 2014 (date of inception) to March 31, 2015, we have incurred expenses of $2.0 million, inclusive of the mark-up, under the Services Agreement. We have recorded these charges as research and development and general and administrative expense in our consolidated statement of operations.

Financial Operations Overview

Revenue

We have not generated any revenue from the sale of any products, and we do not expect to generate any revenue unless or until we obtain regulatory approval of and commercialize RVT-101.

Research and Development Expense

Since our inception, our operations have primarily been limited to the acquisition of the rights to RVT-101 and the pharmaceutical development of related clinical trial material inventory. Our research and development expenses to date consist of an upfront payment of $5.0 million made, and a contingent payment of $5.0 million to be made, to GSK in connection with our asset purchase and the related professional fees associated with such asset purchase, as well as employee salaries and related benefits, share-based compensation expense and costs allocated under the Services Agreement, including third-party costs. The payments to acquire RVT-101 did not meet the definition for capitalization under accounting principles generally accepted in the United States of America, or U.S. GAAP, and were therefore expensed. Following the closing of this offering, we expect to significantly increase our research and development efforts as we initiate our Phase 3 pivotal program for RVT-101. Research and development expenses will include:

- employee-related expenses, such as salaries, share-based compensation, benefits and travel expense for the research and development personnel that we plan to hire;
- expenses incurred under agreements with contract research organizations, or CROs, as well as consultants that conduct preclinical studies designed to assist with the lead optimization of our product candidate;
- manufacturing costs in connection with conducting preclinical studies;
- milestone payments and other costs associated with the GSK Agreement;
- costs for sponsored research; and
- depreciation expense for assets used in research and development activities.

Research and development activities will continue to be central to our business model. Product candidates in later stages of clinical development, such as RVT-101, generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased

size and duration of later-

Table of Contents

stage clinical trials. We expect our research and development expenses to be significant over the next several years as we increase personnel and compensation costs and commence a potential Phase 3 pivotal program. It is difficult to determine with certainty the duration and completion costs of any clinical trial we may conduct.

The duration, costs and timing of clinical trials of RVT-101 and any other product candidates will depend on a variety of factors that include, but are not limited to, the following:

- number of trials required for approval;
- per patient trial costs;
- the number of patients that participate in the trials;
- the number of sites included in the trials;
- the countries in which the trial is conducted;
- the length of time required to enroll eligible patients;
- the number of doses that patients receive;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring or other studies requested by regulatory agencies;
- the duration of patient follow-up;
- timing and receipt of regulatory approvals; and
- the efficacy and safety profile of the product candidate.

In addition, the probability of success for RVT-101 and any other product candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability.

General and Administrative Expense

General and administrative expenses consist primarily of legal and accounting fees relating to our formation and corporate matters, consulting services, services provided under the Services Agreement, employee salaries and related benefits and share-based compensation.

We anticipate that our general and administrative expenses will increase in the future to support our continued research and development activities and increased costs of operating as a public company. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, lawyers and accountants, among other expenses. Additionally, we anticipate increased costs associated with being a public company including expenses related to services associated with maintaining compliance with NYSE rules and SEC requirements, insurance, and investor relations costs. In addition, if RVT-101 obtains regulatory approval for marketing, we expect that we

would incur expenses associated with building a sales and marketing team.

Table of Contents

Results of Operations from October 31, 2014 (Date of Inception) to March 31, 2015

The following table sets forth our results of operations for the period from October 31, 2014 (date of inception) to March 31, 2015.

	Period from October 31, 2014 (Date of Inception) to March 31, 2015 (in thousands)
Operating expenses:	
Research and development	$ 14,324
General and administrative	6,722
Total operating expenses	21,046
Net loss and comprehensive loss	$ (21,047)

Research and Development Expenses

Research and development expenses were $14.3 million for the period from October 31, 2014 (date of inception) to March 31, 2015, and were primarily attributable to the $5.0 million upfront payment made, and the $5.0 million contingent payment to be made, to GSK in connection with the GSK Agreement, and $4.3 million of professional costs related thereto, as well as costs allocated under the Services Agreement, and employee salaries and related benefits. We recorded share-based compensation expense of $3.2 million for the period ended March 31, 2015.

General and Administrative Expenses

General and administrative expenses were $6.7 million for the period from October 31, 2014 (date of inception) to March 31, 2015, and were primarily attributable to employee salaries and related benefits, share-based compensation, legal and professional fees and consulting services associated with the formation of our company and corporate matters and certain direct and indirect costs associated with services performed by Roivant Sciences, Inc. We recorded share-based compensation expense of $5.1 million for the period ended March 31, 2015.

Liquidity and Capital Resources

Overview

For the period from October 31, 2014 (date of inception) to March 31, 2015, we had a cumulative net loss of $21.0 million. As of March 31, 2015, we had no cash and no long-term debt. All operations to date have been financed through capital contributions, short-term advances from Roivant Sciences Ltd. or its affiliates paying expenses related to our operations, which we will be required to reimburse. These factors raise substantial doubt about our ability to continue as a going concern.

We expect to continue to incur significant and increasing operating losses at least for the next several years. We do not expect to generate revenue unless and until we successfully complete development and obtain regulatory approval for RVT-101. Our net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our planned clinical trials and our expenditures on other research and development activities. We anticipate that our expenses will increase substantially as we:

- commence our Phase 3 pivotal program of RVT-101 for the treatment of mild-to-moderate Alzheimer's disease;
-

commence the research and development of RVT-101 for the treatment of severe Alzheimer's disease and other forms of dementia, such as dementia with Lewy bodies, Parkinson's disease dementia and vascular dementia;

§ seek to identify, acquire, develop and commercialize additional product candidates;

Table of Contents

- integrate acquired technologies into a comprehensive regulatory and product development strategy;
- achieve milestones under our agreements with third parties that will require us to make substantial payments to those parties;
- maintain, expand and protect our intellectual property portfolio;
- hire scientific, clinical, quality control and administrative personnel;
- add operational, financial and management information systems and personnel, including personnel to support our drug development efforts;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing and distribution infrastructure and scale up external manufacturing capabilities to commercialize any drug candidates for which we may obtain regulatory approval; and
- begin to operate as a public company.

We intend to use the proceeds of this offering primarily to fund the research and development of RVT-101 for the treatment of mild-to-moderate Alzheimer's disease and other potential indications. These funds may not be sufficient to enable us to complete all necessary development and commercially launch RVT-101. Accordingly, we may be required to obtain further funding through other public or private offerings of our capital stock, debt financing, collaboration and licensing arrangements or other sources. Adequate additional funding may not be available to us on acceptable terms, or at all. If we are unable to raise capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of RVT-101 or potentially discontinue operations.

Until such time, if ever, as we can generate substantial revenue from sales of RVT-101, we expect to finance our cash needs through a combination of equity offerings, debt financings and potential collaboration, license or development agreements. We do not currently have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common shareholder. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution or licensing arrangements with third parties, we may be required to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our drug development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Cash Flows

The following table sets forth a summary of our cash flows for the period from October 31, 2014 (date of inception) to March 31, 2015:

	(in thousands)
Net cash used in operating activities	$ (683)
Net cash used in investing activities	(5,009)
Net cash provided by financing activities	5,691

Operating Activities

For the period from October 31, 2014 (date of inception) to March 31, 2015, net cash used in operating activities was $0.7 million. Net cash used in operating activities was primarily attributable to payments made by Roivant Sciences, Inc. on our behalf.

Table of Contents

Investing Activities

For the period from October 31, 2014 (date of inception) to March 31, 2015, net cash used in investing activities was $5.0 million, which was primarily attributable to purchases of in-process research and development.

Financing Activities

For the period from October 31, 2014 (date of inception) to March 31, 2015, net cash provided by financing activities was $5.7 million, which was primarily attributable to capital contributions from Roivant Sciences Ltd.

Outlook

Based on the expected net proceeds from this offering, our research and development plans and our timing expectations related to the commencement of our Phase 3 pivotal program for RVT-101, we expect that the net proceeds from this offering will enable us to fund our operating expenses and capital expenditure requirements through 2017 and the completion of our Phase 3 pivotal program for RVT-101 and the submission of our NDA with the FDA for the approval of RVT-101 in the United States. However, we have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we expect.

Contractual Obligations

As of March 31, 2015, we did not have any ongoing material financial commitments, other than pursuant to the GSK Agreement, such as lines of credit or guarantees that we expect to affect our liquidity over the next several years.

Off-Balance Sheet Arrangements

We did not have during the period presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities as of the dates of the balance sheets and the reported amounts of expenses during the reporting periods. In accordance with U.S. GAAP, we evaluate our estimates and judgments on an ongoing basis. Significant estimates include assumptions used in the determination of some of our costs incurred under our services agreement with Roivant Sciences, Inc., which costs are charged to research and development and general and administrative expense, as well as assumptions used to estimate the fair value of our common shares. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We define our critical accounting policies as those accounting principles generally accepted in the United States of America that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. While our significant accounting policies are more fully described in Note B to our consolidated financial statements appearing elsewhere in this prospectus, we believe the following are the critical accounting policies used in the preparation of our financial statements that require significant estimates and judgments.

Table of Contents

Contingent Payment Liability

One significant estimate relates to the probability and timing of the contingent payment liability recorded in the balance sheet. Such liability relates to our asset purchase agreement with GSK (see Note C to our consolidated financial statements). Based upon our meeting with the FDA at the end of March 2015, we believe it is probable that we will be obligated to pay $5.0 million to GSK during the second quarter of the fiscal year ending March 31, 2017 (see Note I to our consolidated financial statements). Should the specified criteria for payment not be met, or be met in a period different from our expectation, there could be significant fluctuation in our financial results in future periods.

Valuation of Share-Based Compensation under our Services Agreement

Another significant estimate affecting our financial results relates to the compensation expenses charged to us under the Services Agreement with Roivant Sciences, Inc. In accordance with the Services Agreement total compensation, inclusive of base salary, fringe benefits and share-based compensation is charged back to us at actual cost plus a pre-determined mark-up for any research and development activities performed by Roivant Sciences, Inc. on our behalf. The actual costs are determined based upon the relative percentage of time utilized on our matters. A significant component of total compensation relates to the share-based awards that BVC Ltd., or BVC, issued to Roivant Sciences, Inc. employees.

Such awards are in the form of restricted shares of BVC granted to Roivant Sciences, Inc. employees. BVC is a non-public entity, which holds a non-controlling ownership interest in Roivant Sciences Ltd., our parent. BVC's ownership interest and board rights in Roivant Sciences Ltd. allow it to exercise significant influence over Roivant Sciences Ltd. As such, because the awards are not based on our or Roivant Sciences Ltd.'s shares, they are remeasured at fair value at each reporting period until the awards vest. Significant judgment and estimates were used to estimate the fair value of these awards, as the underlying shares in BVC are not publicly traded. Roivant Sciences, Inc.'s estimation of fair value of the awards considered recent transactions entered into by Roivant Sciences Ltd., relevant industry and comparable public company data, as well as discounted cash flow analyses. As BVC is a non-public entity, the majority of the inputs used to estimate the fair value of the restricted share awards are considered level 3 due to their unobservable nature. Each award is subject to specified vesting schedules and requirements (a mix of time-based, performance-based and corporate event-based, including post-IPO market capitalization target and financing events). Compensation expense will be charged to us by Roivant Sciences, Inc. over the required service period to earn the award, which is expected to be four years, subject to the achievement of performance and event-based vesting requirements. At March 31, 2015, the remaining weighted average requisite service period over which the awards could be earned was 3.11 years. For the period from October 31, 2014 (inception) to March 31, 2015, we have incurred share-based compensation expense of $0.4 million, inclusive of the mark-up, under the Services Agreement. We have recorded these charges as research and development and general and administrative expense in our consolidated statement of operations.

Roivant Sciences, Inc. also incurred additional share-based compensation costs related to these restricted share awards, which was not charged to us under the Services Agreement. We have recorded $7.8 million (our share of these costs based on the pro rata time spent by Roivant Sciences, Inc. employees on our matters) as research and development and general and administrative expenses in our consolidated statement of operations and as an additional capital contribution from Roivant Sciences Ltd.

Due to the significance of the estimates in the calculation of fair value of the instruments, the related compensation expense charged to us by Roivant Sciences, Inc. could fluctuate significantly period to period.

Table of Contents

Share-Based Compensation

We recognize compensation costs related to stock options granted to employees based on the estimated fair value of the awards on the date of grant, net of forfeitures. We estimate the grant date fair value, and the resulting share-based compensation expense, using the Black-Scholes option-pricing model. The grant date fair value of the share-based awards is generally recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective awards.

We recognize compensation costs related to stock options granted to non-employees based on the estimated fair value of the awards on the date of grant, net of forfeitures, as well; however, the fair value of the stock options granted to non-employees is remeasured each reporting period until the service is complete, and the resulting increase or decrease in value, if any, is recognized as expense or income, respectively, during the period the related services are rendered.

The Black-Scholes option-pricing model requires the use of highly subjective assumptions, which determine the fair value of share-based awards. These assumptions include:

Expected Term. Our expected term represents the period that our share-based awards are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term).

Expected Volatility. Because we are a privately-held company and do not have any trading history for our common shares, the expected volatility was estimated using weighted average measures of implied volatility and the historical volatility of our peer group of companies for a period equal to the expected life of the stock options. Our peer group of publicly traded biopharmaceutical companies was chosen based on their similar size, stage in the life cycle or area of specialty.

Risk-Free Interest Rate. The risk-free interest rate is based on the rates paid on securities issued by the U.S. Treasury with a term approximating the expected life of the stock options.

Expected Dividend. We have never paid, and do not anticipate paying, cash dividends on our common shares. Therefore, the expected dividend yield was assumed to be zero.

The assumptions used are described in Note G to our consolidated financial statements. In addition to the Black-Scholes assumptions, we estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior and other factors. The impact from any forfeiture rate adjustment would be recognized in full in the period of adjustment and if the actual number of future forfeitures differs from our estimates, we might be required to record adjustments to share-based compensation in future periods.

For the period from October 31, 2014 (date of inception) to March 31, 2015, share-based compensation expense was $518,300, which included $450,900 and $67,400 for employee and non-employee share-based compensation expense, respectively. This expense reflects the reassessment of the fair value of stock options granted in March 2015 in light of our proposed initial public offering. As of March 31, 2015, we had $54.1 million of total unrecognized share-based compensation costs, net of estimated forfeitures, which we expect to recognize over a weighted-average period of 3.91 years.

Prior to this offering, the fair value of our common shares underlying our stock options was estimated on each grant date by our board of directors. In order to determine the fair value of our common shares underlying granted stock options, our board of directors considered, among other things, timely valuations of our common shares prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Given the absence of a public trading market for our common shares, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common

Table of Contents

shares, including (1) our business, financial condition and results of operations, including related industry trends affecting our operations; (2) our forecasted operating performance and projected future cash flows; (3) the illiquid nature of our common shares; (4) liquidation preferences and other rights and privileges of our common shares; (5) market multiples of our most comparable public peers and (6) market conditions affecting our industry.

In connection with our initial public offering and after preliminary discussions with the underwriters, we reassessed the determination of the fair value of the common shares underlying 4,012,500 stock options granted in March 2015. As a result, we determined that the fair value of the common shares in March 2015 was $15.00 per share, which was higher than the fair value of $0.90 per share as initially determined by the board of directors on the date of grant. The use of this higher share price increased both recognized and unrecognized share-based compensation expense and also impacted the valuation of the BVC restricted share compensation discussed above.

In addition, we reassessed the determination of the fair value of the common shares underlying 527,500 stock options granted in April 2015. As a result, we determined that the fair value of the common shares in April 2015 was $15.00 per share, which was higher than the fair value of $1.04 per share as initially determined by the board of directors on the date of grant. The use of this higher share price will increase both recognized and unrecognized share-based compensation expense commencing in the first quarter of the fiscal year ending March 31, 2016.

After the closing of this offering, our board of directors will determine the fair value of each common share underlying share-based awards based on the closing price of our common shares as reported by the NYSE on the date of grant.

Based on an assumed initial public offering price of $14.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, the intrinsic value of stock options outstanding at March 31, 2015 was $56.2 million, all of which stock options were unvested at that date.

Income Taxes

We account for income taxes in accordance with ASC 740, *Income Taxes*. Under the assets-and-liability method of ASC 740, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and the respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Under ASC 740, the effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

We account for uncertain tax positions in accordance with the provisions of ASC 740. When uncertain tax positions exist, we recognize the tax benefit of tax positions to the extent that the benefit will more likely than not be realized. The determination as to whether the tax benefit will more likely than not be realized is based upon the technical merits of the tax position as well as consideration of the available facts and circumstances. As of March 31, 2015, we did not have any significant uncertain tax positions.

Recent Accounting Pronouncements

In June 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update, or ASU, No. 2014-10, *Development Stage Entities (Topic 915): Elimination of Certain Financial Reporting Requirements, Including an Amendment to Variable Interest Entities Guidance in Topic 810, Consolidation.* This ASU removes the definition of a development stage entity and all incremental financial reporting requirements from U.S. GAAP for development stage entities. The elimination of the development stage entity financial reporting requirements is effective for annual reporting periods beginning after December 15, 2014. A public business entity may adopt this guidance early for any annual reporting period or interim period for which financial statements have not been issued. All other entities may adopt this guidance early for financial statements that have not yet been made available for issue. We adopted this guidance in the fiscal year ended March 31, 2015, and it did not have a significant impact on our consolidated financial statements.

Table of Contents

In August 2014, the FASB issued ASU No. 2014-15, *Presentation of Financial Statements Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, or ASU 2014-15. ASU 2014-15 is intended to define management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. Specifically, ASU 2014-15 provides a definition of the term substantial doubt and requires an assessment for a period of one year after the date that the financial statements are issued (or available to be issued). It also requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans and requires an express statement and other disclosures when substantial doubt is not alleviated. The new standard will be effective for reporting periods beginning after December 15, 2016, with early adoption permitted. We are currently evaluating the impact of the adoption of ASU 2014-14 on our consolidated financial statements and disclosures.

In February 2015, the FASB issued ASU No. 2015-02, *Consolidation (Topic 810), Amendments to the Consolidation Analysis.* ASU 2015-02 changes the analysis that a reporting entity must perform to determine whether it should consolidate certain types of legal entities. All legal entities are subject to reevaluation under the revised consolidation model. ASU 2015-02 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2015. ASU 2015-02 may be applied retrospectively to all prior periods presented in the financial statements or by using a modified retrospective approach by recording a cumulative-effect adjustment to equity as of the beginning of the fiscal year of adoption. Early adoption is permitted provided that the guidance is applied from the beginning of the fiscal year of adoption. We are currently assessing the impact of adopting ASU 2015-02.

JOBS Act

In April 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107(b) of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period, and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Quantitative and Qualitative Disclosures about Market Risk

We did not have any cash or other financial instruments as of March 31, 2015.

Table of Contents

BUSINESS

Overview

We are a clinical-stage biopharmaceutical company focused on the acquisition, development and commercialization of novel therapeutics for the treatment of neurodegenerative disorders. Our goal is to be the leading biopharmaceutical company focused on the treatment of dementia, a condition characterized by a significant decline in mental capacity and impaired daily function. Our near-term focus is to develop our product candidate, which we refer to as RVT-101, for the treatment of Alzheimer's disease and other forms of dementia. In the long-term, we intend to develop a pipeline of product candidates to comprehensively address the cognitive, behavioral and functional components of dementia.

In December 2014, we acquired the worldwide rights to RVT-101 from Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited, collectively GSK. We plan to commence a Phase 3 pivotal program of RVT-101 for the treatment of mild-to-moderate Alzheimer's disease in the fourth quarter of 2015. If our Phase 3 program is successful, we plan to seek regulatory approval and commercialize RVT-101 in the United States and the European Union.

Alzheimer's disease is a progressive neurodegenerative disorder. According to the Alzheimer's Association, a leading voluntary health organization in Alzheimer's disease care, support and research, Alzheimer's disease affects approximately 5.3 million people in the United States. It is estimated that between 70% and 90% of Alzheimer's disease patients age 65 and older are classified as having mild-to-moderate Alzheimer's disease. No new chemical entity has been approved by the U.S. Food and Drug Administration, or the FDA, for the treatment of Alzheimer's disease since 2003, with multiple drugs aimed at modifying the course of the disease having failed at various stages of development. Key opinion leaders in Alzheimer's disease have called into question the field's historical focus on developing "disease-modifying" drugs, and more generally, the distinction between "disease-modifying" and "symptomatic" therapies for Alzheimer's disease.

RVT-101 is an orally administered, potent antagonist of the 5-hydroxytryptamine 6, or 5-HT6, serotonin receptors in the brain. Antagonism of the 5-HT6 receptor is a novel mechanism of action that promotes the release of acetylcholine, glutamate and other neurotransmitters. These neurotransmitters are believed to be critical for alertness, memory, thought and judgment, key components of cognition and function that are impaired in patients with Alzheimer's disease. We plan to develop RVT-101 for use in combination with donepezil and potentially other cholinesterase inhibitors. Donepezil, a generic drug also marketed under the trade name Aricept by Eisai Co., Ltd. and Pfizer, lnc., is one of the most commonly used cholinesterase inhibitors. Cholinesterase inhibitors are designed to help prevent the breakdown of acetylcholine. Cholinesterase inhibitors are the current standard of care for the treatment of mild-to-moderate Alzheimer's disease, and the only class of drugs approved by the FDA for the treatment of patients with mild Alzheimer's disease. Based on preclinical and clinical data collected to date, we believe RVT-101, when used in combination with donepezil, works additively to increase the concentration of acetylcholine and other neurotransmitters and thereby synergistically improve cognition and function in patients with Alzheimer's disease.

We believe RVT-101, which is being developed as a once-daily oral medication, has the potential to be a best-in-class 5-HT6 receptor antagonist for the treatment of Alzheimer's disease based on its safety, tolerability and efficacy profile for up to 48 weeks, as demonstrated in a 684-subject, randomized, placebo-controlled Phase 2b trial conducted by GSK. We believe this is significant, in part, because currently marketed Alzheimer's disease drugs were approved on efficacy data of 28 weeks or less. Furthermore, we believe RVT-101 has a number of favorable properties as a product candidate for Alzheimer's disease, including once daily dosing, a low potential for drug interactions, and an ability to be administered with or without food.

Table of Contents

RVT-101 was originally developed by GSK. Prior to our acquisition of RVT-101 in December 2014, GSK conducted 13 clinical trials for RVT-101 involving over 1,250 individuals, which included healthy subjects as well as subjects with mild-to-moderate Alzheimer's disease. In a Phase 2b clinical trial of 684 subjects with mild-to-moderate Alzheimer's disease, subjects that received 35 mg RVT-101 in combination with donepezil achieved a statistically significant improvement in cognition at 12, 24 and 48 weeks following initiation of treatment, compared to subjects that received donepezil alone, as measured by the Alzheimer's Disease Assessment Scale-cognitive, or ADAS-cog, subscale. In addition to RVT-101's effect on cognition, subjects that received 35 mg RVT-101 in combination with donepezil achieved a statistically significant improvement in function at 12, 24 and 36 weeks following the initiation of treatment, compared to subjects that received donepezil alone, as measured by the Alzheimer's Disease Cooperative Study Activities of Daily Living, or ADCS-ADL, a commonly used scale evaluating function in which a subject's ability to perform a list of daily activities is evaluated based on information obtained from the subject and his or her caregiver. We believe these ADCS-ADL results are particularly noteworthy in light of the fact that the decline in the ability of Alzheimer's disease patients to perform activities essential to daily living places a significant burden on caregivers and the healthcare system. We plan to confirm the results of the Phase 2b clinical trial conducted by GSK in our planned Phase 3 pivotal program and further assess the safety and efficacy of RVT-101 in combination with donepezil.

To determine whether an outcome is statistically significant, a "p-value" is calculated. Historically, the FDA and European Medicines Agency, or the EMA, have generally required newly approved drugs to demonstrate an effect with a p-value of less than 0.05, which suggests there is a less than 5.0% probability that the observed difference between the control group and the treatment group is due to chance alone rather than the efficacy of the treatment. When the p-value is less than 0.05, the result is generally considered "statistically significant," and may support a finding of efficacy by regulatory authorities. However, regulatory authorities, including the FDA and EMA, do not rely on strict statistical significance thresholds as criteria for market approval and maintain the flexibility to evaluate the overall risks and benefits of a treatment. Accordingly, treatments may receive market approval from the FDA or EMA even if the p-value of the primary endpoint is greater than 0.05, or may fail to receive market approval from the FDA or EMA even if the p-value of the primary endpoint is less than 0.05.

According to Alzheimer's Disease International, the international federation of Alzheimer's disease associations, more than 44 million people worldwide suffer from some form of dementia. Beginning in the second half of 2015, we plan to evaluate RVT-101 as a potential treatment for forms of dementia other than mild-to-moderate Alzheimer's disease, such as severe Alzheimer's disease, dementia with Lewy bodies, Parkinson's disease dementia and vascular dementia. We also intend to augment our current pipeline through the acquisition or in-license of additional late-stage product candidates that complement RVT-101 and that we believe can be developed and commercialized in a capital-efficient manner.

We are a wholly-owned subsidiary of Roivant Sciences Ltd., a company focused on the acquisition, development and commercialization of late-stage product candidates that are non-strategic, deprioritized or under-resourced at other biopharmaceutical companies. We have assembled a team with substantial experience in developing and obtaining approval for drugs for central nervous system disorders, including Dr. Lawrence Friedhoff, the Chief Development Officer of Axovant Sciences, Inc., who previously led the development of Aricept at Eisai Co., Ltd. Aricept achieved peak annual global sales of $4.2 billion in 2010.

Our Strategy

Our goal is to be the leading biopharmaceutical company focused on the treatment of dementia.

The key elements of our strategy to achieve this goal include the following:

§ *Rapidly advance RVT-101 for the treatment of mild-to-moderate Alzheimer's disease.* In the fourth quarter of 2015, we expect to initiate our Phase 3 pivotal program of RVT-101 in combination with donepezil in subjects with mild-to-moderate Alzheimer's disease. We expect to report results from our

Table of Contents

Phase 3 pivotal program in 2017. If the results of our planned Phase 3 program are positive, our goal is to submit a new drug application, or NDA, with the FDA for the regulatory approval and commercialization of RVT-101 in the United States and a marketing authorization application, or MAA, with the EMA by the end of 2017.

§ *Develop RVT-101 for severe Alzheimer's disease and other forms of dementia.* In addition to mild-to-moderate Alzheimer's disease, we intend to develop RVT-101 to address severe Alzheimer's disease and other forms of dementia such as dementia with Lewy bodies, Parkinson's disease dementia and vascular dementia. In light of the favorable tolerability profile of RVT-101 and its efficacy at 48 weeks, we may consider developing RVT-101 for use in combination with donepezil and memantine, the current standard of care for moderate-to-severe Alzheimer's disease. We believe there is a strong scientific rationale to support the investigation of RVT-101 in these other forms of dementia given its mechanism to promote the central release of acetylcholine, glutamate and other neurotransmitters.

§ *Acquire or in-license late-stage product candidates for the treatment of other aspects of dementia in a capital-efficient manner.* We intend to identify, acquire, develop and commercialize novel, late-stage product candidates for the treatment of behavioral and other aspects of dementia with mechanisms of action that have previously shown evidence of clinical efficacy and safety. Our targeted approach to acquisition and licensing transactions reflects our goal to be the leading biopharmaceutical company focused on the treatment of dementia.

§ *Maximize the commercial potential of our product candidates.* We plan to directly commercialize our product candidates in the United States and the European Union. In other markets for which commercialization may be less capital efficient for us, we may selectively pursue strategic collaborations with third parties in order to maximize the commercial potential of our product candidates. We believe there are significant opportunities to market RVT-101, if approved, in Japan, which we may choose to pursue alone or in collaboration with others. In addition, we may conduct additional studies to support the commercial success of RVT-101. For example, we are evaluating a potential fixed dose combination that includes RVT-101 and donepezil.

Market Opportunity for the Treatment of Alzheimer's Disease

Dementia is a term that describes a wide range of symptoms associated with a decline in memory or other cognitive abilities severe enough to interfere with daily activities. Alzheimer's disease, a progressive neurodegenerative disorder that results in significant impairments in cognition and function, is one form of dementia. According to Alzheimer's Disease International, more than 44 million individuals worldwide suffer from dementia, and based on scientific literature, approximately 34 million individuals are affected by Alzheimer's disease. It is estimated that 11% of adults age 65 and older have Alzheimer's disease. In addition, the prevalence of Alzheimer's disease is expected to increase over time, with 13.8 million people age 65 and older projected to have the disease by 2050 in the United States. This projection does not include Alzheimer's disease patients under the age of 65, who currently account for approximately 4% of the overall Alzheimer's disease population.

Table of Contents

Projected Number of People Age 65 and Older with Alzheimer's Disease in U.S. (Millions)

Source: Alzheimer's Association.

In addition to its debilitating effect on patients' cognition and day-to-day functioning, Alzheimer's disease places a significant burden on the healthcare system. According to the Alzheimer's Association, the aggregate cost of care in 2014 for patients with Alzheimer's disease and other types of dementia in the United States was estimated to be $214 billion, over half of which is borne by the Medicare system.

Alzheimer's disease is often grouped into three categories based on severity: mild, moderate and severe. Although the relative prevalence of each of these categories is not well-defined in the literature, a report published by the Alzheimer's Society, a leading care and research charity in the United Kingdom for individuals and families that suffer from dementia, estimates that between 70% and 90% of all Alzheimer's disease patients age 65 and older have mild-to-moderate Alzheimer's disease.

The following figure illustrates the estimated proportion of Alzheimer's disease patients with mild, moderate and severe Alzheimer's disease by age group.

Source: Alzheimer's Society: Dementia UK, 2007.

Table of Contents

While the pathophysiology of Alzheimer's disease is not completely known, it is understood that cognitive and behavioral disturbances are the result of dysfunctional neurotransmitter systems, including those associated with acetylcholine, glutamate, dopamine and norepinephrine. The FDA has approved two classes of drugs for the treatment of Alzheimer's disease: cholinesterase inhibitors and *N*-methyl-D-aspartate, or NMDA, receptor antagonists. The current standard of care for the treatment of patients with mild-to-moderate Alzheimer's disease includes the use of cholinesterase inhibitors initiated at the time of diagnosis. Cholinesterase inhibitors are designed to help prevent the breakdown of acetylcholine. Acetylcholine is a chemical messenger believed to be critical for alertness, memory, thought and judgment. Currently marketed cholinesterase inhibitors include donepezil (marketed by Eisai and Pfizer as Aricept), rivastigmine (marketed by Novartis AG as Exelon) and galantamine (marketed by Janssen Pharmaceuticals as Razadyne). Prior to the availability of generic forms of donepezil in 2010, Aricept was the most widely prescribed cholinesterase inhibitor, achieving peak annual global sales of $4.2 billion. Other cholinesterase inhibitors include Exelon and Razadyne, which achieved peak annual global sales of $1.1 billion in 2011 and $575 million in 2008, respectively. Cholinesterase inhibitors continue to be used widely for the treatment of patients with Alzheimer's disease and can improve cognition. However, most patients require additional therapy due to progression of their disease.

There is no therapy currently approved by the FDA or the EMA for use in conjunction with cholinesterase inhibitors for the treatment of mild-to-moderate Alzheimer's disease. In moderate-to-severe Alzheimer's disease, memantine, an NMDA receptor antagonist marketed by Forest Laboratories as Namenda, is commonly administered in combination with cholinesterase inhibitors. Namenda achieved peak annual global sales of $2.3 billion in 2013. Namenda, however, is only approved for moderate-to-severe Alzheimer's disease and is not approved by the FDA for mild Alzheimer's disease. Other than cholinesterase inhibitors, no other drugs are currently approved for the treatment of mild Alzheimer's disease. Accordingly, we believe there is a significant opportunity to improve the clinical outcomes of patients with mild-to-moderate Alzheimer's disease, particularly in the development of drugs to be used in combination with cholinesterase inhibitors.

According to a report by the Alzheimer's Society in 2007, the population of patients with mild-to-moderate Alzheimer's disease is estimated to be significantly larger than the population with severe disease, accounting for an estimated 70% to 90% of all Alzheimer's disease patients age 65 and older. We believe that our product candidate, RVT-101, if approved, would represent a compelling option for use in combination with cholinesterase inhibitors for the treatment of mild-to-moderate Alzheimer's disease, as has been the case for Namenda in patients with moderate-to-severe Alzheimer's disease.

RVT-101

Overview

We acquired worldwide rights to RVT-101 from GSK in December 2014. RVT-101 is an orally administered, potent antagonist of the 5-HT6 serotonin receptor. By antagonizing the 5-HT6 receptor, RVT-101 helps enhance the release of acetylcholine, glutamate and other neurotransmitters that are essential to cognition.

5-HT6 receptors are primarily localized to the central nervous system, or CNS, particularly in regions of the brain that modulate cognition. Because 5-HT6 receptor antagonists do not significantly increase levels of acetylcholine outside of the CNS, it is believed that 5-HT6 receptor antagonists have limited peripheral side effects, including many that are commonly associated with cholinesterase inhibitors. In addition, we believe that RVT-101's action as a 5-HT6 receptor antagonist provides a strong mechanistic rationale to support its use in combination with cholinesterase inhibitors. While cholinesterase inhibitors help prevent the breakdown of acetylcholine, 5-HT6 receptor antagonists promote the release of acetylcholine. Therefore, when used in combination with one another, we believe that 5-HT6 receptor antagonists and cholinesterase inhibitors increase the concentration of acetylcholine through complementary mechanisms without exacerbating the toxicities associated with cholinesterase inhibitors.

Table of Contents

The following graphic depicts RVT-101's potential mechanistic additivity or synergy with donepezil.

In addition to the role of 5-HT6 receptor antagonists in promoting the central release of neurotransmitters important to cognition and function, scientific literature suggests that 5-HT6 receptor antagonists may also improve neural structural plasticity. Plasticity refers to the physical flexibility of neuronal synapses, which are structures that enable communication between different nerve cells in the brain. Neural structural plasticity enables the brain to adapt and process complex information, which is impaired in patients with Alzheimer's disease. In preclinical studies in rats, 5-HT6 receptor antagonists have been observed to augment the expression level of polysialic acid neural cell adhesion molecule, or PSA-NCAM, which is an essential mediator of plasticity and cognition. According to published literature, antagonism of the 5-HT6 receptor decreases gamma aminobutyric acid, or GABA, which in turn increases the release of glutamate. This is believed to promote the increased expression of PSA-NCAM by young neurons, which enables the brain to adapt and process complex information and may provide another reason to believe that RVT-101 may impact the progression of dementia.

Preclinical and Clinical Development

Preclinical and Phase 1 Clinical Development

In preclinical studies conducted by GSK, RVT-101 was observed to be a potent, selective, orally bioavailable 5-HT6 receptor antagonist that penetrates the CNS, with activity in multiple models of cognitive enhancement. In *in vitro* studies, RVT-101 was observed to have a high affinity for the human recombinant 5-HT6 receptor, with a negative log of the dissociation constant (pK_i) value of 9.63. The pKi value is a standard metric for comparing the relative strength with which different compounds bind to a biologic receptor, particularly those with the same mechanism of action or within the same class. A higher pKi value suggests stronger binding of a drug for a given target. In addition, RVT-101 was observed to have high selectivity for the 5-HT6 receptor, with greater than 100 times selectivity for the 5-HT6 receptor over all other receptors screened, other than the 5-HT2a receptor, for which RVT-101 was observed to have a pKi value of 7.99, suggesting approximately 44 times greater selectivity for the 5-HT6 receptor over the 5-HT2a receptor. In studies in male Sprague Dawley rats, the co-administration of RVT-101 with donepezil resulted in increased levels of acetylcholine in the brain as compared to those induced by either drug alone. This

Table of Contents

provides neurochemical evidence of a potential additive or synergistic effect associated with co-administration of a 5-HT6 receptor antagonist with a cholinesterase inhibitor.

Furthermore, the combination of RVT-101 and donepezil demonstrated potentially synergistic activity in task recall, or memory, in a rat model of age dependent effects using a water maze. No significant synergistic activity was observed on the rate of task acquisition, or learning.

In 2007, GSK submitted to the FDA an investigational new drug application, or IND, for SB742457 (now known as RVT-101), for the treatment of mild-to-moderate Alzheimer's disease. In December 2014, this IND was transferred to us, and is the IND under which our Phase 3 pivotal program will be conducted. GSK completed nine Phase 1 clinical trials for RVT-101 in a total of 225 healthy adults. Single doses of up to 175 mg and repeat doses of up to 50 mg of RVT-101 were administered to young and elderly subjects. In these studies, no safety signals or trends in adverse events, electrocardiogram, vital signs or laboratory parameters were identified that would have precluded further studies of RVT-101. These studies demonstrated a number of favorable properties of RVT-101, including once daily dosing, a low potential for drug interactions and an ability to be taken with or without food. In addition, imaging studies using positive emission tomography, or PET, scanning demonstrated that RVT-101 has near to full occupancy of the 5-HT6 receptors in the caudate and putamen regions of the brain, even at doses as low as 3 mg. Based on a pharmacokinetic and pharmacodynamic model using PET imaging data, repeat dosing with the daily 35 mg dose of RVT-101 is predicted to occupy greater than 90% of 5-HT6 receptors in 97.5% of subjects and approximately 65% of 5-HT2a receptors in the brain.

Table of Contents

Phase 2 Clinical Development

GSK completed four Phase 2 clinical trials for RVT-101 in subjects with mild-to-moderate Alzheimer's disease, including three that evaluated RVT-101 as monotherapy and one that evaluated RVT-101 as adjunctive therapy in subjects who were already receiving a stable dose of donepezil. The designs of these trials, beginning with the most recently conducted, are summarized in the table below.

Phase/Trial Number	Trial Design	Treatments/Dose	Sample Size	Outcome Measures
Phase IIb **AZ3110866**	48-week, double-blind, parallel group, placebo-controlled adjunct trial in mild-to-moderate Alzheimer's disease; adjunct to donepezil (5-10 mg)	Placebo (donepezil alone) RVT-101 15 mg (on top of donepezil) RVT-101 35 mg (on top of donepezil) 1:1:1 ratio	684 Subjects stratified by baseline MMSE	**Primary:** ADAS-cog, CDR-SB **Secondary:** ADCS-ADL, MMSE, RBANS
Phase IIb **AZ3110865**	24-week, double-dummy, parallel group, placebo-controlled monotherapy trial in mild-to-moderate Alzheimer's disease	Placebo RVT-101 15 mg RVT-101 35 mg Donepezil 5-10 mg 1:1:1:1 ratio	576 Subjects stratified by baseline MMSE score	**Primary:** ADAS-cog, CIBIC plus **Secondary:** RBANS, ADCS-ADL, MMSE, CSDD
Phase IIa **AZ3106242**	24-week, double-blind, parallel group, placebo-controlled monotherapy trial in mild-to-moderate Alzheimer's disease	Placebo RVT-101 15-35 mg Donepezil 5-10 mg 1:1:1 ratio	198	**Primary:** ADAS-cog, CIBIC plus **Secondary:** NPI, DAD, MMSE, CPTB, CTT, DVT, ACQLI
Phase IIa **AZ3100603**	24-week, double-blind, parallel group, placebo-controlled monotherapy trial in mild-to-moderate Alzheimer's disease	Placebo RVT-101 5 mg RVT-101 15 mg RVT-101 35 mg 2:1:1:2 ratio	371	**Primary:** ADAS-cog, CIBIC plus **Secondary:** NPI, DAD, MMSE, CPTB, ACQLI

MMSE Mini mental status examination score
ADAS-cog Alzheimer's disease assessment scale
CDR-SB Clinical dementia rating scale sum of boxes
ADCS-ADL Alzheimer's disease cooperative study Activities of Daily Living Inventory scale
RBANS Repeatable battery for the assessment of neuropsychological status scale
CIBIC-plus Clinicians global impression of change plus caregiver input scale
CSDD Cornell scale for depression in dementia
NPI Neuropsychiatric inventory scale
DAD Disability assessment for dementia scale
CPTB Cognitive psychometric test battery
CTT Color trails test
DVT Digit vigilance test

ACQLI Alzheimer's care quality of life instrument scale

Table of Contents

In all of the Phase 2 clinical trials conducted by GSK, RVT-101 was well-tolerated with no clinically meaningful trends in adverse events or serious adverse events. As monotherapy, treatment with RVT-101 did not result in a statistically significant improvement in cognition or function when compared to placebo. In the largest of these monotherapy trials (Study AZ3110865), donepezil, which was chosen as an active comparator, also failed to demonstrate a statistically significant benefit over placebo on the cognitive primary endpoint (ADAS-cog).

We view the results of the AZ3110866 trial, or the 0866 trial, in which RVT-101 was administered as an adjunctive therapy with donepezil, to be most directly relevant to our future development plans for RVT-101. This trial was designed as a large randomized placebo-controlled study in subjects with mild-to-moderate Alzheimer's disease, in which 684 subjects on a stable background of donepezil treatment were randomized to receive either 35 mg RVT-101, 15 mg RVT-101 or placebo once daily. The trial was originally planned to run for 24 weeks but was later extended to 48 weeks. The completion rate at week 24 was greater than 85% in each arm of the study, and the withdrawal rate at week 24 was lower in the 35 mg RVT-101 group (11%) than in the placebo group (12%). Median MMSE was the same in the placebo and the 15 mg and 35 mg RVT-101 groups (19.0). Baseline demographics were similar across the placebo groups and treatment groups. The design of this adjunctive therapy trial is shown in the following diagram:

In the group that received 35 mg RVT-101 in the 0866 trial, statistically significant improvements in cognition, as measured by the ADAS-cog scale, were observed at multiple time points, including at 12, 24 and 48 weeks following initiation of treatment. We believe this is a meaningful result because currently marketed Alzheimer's disease drugs were approved on data of 28 weeks or less. In addition to improvement in cognition, subjects in the 35 mg RVT-101 group demonstrated statistically significant improvement in function at 12, 24 and 36 weeks as measured by the ADCS-ADL. We believe these results on ADCS-ADL are particularly noteworthy in light of the fact that the decline in the ability of Alzheimer's disease patients to perform activities essential to daily living places a significant burden on caregivers and the healthcare system. The FDA has historically approved investigational Alzheimer's drugs based on efficacy in improving both cognition and function.

Table of Contents

The ADAS-cog, or the Alzheimer's Disease Assessment Scale cognitive subscale, is a widely-used general cognitive measure in clinical trials of Alzheimer's disease. The scale assesses multiple cognitive domains (*e.g.*, language and memory) by asking subjects to complete a set of defined tasks. Changes in the ADAS-cog score are often used to evaluate improvement or worsening of cognition, with higher scores suggesting greater dysfunction. The ADCS-ADL, or the Alzheimer's Disease Cooperative Study Activities of Daily Living, is a commonly used scale that evaluates a patient's ability to perform tasks of everyday living (*e.g.*, household chores, toileting and dressing) based on information obtained from the subject and his or her caregiver. Changes in the ADCS-ADL score are often used to evaluate improvement or worsening of functional ability, with lower scores suggesting greater dysfunction.

The results of the 0866 trial on ADAS-cog and ADCS-ADL, as analyzed by our statistician based on data files provided by GSK, are summarized below. We present these analyses, conducted using two different statistical methods and two different sets of covariates, to demonstrate the robust nature of our data irrespective of method of analysis. The first of these methods is the Mixed Model Repeated Measure, or MMRM, analysis, which is a commonly used method to account for incomplete data. This was the primary intent-to-treat, or ITT, statistical method of analysis as pre-specified by GSK. The second method is the Analysis of Covariance, or ANCOVA, based on observed data (also referred to as a completer analysis). This analytical method includes data only from subjects that completed the study at each of the time points at which data was collected.

Both of these statistical methods control for covariates, which are unrelated variables that may independently impact the effect of one variable on another. It is common to account for covariates when analyzing data to determine the true effect of a drug on a given outcome. We have presented two sets of results, based on two sets of covariates, for both the MMRM and completer analyses on ADAS-cog and ADCS-ADL. The first set of covariates were pre-specified by GSK for consideration in the primary analysis and the second set of covariates (or closest available comparable covariates) were those used in the LADDER trial, a published Phase 2 study evaluating the effects of idalopirdine, a 5-HT6 antagonist in development by H. Lundbeck A/S, a Danish pharmaceutical company, or Lundbeck, in patients with moderate Alzheimer's disease. Each set of covariates is described in the footnotes to the tables below.

The results presented below include the covariates that were pre-specified by GSK for consideration in the primary analysis.

ADAS-cog Change from Baseline

Visit	Treatment	Number of subjects	Difference vs. donepezil alone: MMRM ITT Analysis(1)(2)	P-value	Difference vs. donepezil alone: Completer Analysis(1)(3)	P-value
Week 12	Placebo (donepezil alone)	206				
	15 mg RVT-101	203	0.24	0.631	0.23	0.645
	35 mg RVT-101	219	1.30	0.006**	1.29	0.008**
Week 24	Placebo (donepezil alone)	194				
	15 mg RVT-101	185	0.67	0.281	0.75	0.231
	35 mg RVT-101	207	1.50	0.013*	1.63	0.007**
Week 36	Placebo (donepezil alone)	164				
	15 mg RVT-101	156	0.04	0.947	0.06	0.925
	35 mg RVT-101	181	1.21	0.057	1.35	0.039*
Week 48	Placebo (donepezil alone)	145				
	15 mg RVT-101	142	0.07	0.925	0.18	0.824
	35 mg RVT-101	170	1.64	0.024*	1.82	0.018*

(1)
Higher score indicates greater dysfunction, lower score indicates relative improvement

Table of Contents

(2)

MMRM ITT analysis includes the following covariates: baseline ADAS-cog total score, baseline MMSE, country group, visit, time since diagnosis, baseline BMI, treatment, baseline ADAS-cog total score by visit, baseline MMSE by visit and treatment by visit.

(3)

Completer Analysis includes the following covariates: baseline ADAS-cog total score, baseline MMSE, country group, time since diagnosis, baseline BMI and treatment.

P-value is a conventional statistical method for measuring the statistical significance of clinical results. A p-value of 0.05 or less represents statistical significance, meaning that there is a less than 1-in-20 likelihood that the observed results occurred by chance.

*

p < 0.05

**

p < 0.01

ADCS-ADL Change from Baseline

Visit	Treatment	Number of subjects	Difference vs. donepezil alone: MMRM ITT Analysis(1)(2)	P-value	Difference vs. donepezil alone: Completer Analysis(1)(3)	P-value
Week 12	Placebo (donepezil alone)	202				
	15 mg RVT-101	201	0.63	0.396	0.64	0.381
	35 mg RVT-101	222	1.72	0.019*	1.72	0.016*
Week 24	Placebo (donepezil alone)	192				
	15 mg RVT-101	186	1.43	0.110	1.42	0.116
	35 mg RVT-101	209	2.00	0.024*	2.11	0.016*
Week 36	Placebo (donepezil alone)	164				
	15 mg RVT-101	160	0.07	0.944	0.08	0.942
	35 mg RVT-101	183	1.93	0.038*	2.20	0.029*
Week 48	Placebo (donepezil alone)	147				
	15 mg RVT-101	145	0.46	0.705	1.22	0.325
	35 mg RVT-101	171	1.94	0.088	2.34	0.048*

(1)

Lower score indicates greater dysfunction, higher score indicates relative improvement

(2)

MMRM ITT analysis includes the following covariates: baseline ADCS-ADL total score, baseline MMSE, country group, visit, time since diagnosis, baseline BMI, treatment, baseline ADCS-ADL total score by visit,

baseline MMSE by visit and treatment by visit.

(3)

Completer analysis includes the following covariates: baseline ADCS-ADL total score, baseline MMSE, country group, time since diagnosis, baseline BMI and treatment.

*

$p < 0.05$

The data tables below present the results of analyses that account for the same covariates (or closest available comparable covariates) as those included in the LADDER trial.

Table of Contents

ADAS-cog Change from Baseline

Visit	Treatment	Number of subjects	Difference vs. donepezil alone: MMRM ITT Analysis(1)(2)	P-value	Difference vs. donepezil alone: Completer Analysis(1)(3)	P-value
Week 12	Placebo (donepezil alone)	206				
	15 mg RVT-101	203	0.32	0.524	0.32	0.529
	35 mg RVT-101	219	1.42	0.003**	1.41	0.005**
Week 24	Placebo (donepezil alone)	194				
	15 mg RVT-101	185	0.77	0.227	0.80	0.212
	35 mg RVT-101	207	1.66	0.007**	1.82	0.004**
Week 36	Placebo (donepezil alone)	164				
	15 mg RVT-101	156	0.15	0.818	0.16	0.820
	35 mg RVT-101	181	1.40	0.035*	1.58	0.020*
Week 48	Placebo (donepezil alone)	145				
	15 mg RVT-101	142	0.23	0.779	0.46	0.579
	35 mg RVT-101	170	1.90	0.012*	2.12	0.008**

(1) Higher score indicates greater dysfunction, lower score indicates relative improvement

(2) MMRM ITT analysis includes the following covariates: baseline ADAS-cog total score, country group, visit, treatment, baseline ADAS-cog total score by visit and treatment by visit.

(3) Completer analysis includes the following covariates: baseline ADAS-cog total score, country group and treatment.

* $p < 0.05$

** $p < 0.01$

ADCS-ADL Change from Baseline

Visit	Treatment	Number of subjects	Difference vs. donepezil alone: MMRM	P-value	Difference vs. donepezil alone: Completer	P-value

			ITT Analysis(1)(2)		Completer Analysis(1)(3)	
Week 12	Placebo (donepezil alone)	202				
	15 mg RVT-101	201	0.78	0.292	0.77	0.290
	35 mg RVT-101	222	1.79	0.015*	1.78	0.013*
Week 24	Placebo (donepezil alone)	192				
	15 mg RVT-101	186	1.69	0.061	1.60	0.080
	35 mg RVT-101	209	2.18	0.016*	2.28	0.011*
Week 36	Placebo (donepezil alone)	164				
	15 mg RVT-101	160	0.18	0.863	0.16	0.876
	35 mg RVT-101	183	2.16	0.026*	2.42	0.018*
Week 48	Placebo (donepezil alone)	147				
	15 mg RVT-101	145	0.85	0.495	1.57	0.216
	35 mg RVT-101	171	2.27	0.059	2.62	0.032*

(1)

Lower score indicates greater dysfunction, higher score indicates relative improvement

(2)

MMRM ITT analysis includes the following covariates: baseline ADCS-ADL total score, country group, visit, treatment, baseline ADCS-ADL total score by visit and treatment by visit.

(3)

Completer analysis includes the following covariates: baseline ADCS-ADL total score, country group and treatment.

*

$p < 0.05$

Table of Contents

The graphs below present the results on ADAS-cog and ADCS-ADL.

ADAS-cog Change over 48 Weeks

ADCS-ADL Change over 48 Weeks

Table of Contents

GSK's pre-specified co-primary endpoints in the 0866 trial were the ADAS-cog and Clinical Dementia Rating Sum of Boxes, or CDR-SB, a composite scale with certain components that evaluate cognition and others that assess function, at 24 weeks following treatment. While the 35 mg RVT-101 dose group demonstrated a statistically significant improvement in the CDR-SB at 12 weeks and a trend suggesting a benefit at 24 weeks and further time points, the benefit at 24 weeks was not statistically significant. No Alzheimer's disease drugs have ever been approved on the basis of CDR-SB as a primary endpoint. We believe that the ADAS-cog and ADCS-ADL represents a more appropriate set of co-primary endpoints in patients with mild-to-moderate Alzheimer's disease given the precedence of other Alzheimer's disease drugs having been approved on the basis of each of these endpoints. GSK also measured the Mini Mental Status Exam, or MMSE, and Repeatable Battery for the Assessment of Neurophysychological Status, or RBANS, as secondary endpoints. RVT-101 did not show a statistically significant benefit as measured by MMSE or RBANS.

The following table presents the results of GSK's analysis on CDR-SB.

CDR-SB Change from Baseline

Visit	Treatment	Number of subjects	Difference vs. placebo donepezil alone: MMRM ITT Analysis(1)(2)	P-value
Week 12	Placebo (donepezil alone)	205		
	15 mg RVT-101	200	0.12	0.387
	35 mg RVT-101	221	0.30	0.018*
Week 24	Placebo (donepezil alone)	194		
	15 mg RVT-101	186	0.11	0.563
	35 mg RVT-101	207	0.14	0.418
Week 36	Placebo (donepezil alone)	165		
	15 mg RVT-101	155	0.18	0.439
	35 mg RVT-101	179	0.19	0.336
Week 48	Placebo (donepezil alone)	149		
	15 mg RVT-101	143	0.34	0.190
	35 mg RVT-101	170	0.06	0.787

(1) Higher score indicates greater dysfunction, lower score indicates relative improvement

(2) The following covariates are included in this analysis: baseline score, baseline MMSE, country group, visit, time since diagnosis, baseline BMI, treatment, baseline score by visit, baseline MMSE by visit and treatment by visit.

* $p < 0.05$

Safety and Tolerability

RVT-101 was observed to be well-tolerated by subjects in all 13 clinical trials conducted by GSK. In the 0866 trial, which was a large randomized trial in which subjects received RVT-101 or placebo added to a stable dose of donepezil, the proportion of subjects that experienced drug-related adverse events was lower in the group that received 35 mg RVT-101 with donepezil than in the group that received placebo with donepezil, at 24 weeks (6% versus 9%) and 48 weeks (7% versus 13%). The proportion of subjects that had adverse events leading to withdrawal from the trial was comparable across the 35 mg RVT-101 group and the placebo group, with 5% and 3% having an adverse event leading to withdrawal at 24 weeks, and 7% and 5% at 48 weeks, in each of the groups respectively. At week 24, a total of nine subjects (1.3%) across all three groups had drug-related adverse events that led to withdrawal from the study. In the placebo group, two subjects (0.9%) withdrew from the study due to at least one drug-related adverse event (worsening Alzheimer's disease, insomnia and/or seizure). In the 15 mg RVT-101 group, three subjects (1.4%) withdrew from the study due to at least one drug-related adverse event (lichenoid keratosis, pruritus and/or pustular rash). In the 35 mg RVT-101 group, four subjects (1.7%) withdrew from the study due to at least one drug-related adverse event (rash, drug eruption, hepatic enzyme elevation, agitation and/or increased libido). The incidence of serious adverse events was similar across treatment groups at 24 weeks

Table of Contents

(4% to 7%). There were no drug-related serious adverse events in the RVT-101 groups at 24 or 48 weeks, and there was one drug-related serious adverse event in the placebo group (aphasia) at 24 weeks. No subjects in either the 35 mg or 15 mg RVT-101 groups experienced a fall-related serious adverse event, as compared to two subjects in the placebo group, and falls were less frequent in both the 35 mg RVT-101 group (2%) and the 15 mg RVT-101 group (2%) compared to the placebo group (6%). There were no notable differences between the RVT-101 and placebo groups in vital sign changes, electrocardiogram changes or significant changes in laboratory parameters, and there was no evidence of significant liver toxicity (e.g. at week 24, one subject (< 1%) in the 35 mg RVT-101 group had elevated levels of liver enzymes, alanine aminotransferase, or ALT, and aspartate aminotransferase, or AST, that were greater than three times the upper limit of normal and led to withdrawal from the study). We believe RVT-101's favorable liver toxicity profile is particularly noteworthy in light of the liver toxicity issues observed with other Alzheimer's disease drugs that are in development today or have been approved in the past.

The tolerability profile of RVT-101 in the 0866 trial, with the relevant comparisons to placebo when added to a stable dose of donepezil, is shown in the table below.

		35 mg RVT-101 plus Donepezil	Placebo plus Donepezil
24 weeks	Withdrawals from trial	11%	12%
48 weeks	Withdrawals from trial	20%	22%
24 weeks	Drug-related serious adverse events	0%	< 1%
48 weeks	Drug-related serious adverse events	0%	< 1%
24 weeks	Drug-related adverse events	6%	9%
48 weeks	Drug-related adverse events	7%	13%

Other Clinical Trials of 5-HT6 Receptor Antagonists

Lundbeck, in conjunction with Otsuka Pharmaceutical, is also developing a 5-HT6 receptor antagonist that is currently in Phase 3, idalopirdine (Lu AE58054).

In the LADDER trial referenced above, idalopirdine demonstrated statistically significant benefits in cognition at 24 weeks in patients receiving a stable dose of donepezil. We believe that the observed efficacy of idalopirdine in improving cognition validates the mechanism of action of 5-HT6 receptor antagonists. Idalopirdine did not show statistically significant benefits on any functional endpoints or other secondary endpoints, though it did demonstrate a positive trend. In the trial, 12% of patients in the idalopirdine group discontinued due to adverse events (compared to 5% of patients in the placebo group), and 8% discontinued due to elevations in liver enzymes, with 9% and 6% experiencing AST or ALT elevations greater than twice and three times the upper limit of normal respectively. We believe that liver toxicity is a particularly sensitive adverse event in Alzheimer's disease drug development given the history of liver toxicity associated with tacrine, the first cholinesterase inhibitor approved for Alzheimer's disease, which was withdrawn from the U.S. market in 2012. In addition, 6% of patients in the idalopirdine group experienced serious adverse events that were judged to be drug-related at week 24 (compared to 4% of patients in the placebo group), and 21% of patients in the idalopirdine group withdrew from the study (compared to 11% of patients in the placebo group).

According to Clinical Trials.gov, in its current Phase 3 program, Lundbeck is evaluating idalopirdine at multiple different doses, all of which are lower than the daily dose at which efficacy was observed in the LADDER trial, and at a different dosing frequency (once daily) than that which was evaluated in the LADDER trial (three times daily). In addition, according to ClinicalTrials.gov, Lundbeck has not specified a co-primary function endpoint for its Phase 3 program.

Table of Contents

Phase 3 Clinical Development Plan

We intend to conduct a Phase 3 pivotal program in subjects with mild-to-moderate Alzheimer's disease designed to confirm the results of the 0866 trial. We met with the FDA at the end of March 2015 to confirm that there are no additional clinical or non-clinical studies required to support the initiation of our Phase 3 pivotal program. We believe that our meeting with the FDA confirms the results of the prior end-of-Phase 2 meeting between the FDA and GSK, and further reinforces our view that no additional clinical or non-clinical studies will be required prior to the initiation of our planned Phase 3 pivotal program. As a result, based on our meeting with the FDA, we intend to conduct a Phase 3 trial to confirm the results of the 0866 trial and believe that this trial, if successful, would, in conjunction with the 0866 trial, be sufficient to support the filing of a NDA. Our proposed Phase 3 trial would randomize patients already on a stable background of donepezil therapy to receive adjunctive treatment with either 35 mg RVT-101 or placebo once daily for a period of at least 24 weeks. We plan to enroll at least 500 subjects for each arm of this trial. We intend to begin this pivotal trial in the fourth quarter of 2015, and if the results of this trial are positive, our goal is to submit an NDA to the FDA and an MAA to the EMA by the end of 2017. We may conduct additional clinical trials to further support the commercial potential of RVT-101 in the United States, the European Union, Japan and other major markets. For example, we may consider conducting additional studies to support approval of a fixed dose combination of RVT-101 and donepezil. We do not intend to develop RVT-101 as a monotherapy.

Other Potential Indications for RVT-101

In addition to our plan to develop and commercialize RVT-101 for the treatment of mild-to-moderate Alzheimer's disease, we intend to evaluate RVT-101 in trials for the potential treatment of other forms of dementia, such as severe Alzheimer's disease, dementia with Lewy bodies, Parkinson's disease dementia and vascular dementia, beginning in the second half of 2015. Our goal is to have preliminary results from the first of these potential trials in the second half of 2016.

Severe Alzheimer's Disease

We believe the efficacy of RVT-101 in treating patients with mild-to-moderate Alzheimer's disease supports its investigation in patients with severe Alzheimer's disease. Moreover, we believe the favorable tolerability profile of RVT-101 supports its use in combination with other classes of drugs currently used to treat patients with severe Alzheimer's disease, including cholinesterase inhibitors and NMDA antagonists.

Dementia with Lewy Bodies

Dementia with Lewy bodies is a condition characterized by abnormal clusters of proteins known as Lewy bodies that accumulate within nerve cells. According to the Alzheimer's Association, dementia with Lewy bodies affects between 600,000 and 900,000 individuals in the United States. While dementia with Lewy bodies is estimated to account for between 10% and 25% of all dementia cases, there are no drugs approved by the FDA for its treatment. In addition to suffering from impaired cognition and cognitive fluctuations, patients with dementia with Lewy bodies often suffer from visual hallucinations, muscular rigidity and tremors.

Patients with dementia with Lewy bodies are often treated off-label with cholinesterase inhibitors. Cholinergic neurotransmission is thought to be even more dysfunctional in dementia with Lewy bodies than in Alzheimer's disease. This suggests that neurotransmitter-targeted therapies that work by increasing the inter-synaptic concentration of acetylcholine, much like RVT-101 in Alzheimer's disease, may also be effective in improving cognition in patients with dementia with Lewy bodies. While cholinesterase inhibitors are not approved by the FDA for dementia with Lewy bodies, donepezil was approved in September 2014 in Japan for this indication on the basis of two randomized placebo-controlled trials in fewer than 150 subjects conducted by Eisai Co., Ltd. In one of these trials, subjects receiving 5 mg of Aricept achieved a 3.4 point improvement in mini mental status examination, or MMSE, score, a test used to measure cognitive impairment, compared to patients receiving placebo ($p<0.001$). We believe that the

Table of Contents

addition of a 5-HT6 receptor antagonist, such as RVT-101, may augment the efficacy of cholinesterase inhibitors in patients with dementia with Lewy bodies by promoting the synaptic release of acetylcholine and other neurotransmitters essential to cognition. We are not aware of any drugs in late-stage clinical development for the treatment of dementia with Lewy bodies. As such, we believe that RVT-101 has the potential to be the first drug approved by the FDA for dementia with Lewy bodies. Based on the number of patients affected by dementia with Lewy bodies in the United States, our internal estimates suggest that the potential market opportunity is $2 billion to $4 billion in the United States. We believe we can complete a Phase 2 clinical trial for the treatment of dementia with Lewy bodies for between $5 million and $15 million. This estimate is based on assumptions that may prove to be wrong, and the cost of this trial may be greater than expected.

Parkinson's Disease Dementia

Parkinson's disease is a neurodegenerative disorder associated with motor and neuropsychiatric symptoms that is estimated to affect approximately one million individuals in the United States. The Alzheimer's Association estimates that up to 80% of individuals with Parkinson's disease may experience dementia. These patients experience changes in memory, judgment and concentration, as well as visual hallucinations, delusions, and sleep disturbances. Rivastigmine, a cholinesterase inhibitor, is the only drug approved by the FDA for the treatment of Parkinson's disease dementia. We believe the efficacy of rivastigmine in Parkinson's disease dementia suggests that other classes of drugs that increase the synaptic level of acetylcholine, such as 5-HT6 receptor antagonists, may also be effective in treating patients with this disease.

Vascular Dementia

Vascular dementia is caused by impaired blood flow to the brain and is often associated with strokes, which deprive brain cells of oxygen and nutrients. Symptoms are most obvious in the period following a stroke, and include confusion, disorientation, and speech and visual abnormalities. In a randomized-placebo controlled clinical trial sponsored by Eisai Medical Research Inc., patients with vascular dementia treated with donepezil achieved a statistically significant benefit in cognition relative to placebo. We believe this suggests that other classes of drugs that increase the concentration of acetylcholine, such as 5-HT6 receptor antagonists, may also be effective in treating the disease.

Asset Purchase Agreement with GlaxoSmithKline

In December 2014, we entered into an asset purchase agreement with GSK, or the GSK Agreement, pursuant to which GSK assigned to us all of their rights to certain patents, regulatory documentation, data records and materials related to SB-742457, which we now refer to as RVT-101, and other related compounds claimed by a specific patent application.

Under the GSK Agreement, we are obligated to use commercially reasonable efforts to develop, manufacture, commercialize and seek and maintain regulatory approval for RVT-101. GSK retains the right to use the assigned compounds for internal research purposes, but GSK is not allowed to conduct clinical development or commercialize any assigned compound in any field of use during the royalty term for any products containing RVT-101, which we refer to as the RVT-101 Products.

Under the GSK Agreement, GSK received an upfront payment of $5 million and an additional $5 million upon the earliest to occur of specified events that indicate a single Phase 3 trial may be sufficient to obtain FDA approval for RVT-101 Products for Alzheimer's disease. We are also obligated to pay GSK $35 million, $25 million and $10 million upon approval of RVT-101 in the United States, the European Union and Japan, respectively, as well as an additional one-time payment of $85 million for the first calendar year in which we achieve global net sales of $1.2 billion for RVT-101.

Table of Contents

Under the GSK Agreement we are also obligated to pay a fixed 12.5% royalty based on net sales of RVT-101 Products, subject to reduction on a product-by-product and country-by-country basis, on account of expiration of patent and regulatory exclusivity or upon generic entry. Our royalty obligations with respect to RVT-101 Products will end, on a product-by-product and country-by-country basis, on the latest of (1) expiration of the last valid claim of the assigned patents covering the manufacture, use or composition of such product in such country, (2) expiration of regulatory exclusivity for such product in such country, or (3) 12 years from the first commercial sale of such product in such country, or if such country is one of the five major European countries listed in the GSK Agreement, then 12 years from the first commercial sale of such product in at least three such major European countries.

Our royalty payment obligations and our milestone payment obligations for RVT-101 Products may be reduced by a portion of royalty payments, and in some cases other payments, made to third parties for rights to certain U.S. patents, in each case subject to a maximum reduction.

Sales and Marketing

We do not have our own marketing, sales or distribution capabilities. In order to commercialize our product candidate if approved for commercial sale, we must either develop a sales and marketing infrastructure or collaborate with third-parties that have sales and marketing experience. We plan to directly commercialize our product candidates in the United States and the European Union. In other markets for which commercialization may be less capital efficient for us, we may selectively pursue strategic collaborations with third parties in order to maximize the commercial potential of our product candidates.

Manufacturing

We have no experience in drug formulation or manufacturing and do not own or operate, and we do not expect to own or operate, facilities for product manufacturing, storage and distribution, or testing. While RVT-101 was being developed by GSK, it was also being manufactured by GSK. We expect that the drug substance transferred from GSK under the GSK Agreement will be sufficient for us to complete our planned Phase 3 pivotal program, and we have contracted with a third-party to fill, finish, supply, store and distribute the drug product for this program. We also will rely on third-party manufacturers to supply us with sufficient quantities of RVT-101 to be used, if approved, for the commercialization of RVT-101. If we are unable to initiate or continue our relationship with one or more of these third-party contractors, we could experience delays in our development efforts as we locate and qualify new manufacturers.

RVT-101 is a small molecule that can be manufactured using commercially available technologies. We acquired data from GSK related to the chemical synthesis and manufacturing of RVT-101, and we expect that we will be able to contract with third-party manufacturers for commercial supplies of RVT-101 on a cost-efficient basis based on our understanding of the simple structure and synthesis of the compound.

Manufacturing of any product candidate is subject to extensive regulations that impose various procedural and documentation requirements, which govern recordkeeping, manufacturing processes and controls, personnel, quality control and quality assurance, among others. We expect that all of our contract manufacturing organizations will manufacture RVT-101 under current Good Manufacturing Practice, or cGMP, conditions. cGMP is a regulatory standard for the production of pharmaceuticals to be used in humans.

Competition

We consider RVT-101's most direct competitor to be idalopirdine (Lu AE58054), a 5-HT6 receptor antagonist being developed by Lundbeck that is currently in Phase 3. Based on the publicly available information, other companies developing 5-HT6 receptor antagonists include Biotie Therapies, Pfizer, Avineuro and Suven Life Sciences. These other 5-HT6 receptor antagonists are all in Phase 2 or earlier stages of development for cognitive and other neurodegenerative disorders, and it is unknown to us whether

Table of Contents

any of these compounds remain in active development. We believe the development of multiple 5-HT6 receptor antagonists by other biopharmaceutical firms adds further validation to the therapeutic relevance of 5-HT6 as a target for the treatment of neurodegenerative disorders.

In addition to other 5-HT6 receptor antagonists in active development, we are aware of many biotechnology and pharmaceutical companies as well as academic institutions, government agencies and private and public research institutions that are developing, and may in the future develop and commercialize, products for Alzheimer's disease and other cognitive disorders.

Drug development is highly competitive and subject to rapid and significant technological advancements. Our ability to compete will significantly depend upon our ability to complete necessary clinical trials and regulatory approval processes, and effectively market any drug that we may successfully develop. Our current and potential future competitors include pharmaceutical and biotechnology companies, academic institutions and government agencies. The primary competitive factors that will affect the commercial success of any product candidate for which we may receive marketing approval include efficacy, safety and tolerability profile, dosing convenience, price, coverage and reimbursement. Many of our existing or potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, as well as in obtaining regulatory approvals of those product candidates in the United States and in foreign countries. Our current and potential future competitors also have significantly more experience commercializing drugs that have been approved for marketing. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Accordingly, our competitors may be more successful than us in obtaining regulatory approval for therapies and in achieving widespread market acceptance of their drugs. It is also possible that the development of a cure or more effective treatment method for Alzheimer's disease by a competitor could render our product candidate non-competitive or obsolete or reduce the demand for our product candidate before we can recover our development and commercialization expenses.

Intellectual Property

Our commercial success depends in part on our ability to obtain and maintain proprietary protection for RVT-101, any of our future product candidates, novel discoveries, product development technologies and other know-how, to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing or in-licensing U.S. and foreign patents and patent applications related to our proprietary technology, inventions and improvements that are important to the development and implementation of our business. We also rely on trademarks, trade secrets, know-how, continuing technological innovation and potential in-licensing opportunities to develop and maintain our proprietary position.

While we seek broad coverage under our existing patent applications, there is always a risk that an alteration to the process may provide sufficient basis for a competitor to avoid infringement claims. In addition, patents, if granted, expire and we cannot provide any assurance that any patents will be issued from our pending or any future applications or that any potentially issued patents will adequately protect our intellectual property.

Following our execution of the GSK Agreement, as of March 31, 2015, by virtue of assignment of the patent rights under the GSK Agreement, we were the exclusive owner of five granted U.S. patents, one pending, allowed U.S. patent application and 100 ex-U.S. patents or patent applications in numerous foreign jurisdictions. These patents and patent applications cover the RVT-101 molecule as a composition of matter, as well as its use alone or in combination with other pharmaceutical agents. The allowed U.S. application covers the use of specific doses of RVT-101 in combination with donepezil to treat vascular

Table of Contents

dementia, Lewy Body dementia and Huntington's disease dementia and naturally expires in December 2028. Since February 2015, we have filed six provisional patent applications directed to uses of the RVT-101 molecule alone or in combination with other pharmaceutical agents. The issued U.S. composition of matter patent for RVT-101 naturally expires in 2024. We expect the term of this patent will be extended up to five years to 2029 under the provisions of the Hatch-Waxman Act. The provisional patent application on RVT-101, if granted, would extend the patent life for RVT-101 and uses thereof through 2035.

Individual patents extend for varying periods depending on the date of filing of the patent application or the date of patent issuance and the legal term of patents in the countries in which they are obtained. Generally, patents issued for regularly filed applications in the United States are granted a term of 20 years from the earliest effective filing date. In addition, in certain instances, a patent term can be extended to recapture a portion of the U.S. Patent and Trademark Office, or the USPTO, delay in issuing the patent as well as a portion of the term effectively lost as a result of the FDA regulatory review period. However, as to the FDA component, the restoration period cannot be longer than five years and the total patent term including the restoration period must not exceed 14 years following FDA approval. The duration of foreign patents varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. However, the actual protection afforded by a patent varies on a product by product basis, from country to country and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country and the validity and enforceability of the patent.

Furthermore, we rely upon trade secrets and know-how and continuing technological innovation to develop and maintain our competitive position. We seek to protect our proprietary information, in part, using confidentiality agreements with our commercial partners, collaborators, employees and consultants and invention assignment agreements with our employees. We also have confidentiality agreements or invention assignment agreements with our commercial partners and selected consultants. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of technologies that are developed through a relationship with a third party. These agreements may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our commercial partners, collaborators, employees and consultants use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions.

Our commercial success will also depend in part on not infringing upon the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies, or our drugs or processes, obtain licenses or cease certain activities. Our breach of any license agreements or failure to obtain a license to proprietary rights that we may require to develop or commercialize our future drugs may have an adverse impact on us. If third parties prepare and file patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference proceedings in the USPTO, to determine priority of invention.

Government Regulation

FDA Drug Approval Process

In the United States, pharmaceutical products are subject to extensive regulation by the FDA. The Federal Food, Drug, and Cosmetic Act, and other federal and state statutes and regulations, govern, among other things, the research, development, testing, manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling and import and export of pharmaceutical products. Failure to comply with applicable U.S. requirements may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending NDAs

Table of Contents

warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties and criminal prosecution.

We cannot market a drug product candidate in the United States until the drug has received FDA approval. The steps required before a drug may be marketed in the United States generally include the following:

- completion of extensive pre-clinical laboratory tests, animal studies, and formulation studies in accordance with the FDA's GLP regulations;
- submission to the FDA of an IND for human clinical testing, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials in accordance with GCP requirements to establish the safety and efficacy of the drug for each proposed indication;
- submission to the FDA of an NDA after completion of all pivotal clinical trials;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the active pharmaceutical ingredient, or API, and finished drug product are produced and tested to assess compliance with cGMPs; and
- FDA review and approval of the NDA prior to any commercial marketing or sale of the drug in the United States.

Satisfaction of FDA pre-market approval requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity and novelty of the product or disease.

Preclinical tests include laboratory evaluation of product chemistry, formulation and toxicity, as well as animal trials to assess the characteristics and potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements, including good laboratory practices. The results of preclinical testing are submitted to the FDA as part of an IND along with other information, including information about product chemistry, manufacturing and controls and a proposed clinical trial protocol. Long term preclinical tests, such as animal tests of reproductive toxicity and carcinogenicity, may continue after the IND is submitted.

A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the clinical trial proposed in the IND may begin. If the FDA raises concerns or questions about the conduct of the trial, such as whether human research subjects will be exposed to an unreasonable health risk, the IND sponsor and the FDA must resolve any outstanding FDA concerns or questions before clinical trials can proceed.

Clinical trials involve the administration of the investigational new drug to healthy volunteers or patients under the supervision of a qualified investigator. Clinical trials must be conducted in compliance with federal regulations, including GCP requirements, as well as under protocols detailing the objectives of the trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. Each protocol and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary, or permanent, discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. The study protocol and informed consent information for patients in clinical trials must also be submitted to an institutional review board, or IRB, for approval at each site at which the clinical trial will be conducted. An IRB may also require the clinical trial at the site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements, or may impose other conditions.

Clinical trials to support NDAs for marketing approval are typically conducted in three sequential phases, but the phases may overlap. In Phase 1, the initial introduction of the drug into healthy human subjects or

Table of Contents

patients, the drug is tested to assess pharmacological actions, side effects associated with increasing doses and, if possible, early evidence on effectiveness. Phase 2 usually involves trials in a limited patient population to determine metabolism, pharmacokinetics, the effectiveness of the drug for a particular indication, dosage tolerance and optimum dosage, and to identify common adverse effects and safety risks. If a compound demonstrates evidence of effectiveness and an acceptable safety profile in Phase 2 evaluations, Phase 3 clinical trials, also called pivotal trials, are undertaken to obtain the additional information about clinical efficacy and safety in a larger number of patients, typically at geographically dispersed clinical trial sites, to permit the FDA to evaluate the overall benefit-risk relationship of the drug and to provide adequate information for the labeling of the drug. In most cases the FDA requires two adequate and well controlled Phase 3 clinical trials to demonstrate the efficacy of the drug. A single Phase 3 clinical trial with other confirmatory evidence may be sufficient in rare instances where the study is a large multicenter trial demonstrating internal consistency and a statistically very persuasive finding of a clinically meaningful effect on mortality, irreversible morbidity or prevention of a disease with a potentially serious outcome and confirmation of the result in a second trial would be practically or ethically impossible.

After completion of the required clinical testing, an NDA is prepared and submitted to the FDA. FDA approval of the NDA is required before marketing of the product may begin in the United States. The NDA must include the results of all preclinical, clinical and other testing and a compilation of data relating to the product's pharmacology, chemistry, manufacture and controls. The cost of preparing and submitting an NDA is substantial. The submission of most NDAs is additionally subject to a substantial application user fee, and the manufacturer and/or sponsor under an approved NDA are also subject to annual product and establishment user fees. These fees are typically increased annually.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that it is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review. The FDA has agreed to certain performance goals in the review of NDAs. Most such applications for standard review drug products are reviewed within 10 to 12 months; most applications for priority review drugs are reviewed in six to eight months. Priority review can be applied to drugs to treat serious conditions that the FDA determines offer significant improvement in safety or effectiveness. The review process for both standard and priority review may be extended by the FDA for three additional months to consider certain late-submitted information, or information intended to clarify information already provided in the submission.

The FDA may also refer applications for novel drug products, or drug products that present difficult questions of safety or efficacy, to an advisory committee typically a panel that includes clinicians and other experts for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee, but it generally follows such recommendations. Before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCPs. Additionally, the FDA will inspect the facility or the facilities at which the drug is manufactured. The FDA will not approve the product unless compliance with cGMPs is satisfactory and the NDA contains data that provide substantial evidence that the drug is safe and effective in the indication studied.

After the FDA evaluates the NDA and the manufacturing facilities, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing, or information, in order for the FDA to reconsider the application. If, or when, those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. As a condition of NDA approval, the FDA may require a Risk Evaluation and Mitigation

Table of Contents

Strategy, or REMS, to ensure that the benefits of the drug outweigh the potential risks. A REMS can include a medication guide, a communication plan for healthcare professionals and elements to assure safe use, such as special training and certification requirements for individuals who prescribe or dispense the drug, requirements that patients enroll in a registry and other measures that the FDA deems necessary to assure the safe use of the drug. The requirement for a REMS can materially affect the potential market and profitability of the drug. Moreover, product approval may require substantial post-approval testing and surveillance to monitor the drug's safety or efficacy. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs. Such supplements are typically reviewed within 10 months of receipt.

Post-Approval Requirements

Once an NDA is approved, a product may be subject to certain post-approval requirements. For instance, the FDA closely regulates the post-approval marketing and promotion of drugs, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the internet and social media. Drugs may be marketed only for the approved indications and in accordance with the provisions of the approved labeling.

Adverse event reporting and submission of periodic reports is required following FDA approval of an NDA. The FDA also may require post-marketing testing, known as Phase 4 testing, REMS, surveillance to monitor the effects of an approved product, or restrictions on the distribution or use of the product. In addition, quality-control, drug manufacture, packaging and labeling procedures must continue to conform to cGMPs after approval. Drug manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state agencies. Registration with the FDA subjects entities to periodic unannounced inspections by the FDA, during which the agency inspects manufacturing facilities to assess compliance with cGMPs. Accordingly, manufacturers must continue to expend time, money and effort in the areas of production and quality-control to maintain compliance with cGMPs. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

Foreign Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical trials or marketing of the product in foreign countries and jurisdictions. Although many of the issues discussed above with respect to the United States apply similarly in the context of the European Union, the

Table of Contents

approval process varies between countries and jurisdictions and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries and jurisdictions might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country or jurisdiction does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country or jurisdiction may negatively impact the regulatory process in others.

Other Healthcare Laws

Although we currently do not have any products on the market, our current and future business operations may be subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which we conduct our business. Such laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, privacy and security, price reporting and physician sunshine laws. Some of our pre-commercial activities are subject to some of these laws.

The federal Anti-Kickback Statute makes it illegal for any person or entity, including a prescription drug manufacturer or a party acting on its behalf to knowingly and willfully solicit, receive, offer, or pay any remuneration that is intended to induce the referral of business, including the purchase, order, lease of any good, facility, item or service for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. The term "remuneration" has been broadly interpreted to include anything of value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pha