Raptor Pharmaceutical Corp
Form 424B5
June 29, 2012

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-179215
Amendment No. 1 dated June 28, 2012 to Prospectus Supplement
dated April 30, 2012 (To prospectus dated February 3, 2012)

Shares of Common Stock, par value $0.001 per share

This amendment No. 1 to prospectus supplement, or Amendment, amends the prospectus supplement dated April 30, 2012 to the prospectus dated February 3, 2012, or Prospectus Supplement. This Amendment should be read in conjunction with the Prospectus Supplement and the prospectus dated February 3, 2012, each of which are to be delivered with this Amendment. This Amendment amends only those sections of the Prospectus Supplement listed in this Amendment; all other sections of the Prospectus Supplement remain as is.

We have entered into a sales agreement with Cowen and Company, LLC, or Cowen, relating to shares of our common stock, offered by this Amendment, the Prospectus Supplement and the prospectus accompanying the Prospectus Supplement, or Accompanying Prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to $40,000,000. Since inception, we have sold 99,500 shares of our common stock under the sales agreement at a weighted average selling price of $5.50 per share for net proceeds (after 3% commission to Cowen) of $530,601.

Our common stock is listed on The Nasdaq Global Market under the symbol "RPTP." The last reported sale price of our common stock on The Nasdaq Global Market on June 27, 2012 was $5.85 per share.

Cowen may sell our common stock by methods deemed to be an "at the market" offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, or the Securities Act, including sales made directly on The Nasdaq Global Market, on any other existing trading market for our common stock or to or through a market maker. In addition, with our prior written approval, Cowen may also sell our common stock by any other method permitted by law, including in privately negotiated transactions. Cowen will act as sales agent using its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of The Nasdaq Stock Market, Inc.

We will pay Cowen a commission, or allow a discount, for its services in acting as agent in the sale of our common stock equal to 3.0% of the gross sales price per share of all shares sold through it as agent under the sales agreement.

This investment involves a high degree of risk. See "Risk Factors" beginning on page A-9 of this Amendment, beginning on page S-5 of the Prospectus Supplement, beginning on page 2 of the Accompanying Prospectus, and in our periodic reports filed with the Securities and Exchange Commission and incorporated by reference herein for a discussion of the material risks you should consider before making an investment in our common stock.

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

Cowen and Company

The date of this Amendment is June 28, 2012.

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Amendment No. 1 to Prospectus Supplement

You should rely only on the information contained or incorporated by reference in this Amendment, the Prospectus Supplement, the Accompanying Prospectus and in any free writing prospectuses we may provide to you in connection with this offering. We have not, and Cowen has not, authorized any other person to provide you with any information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this Amendment, the Prospectus Supplement or the Accompanying Prospectus and the offering of our common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this Amendment, the Prospectus Supplement or the Accompanying Prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this Amendment, the Prospectus Supplement or the Accompanying Prospectus outside the United States. This Amendment, the Prospectus Supplement or the Accompanying Prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this Amendment, the Prospectus Supplement or the Accompanying Prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation. The accompanying prospectus to the prospectus dated February 3, 2012 is not subject to completion.

PROSPECTUS SUMMARY

This summary highlights selected information concerning our business and this offering of shares of our common stock. It is not complete and does not contain all of the information that may be important to you and your investment decision. The following summary is qualified in its entirety by the more detailed information and consolidated financial statements and notes thereto included elsewhere or incorporated by reference into this Amendment, the Prospectus Supplement and the Accompanying Prospectus. You should carefully read this entire Amendment, the Prospectus Supplement and the Accompanying Prospectus, including the information incorporated by reference herein, and should consider, among other things, the matters set forth in "Risk Factors" before making an investment decision. References to the terms "Raptor", and "we," "us," "our" or similar terms, refer to Raptor Pharmaceutical Corp. and its wholly-owned subsidiaries on a consolidated basis, unless we state or the context implies otherwise.

Overview

Our goal is to research, produce and deliver medicines that improve life for patients with severe, rare disorders. Our product portfolio includes both candidates from our proprietary drug targeting platforms and in-licensed and acquired product candidates.

Our current pipeline includes three clinical development programs, which we are actively developing. We also have two other clinical-stage product candidates, one of which we are seeking additional product development partners in Asia. In addition, we have three preclinical product candidates for which we are also seeking development partners.

Clinical Development Programs

Our three active clinical development programs are based on an existing therapeutic compound, cysteamine bitartrate, that we are reformulating and repurposing for potential improvement in dose administration, safety and/or efficacy in existing treatments and for potential application in new disease indications. We are developing two formulations of cysteamine bitartrate: RP103 and RP104. RP103 is our proprietary delayed-release formulation of cysteamine bitartrate microbeads in capsules, which we believe may require less frequent dosing and could reduce gastro-intestinal side effects compared to immediate-release cysteamine bitartrate, which is the current standard of care for nephropathic cystinosis. RP104 is a delayed-release formulation of cysteamine bitartrate in tablets that we intend to develop for the potential treatment of non-alcoholic steatohepatitis, or NASH, a metabolic disorder of the liver. We received the exclusive worldwide license to RP103/RP104 for use in the field of human therapeutics for metabolic and neurologic disorders, developed by clinical scientists at the University of California, San Diego, or UCSD, School of Medicine through the 2007 merger of our clinical subsidiary and Encode Pharmaceuticals, Inc., formerly a privately-held development company.

RP103 for Nephropathic Cystinosis

Nephropathic cystinosis is an inherited error of metabolism estimated to affect a population of 2,000 patients worldwide, including 500 in the U.S. and 800 in Europe. Cystinosis is usually diagnosed in the first year of life and requires lifelong therapy. In early childhood, these patients exhibit poor growth, vision problems (photophobia) and specific kidney problems (called Fanconi syndrome) that result in increased urination, thirst, and dehydration. Without treatment, cystine crystals accumulate in tissues and organs, including the kidneys, brain, liver, thyroid, pancreas, muscles and eyes. Left untreated, the disease can be fatal by the first decade of life. Additional complications include muscle wasting, poor growth, difficulty swallowing, diabetes and hypothyroidism.

Studies have shown that cysteamine therapy may delay and/or prevent kidney transplant and other clinical manifestations of the disease. The goal of cysteamine treatment of nephropathic cystinosis is to reduce cystine levels

in cells. However, patient compliance is challenging due to frequent dosing and gastrointestinal side effects.

Treatment with immediate-release cysteamine bitartrate, Cystagon®, the current standard of care, requires the drug to be taken strictly every six hours, including a middle-of-the-night dose. In a recent survey of 37 patients and caregivers conducted at a June 2011 conference hosted by the Cystinosis Research Foundation, or CRF, 63% of patients indicated that the burden of nighttime dosing rated a 9 on a scale from 1 to 10. This was the most significant compliance burden noted by patients in the survey. In addition to the dosing challenges associated with Cystagon®, side effects include gastrointestinal distress, nausea and vomiting, beyond those normally experienced as a result of the disease itself. We believe patients are engaging in frequent, concomitant and chronic use of proton-pump inhibitors, or PPIs, to reduce the gastrointestinal side effects. As a result, we believe that the required dosing regimen coupled with these adverse side effects is resulting in poor patient compliance, with approximately 70% to 80% of patients failing to comply with prescribed dosing, which in turn is resulting in inadequate disease control.

We are developing RP103 to address the compliance issues associated with Cystagon®. The primary goal of the RP103 formulation is to reduce dosing to once every 12 hours. We believe that by reducing dosing regimen, compliance will increase, patients will be able to have an uninterrupted night's sleep, and parents and schools will not have to address drug administration during school hours. We also believe the RP103 formulation can improve gastrointestinal tolerability and reduce PPI use.

Pivotal Phase 3 Clinical Trial. In July 2011, we announced that RP103 had met the primary endpoint in its Phase 3 clinical trial for the treatment of nephropathic cystinosis. The primary endpoint of the trial was non-inferiority of RP103 compared to Cystagon® in fully Cystagon®-compliant patients, as measured by white blood cell, or WBC, cystine levels, which was the established efficacy surrogate biomarker. We also reported that there were no unexpected serious safety concerns experienced by patients in the trial attributable to RP103. This pivotal Phase 3 clinical trial was designed as an outpatient study of the pharmacodynamics, pharmacokinetics, safety and tolerability of RP103 compared to Cystagon® in nephropathic cystinosis patients. The clinical trial was conducted at eight clinical research centers in the U.S. and Europe. The protocol for our Phase 3 clinical trial was a result of two rounds of discussion with the U.S. Food and Drug Administration, or FDA, under a Special Protocol Assessment, or SPA. In order to timely commence our Phase 3 clinical trial in June 2010, we did not finalize the SPA process with the FDA; however, our protocol design incorporated the FDA comments.

Of the 43 patients randomized, 41 patients completed the Phase 3 protocol, of which 38 were included in the evaluable data set, 3 not being fully compliant with the protocol while on Cystagon®. The age range of study participants was 6 to 26 years, with 87% of patients below 16 years of age. On average, the peak WBC cystine level measured in patients treated with Cystagon® was 0.54 +/- 0.05 nmol 1/2 cystine/mg protein, compared to an average peak value of 0.62 +/- 0.05 nmol 1/2 cystine/mg protein for patients treated with RP103. The mean difference was 0.08 nmol 1/2 cystine/mg protein, with a 95.8% confidence interval of 0.00-0.16 (one sided p=0.021). The non-inferiority endpoint of the clinical trial would be achieved when the upper end of the confidence interval around the mean difference of WBC cystine levels did not exceed an absolute value of 0.3. The upper end of the confidence interval in the Phase 3 clinical trial was determined to be 0.16, thus achieving the non-inferiority endpoint.

In addition to achieving the primary endpoint, patients in the study received a lower average daily dose of RP103, compared to Cystagon®. The starting dose of RP103 for patients in the Phase 3 clinical trial was initially set at 70% of their established dose of Cystagon®. The protocol allowed for a single RP103 dose increase of 25%, based on intermediate WBC cystine results, to reflect the current standard of care in establishing appropriate dosing of Cystagon® in nephropathic cystinosis patients. Approximately one-third of patients remained at 70% of their starting Cystagon® dose throughout the study. The remaining two-thirds of the patients had their RP103 dose increased. On average, the total daily, steady-state dose of RP103 in patients in the Phase 3 clinical trial was 82% of their established, incoming dose of Cystagon®.

Extension Study. All patients who completed our pivotal Phase 3 clinical trial of RP103 for the potential treatment of nephropathic cystinosis were given the opportunity to enroll in a planned voluntary extension study in which they would continue to be treated with RP103 and would make regular clinic visits to monitor WBC cystine levels and

collect long-term safety and quality of life data. Of the 40 patients who entered the extension study after

completing the Phase 3 clinical trial, 38 are currently still enrolled. All of these 38 patients have now been taking RP103 in the extension study for at least 6 months, with some patients having been in the extension study for as long as 22 months. We included at least 6 months of safety data for all Phase 3 completers who elected to enroll in the extension study with our New Drug Application, or NDA, and Marketing Authorization Application, or MAA, filings. We plan to keep the extension study open to all enrolled patients until RP103 becomes locally commercially available.

Based on the positive results of our Phase 3 clinical trial and on the findings of our RP103 bioequivalence study, which demonstrated similar drug exposure whether administered in whole capsule or sprinkled onto applesauce, U.S. and E.U. regulatory agencies approved our expanded enrollment in the extension study to include patients who did not qualify for the Phase 3 clinical trial. These patients include children one to six years old and patients who have undergone a kidney transplant. Eighteen additional patients enrolled in the expanded extension study.

NDA/MAA Submission. Based on the results from our pivotal Phase 3 clinical study and the extension study, we submitted applications for marketing approval of RP103 for the potential treatment of nephropathic cystinosis with both the FDA and the European Medicines Agency, or EMA. In March 2012, the EMA validated our MAA for RP103 for the potential treatment of nephropathic cystinosis. Validation of the MAA confirms that the submission is sufficiently complete for the EMA to begin its formal review process. We anticipate a decision from the EMA in the first half of calendar 2013. In June 2012, the FDA accepted for filing our NDA for our investigational drug candidate RP103, for the potential treatment of nephropathic cystinosis. The FDA granted Standard Review designation for RP103 and has assigned the user fee goal date (upon which we anticipate a decision by the FDA) of January 30, 2013. Future milestones payments of $500,000 and $750,000 will be payable to UCSD if the MAA and NDA for nephropathic cystinosis are approved, respectively.

Preparation for Potential Commercial Launch. In anticipation of approval for RP 103, we have begun building our commercial infrastructure both in the U.S. and in E.U. to launch RP103 for the potential treatment of nephropathic cystinosis. We recently announced the appointment of Henk Doude van Troostwijk as our General Manager of European Commercial Operations. Mr. Doude van Troostwijk is responsible for building and managing our commercial operations in the E.U., initially focusing on the potential launch and subsequent marketing of RP103 for nephropathic cystinosis in anticipation of the EMA's approval of our MAA. We have hired and anticipate additional hiring in Europe as well as the U.S. over the next six months in preparation for the potential commercialization of RP103 for nephropathic cystinosis. We anticipate that our sales and marketing team, headed by our Vice President of Commercial Operations, Patrick Reichenberger and Mr. Doude van Troostwijk, and medical affairs team, headed by our Chief Medical Officer, Dr. Patrice Rioux, will consist of the following: three U.S. and three E.U. sales managers, who will focus on outreach to physicians/key opinion leaders to profile the patient base; one U.S. and one E.U. director of medical affairs; two medical science liaisons in each the U.S. and E.U.; one U.S. and one E.U. marketing director; and a director of market access in the E.U., who will be responsible for negotiating pricing reimbursement in each E.U. country. Upon regulatory approval of RP103 in the E.U., our initial plan is to focus on launching in Germany, France and the U.K., followed by other E.U. countries. We also have been working with rare disease organizations in both the U.S. and the E.U. to gain support of our efforts to market RP103 for nephropathic cystinosis, an orphan indication. Our medical team plans to evaluate potential future studies and assessments that could aid in the reimbursement process in Europe.

In addition to hiring personnel, we are in negotiations with a reimbursement hub in the U.S., which, in conjunction with other vendors, will handle early patient education initiatives, benefits investigations, co-pay assistance, pharmacovigilance, product complaints, named patient distribution, commercial distribution, labeling and specialty pharmacy services. The goal of early patient education and benefits investigation is to be able to convert patients to commercial drug as soon as we obtain regulatory approval of RP103 in the U.S.

Our consultants have reviewed drug pricing for 14 approved ultra orphan drugs in the U.S. for severe, life threatening diseases and concluded that these prices range from $70,000 to $400,000 per patient per year. Based upon this type of precedent pricing and based upon the estimates of the worldwide population of nephropathic cystinosis, we believe the worldwide RP103 market for the potential treatment of nephropathic cystinosis is at least $200 million; provided, however, that if we receive regulatory approval for RP103 for the potential treatment of nephropathic cystinosis, there can be no assurance regarding the pricing of RP103 or our success in penetrating the patient population of nephropathic cystinosis.

RP103 for Huntington's Disease

In 2008, we received FDA orphan drug designation for cysteamine formulations, including RP103, for the potential treatment of Huntington's Disease, or HD. HD is a rare hereditary condition caused by a defective gene. This gene makes an abnormal protein which leads to the degeneration of certain nerve cells in the brain. Adult-onset HD, the most common form of this disorder, usually appears in patients who are in their early 30s or 40s.

There are few treatment options for HD. Drugs are available to help minimize some of the symptoms such as the uncontrollable movements and mood swings associated with HD. HD patients are believed to be deficient in brain-derived neurotrophic factor, or BDNF. In preclinical studies, cysteamine has shown the potential to slow the progression of HD by increasing the levels and intracellular transport of BDNF in mice and non-human primates.

Centre Hospitalier Universitaire (CHU) d'Angers in France is currently conducting a Phase 2/3 clinical trial of RP103 designed to investigate potential mechanism of cysteamine in HD patients, using BDNF as a biomarker of potential efficacy. The trial commenced in October 2010, with full enrollment in June 2012. Eight clinical sites in France have enrolled 96 patients in a placebo-controlled, 18-month trial, followed by an open label trial with all placebo patients rolling onto RP103 and all non-placebo patients continuing on RP103 for up to another 18 months. The primary endpoint of the trial will be based upon the Unified Huntington's Disease Rating Scale, or UHDRS. Blood levels of brain-derived neurotrophic factor are being measured as a secondary endpoint. Under the collaboration agreement with CHU d'Angers, we supply RP103 and placebo capsules for the clinical trial and open-label extension study in exchange for regulatory and commercial rights to the clinical trial results. Clinical expenses of the study are covered by a grant from the French government. We dosed the first patient in the trial in June 2012 and interim results of this study following 18 months of treatment are expected to be announced in the first half of calendar 2014. We estimate that there are 60,000 HD patients in the U.S. and E.U. and based upon a 50% market penetration at the low-end of orphan drug pricing, the drug market for HD would be approximately $2.1 billion; provided, however, that if we are able to develop RP103 for the potential treatment of HD and if we receive regulatory approval for RP103 for the potential treatment of HD, there can be no assurance regarding the pricing of RP103 or our success in penetrating the patient population of HD.

RP104 for NASH

NASH is a progressive liver disease, with a 25% incidence in obese patients. Approximately 2% to 5% of the U.S. population is afflicted with this disease, which can cause cirrhosis, liver failure and end-stage liver disease. The incidence of NASH is increasing in the U.S. adolescent population. Currently, we are not aware of any therapeutic options for NASH. The disease is generally managed with lifestyle changes such as diet, exercise and weight reduction.

Cysteamine is a precursor of the potent liver anti-oxidant glutathione, or GSH, and increasing GSH has the potential to reverse NASH-related liver damage. GSH itself does not enter easily into cells, even when given in large amounts. However, GSH precursors, such as cysteamine, enter into cells and have been shown to be effective in the treatment of certain conditions by preventing significant GSH depletion. We are currently investigating the use of RP103 for the potential treatment of NASH, while we continue formulation development on a tablet formulation of delayed release

cysteamine, RP104, intended for future NASH studies.

Our Phase 2a clinical trial of RP103 for the potential treatment of NASH showed a marked decline in alanine aminotransferase, or ALT, levels during the treatment period with 7 of 11 juvenile patients achieving a greater than 50% reduction and 6 of 11 reduced to within normal range. Aspartate aminotransferase, or AST, levels were also improved, with patients averaging 41% reduction by the end of the treatment phase. The reduction in liver enzymes was largely sustained during the 6 month post-treatment monitoring phase. Other important liver function markers showed positive trends. Levels of cytokeratin 18, a potential marker of disease activity in Non-alcoholic Fatty Liver Disease, or NAFLD, decreased by an average of 45%. Adiponectin levels increased by an average of 35% during the treatment period. Reduced adiponectin levels are thought to be a marker of the pathogenesis and progression of NASH.

The Phase 2a trial results were consistent with ALT and AST reductions seen in patients that achieve a 10% weight loss. Body Mass Index did not change significantly during both the treatment and post-treatment phases in our Phase 2a clinical trial.

In this Phase 2a clinical trial, clinical investigators used a prototype of RP103 which demonstrated a favorable safety profile, with mean gastrointestinal symptom scores of 1.1 at baseline and 0.7 after 6 months of treatment using a rating system in which the maximum score of 14 indicates most severe gastrointestinal symptoms.

On June 25, 2012, we announced the dosing of a first patient in our Phase 2b juvenile clinical trial evaluating the safety and potential efficacy of RP103 as a potential treatment of NASH, an advanced form of NAFLD. This clinical trial is being conducted pursuant to a Cooperative Research and Development Agreement, or CRADA, that we entered into with the National Institute of Diabetes and Digestive and Kidney Diseases, or NIDDK, part of the National Institutes of Health, on December 15, 2011.

The trial, called Cysteamine Bitartrate Delayed-Release for the Treatment of Non-alcoholic Fatty Liver Disease in Children, or CyNCh, is expected to enroll a total of 160 pediatric participants at ten U.S. centers in the NIDDK-sponsored NASH Clinical Research Network. NIDDK and we are sharing the costs to conduct the CyNCh clinical trial. The primary objective of this randomized, multicenter, double-blind, placebo-controlled Phase 2b clinical trial is to evaluate whether 52 weeks of treatment with RP103 in children reverses damage caused by NASH as measured by changes in NAFLD Activity Score ("NAS"), a histological rating scale of disease activity. Secondary endpoints will include blood markers for liver health including alanine transaminase, or ALT, and aspartate transaminase, or AST, as well as safety and tolerability. We anticipate a potential data release in connection with the Phase 2b clinical trial in the first half of calendar 2014.

Based upon GlobalData's research report on NASH published in April 2010, we believe the worldwide NASH market is approximately $1.8 billion; provided, however, that if we are able to develop RP104 for the potential treatment of NASH and if we receive regulatory approval for RP104 for the potential treatment of NASH, there can be no assurance regarding the pricing of RP104 or our success in penetrating the patient population of NASH.

Other Clinical-Stage Product Candidates

Convivia™ for ALDH2 Deficiency

We are developing Convivia, our proprietary oral formulation of 4-methylpyrazole, or 4-MP, for the potential treatment of acetaldehyde toxicity resulting from ALDH2 deficiency. Sometimes referred to as ethanol intolerance or "Asian flush," ALDH2 deficiency is an inherited metabolic disorder affecting 40% to 50% of East Asian populations. ALDH2 deficiency impairs the activity of the liver enzyme ALDH2, the second enzyme of the primary metabolic pathway for ethanol and other alcohols. The result is an accumulation of acetaldehyde, a carcinogenic intermediate in the metabolism of ethanol, in blood and tissues of affected persons who drink alcoholic beverages. In recurrent drinkers, this disorder has been associated with increased risks of digestive tract cancers and

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other serious health problems. In addition to these long-term serious health risks, elevated acetaldehyde levels lead to immediate and unpleasant symptoms including facial flushing, tachycardia, or rapid heart rate, headache, nausea and dizziness. We are developing Convivia to potentially lower systemic acetaldehyde levels and reduce symptoms associated with alcohol intake by ALDH2-deficient individuals.

In 2008, we completed a Phase 2a clinical trial of Convivia taken concomitantly with alcohol, at a clinical research center in Honolulu, Hawaii. This study demonstrated that at all dose levels tested the active ingredient in Convivia reduced tachycardia, which is commonly experienced by ALDH2 deficient people who drink. The study also demonstrated that the active ingredient in Convivia reduced peak acetaldehyde levels and total acetaldehyde exposure in a subset of the study participants who possess specific genetic variants of the liver ADH and ALDH2 enzymes estimated to occur in about 15% to 20% of East Asians.

We own the intellectual property portfolio pertaining to Convivia, including method of use and formulation patents filed by us. In June 2010, we entered into an exclusive agreement with Uni Pharma Co., Ltd. to commercialize Convivia in Taiwan. Uni Pharma is responsible for clinical development, registration and commercialization of Convivia in Taiwan; however, we continue to seek pharmaceutical companies in other Asian countries to potentially license Convivia.

Tezampanel for Anti-Platelet Therapy

Thrombosis is a major cause of morbidity and mortality in the U.S. In addition to deep vein thrombosis and pulmonary embolus, thrombotic mechanisms predominate as the basis for both heart attack and stroke. During thrombosis, platelets become activated, a process involving a cascade of signaling factors, ultimately leading to aggregation and the formation of a solid mass, the thrombus, within blood vessels.

In addition to such well-known platelet signaling molecules as thromboxane A2 (blocked by aspirin) and adenosine diphosphate (blocked by Plavix), researchers have recently demonstrated the release of glutamate by platelets during platelet activation. Glutamate release by a platelet acts to stimulate release of glutamate from other platelets, potentiating aggregation and the formation of the thrombus. Released glutamate acts by binding cell surface glutamate receptors expressed on platelets themselves. One particular type of the glutamate receptor is important in platelet activation, the AMPA receptor. Compounds that specifically activate the AMPA receptor can increase platelet activation. Conversely, compounds that inhibit the AMPA receptor decrease platelet activation.

A potent inhibitor of the AMPA receptor is tezampanel, a molecule developed by Eli Lilly and licensed to us. Tezampanel has been shown to inhibit human platelet activation, subsequent human platelet aggregation, and thrombosis in mice. Tezampanel has been extensively tested in Phase I clinical trials in other unrelated indications and has been demonstrated to be safe over a wide range of doses, without any serious adverse events and without any major abnormal laboratory tests. Human pharmacokinetics of tezampanel, are well characterized. We are planning a Phase I clinical trial in healthy volunteers to determine the efficacy of tezampanel in blocking platelet activation and aggregation, which we anticipate will commence by the end of calendar 2012.

Preclinical Product Candidates

Our preclinical platforms consist of targeted therapeutics for the potential treatment of multiple indications, including liver diseases, neurodegenerative diseases and breast cancer. We are seeking development partners for these programs. These preclinical programs include the following:

• Our receptor-associated protein, or RAP, platform consists of: HepTide™ for the potential treatment of primary liver cancer and other liver diseases; and NeuroTrans™ to potentially deliver therapeutics across the blood-brain barrier for treatment of a variety of neurological diseases.

• Our mesoderm development protein, or Mesd, platform consists of WntTide™ for the potential treatment of breast cancer.

Future Activities

Over the next 12 months, we plan to conduct research and development and general and administrative activities including: commercial preparation and drug supply for the potential launch of RP103 for the potential treatment of nephropathic cystinosis in the U.S. and E.U.; supporting our ongoing extension study of RP103 in nephropathic cystinosis until patients are converted onto commercial drug; conducting other supporting clinical studies of RP103 in nephropathic cystinosis; supplying clinical material for our ongoing clinical trial of RP103 in HD; funding the collaboration and supplying clinical material in our ongoing Phase 2b clinical trial of RP103 in NASH; funding a potential Phase 1 clinical trial of tezampanel as a potential anti-platelet agent anticipated to commence in the second half of calendar 2012; continuing business development of our preclinical product candidates; research and development of in-licensed and newly discovered preclinical assets; supporting potential clinical trials in malaria and Parkinson's Disease (if foundation funding is obtained); and supporting associated facilities and administrative functions. We plan to seek additional business development partners for our Convivia product candidate in Asia. We may also develop new preclinical and clinical opportunities, including proprietary, in-licensed and acquired technologies.

IP Protection for RP103 for Nephropathic Cystinosis and Other Indications

Our composition and method of use patents. We have an exclusive worldwide license from UCSD to issued and pending patents covering composition of matter, or COM, method of use, or MOU, and composition of use, or COU, for RP103, a Delayed Release form of cysteamine bitartrate, to treat nephropathic cystinosis and other therapeutic indications. U.S. Patent No. 8,129,433 (expires 2027), which applications are pending in European and other countries, represents a COM patent, which covers the composition comprising cysteamine and any material that provides increased delivery to the small intestine and composition comprising enterically coated cysteamine. U.S. Patent No. 8,026,284 (expires 2027), which applications are pending in European and other countries, represents a MOU patent, which covers method of administering cysteamine composition that increases delivery to small intestine, at dosing schedule less than four times daily, including two times daily and contains pharmacokinetic claims. European Appl. 07762690.1 (expires 2027) represents a COU patent and has allowed claims to composition comprising enteric cysteamine/cystamine for treating nephropathic cystinosis two times a day.

Our cysteamine intellectual property to treat metabolic and neurodegenerative conditions. In addition, our UCSD license includes U.S. Patent No. 7,994,226 (expires 2028), an MOU patent which covers cysteamine and related compounds for the potential treatment of NASH. Our exclusive worldwide license from the Weizmann Institute includes U.S. Patent Nos. 6,794,414 and 6,355,690, an MOU patent which covers the use of transglutaminase inhibitors (a class of molecules which includes cysteamine) to treat HD and other neurodegenerative diseases mediated by transglutaminase, or other diseases associated with CAG repeat expansion.

Recent Developments

On April 16, 2012, we announced that one of our wholly-owned subsidiaries, Raptor Therapeutics Inc., or Raptor Therapeutics, entered into that certain Intellectual Property Platform Contribution Transaction License Agreement with RPTP European Holdings, C.V., or RPCV, which is 99% owned by Raptor Therapeutics and 1% owned by Raptor European Products, LLC, a wholly-owned subsidiary Raptor Therapeutics. Pursuant to the agreement, RPCV was granted a perpetual, royalty-free, exclusive license, with the right to grant sublicenses, to the intellectual property rights relating to all proprietary products or services relating to the use of cysteamine, and any salts thereof, to treat nephropathic cystinosis, and other related sources of revenue (the Raptor Products and Services), to make, use and sell Raptor Products and Services, within all countries except the U.S. In addition, RPCV was granted a perpetual, royalty-free, non-exclusive license, with the right to grant sublicenses, to make, or have made, improvements, modifications and/or enhancements to any and all inventions, methods, updates,

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adaptations, know-how, technical data, trade secrets, functional or detailed design specifications, designs and enhancements that relate to the Raptor Products and Services within all countries except the U.S. In consideration for the licenses granted to RPCV under the agreement, RPCV will make certain platform contribution transaction payments to Raptor Therapeutics up to a specified completion date in amounts to be agreed upon by the parties on a quarterly basis pending an independent analysis of the value of the relevant intellectual property rights.

In May 2012, we acquired exclusive rights to intellectual property related to cysteamine and related compounds in the potential treatment of parasitic diseases, including malaria, from McGill University, or McGill, in Montreal, Canada. The McGill patent covers the use of cysteamine and related compounds in the potential treatment of malaria in combination with artemisinin, the current standard of care. Researchers at McGill reported that, in mouse models of malaria, the combination not only reduced parasite levels in red blood cells, but also improved survival rates compared to artemisinin alone.

In June 2012, we acquired exclusive rights to cysteamine and related compounds for the potential treatment of Parkinson's Disease from Université Laval, or Laval, Quebec, Canada. Our agreement with Laval provides exclusive rights to technology related to the use of cysteamine and related compounds to potentially modify the progression of Parkinson's Disease. Researchers at Laval reported that administration of cystamine (an oxidized form of cysteamine) in an animal model of Parkinson's Disease showed signs of preventing neuron loss and rescuing neurons undergoing a degenerative process. Signs of restoration and partial reversal of behavioral impairments were also observed.

RISK FACTORS

An investment in shares of our common stock involves a high degree of risk. Before you decide to invest in shares of our common stock, you should consider carefully all of the information in this Amendment, the Prospectus Supplement and the Accompanying Prospectus, including the risks and uncertainties described below, as well as other information included in or incorporated by reference into this Amendment, the Prospectus Supplement and the Accompanying Prospectus, particularly the specific risk factors discussed in the sections titled "Risk Factors" contained in our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, before deciding whether to invest in shares of our common stock. Any of these risks could have a material adverse effect on our business, prospects, financial condition and results of operations. In any such case, the trading price of our common stock could decline and you could lose all or part of your investment.

Certain Risks Related to Our Business

If we fail to obtain the capital necessary to fund our operations, our financial results, financial condition and our ability to continue as a going concern will be adversely affected and we will have to delay or terminate some or all of our product development programs.

Our condensed consolidated financial statements as of February 29, 2012 have been prepared assuming that we will continue as a going concern. As of February 29, 2012, we had an accumulated deficit of approximately $103.4 million. We expect to continue to incur losses for the foreseeable future and will have to raise substantial cash to fund our planned operations. Our recurring losses from operations to date raise substantial doubt about our ability to continue as a going concern and, as a result, our independent registered public accounting firm included an explanatory paragraph in its report on our consolidated financial statements for the year ended August 31, 2011, with respect to this uncertainty. We will need to raise additional capital and/ or generate significant revenue at profitable levels to continue to operate as a going concern. In addition, the perception that we may not be able to continue as a going concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations and may adversely affect our ability to raise additional capital.

As of May 31, 2012, our cash, cash equivalents and short term investments were approximately $43.1 million. We believe our cash, cash equivalents and short-term investments as of May 31, 2012 will be sufficient to meet our obligations through the first calendar quarter of 2013. There can be no assurance that we will be successful in raising sufficient equity funds when needed. If we are unable to obtain such additional capital when needed, we will be forced to reduce our expenditures or seek other corporate solutions.

In addition, in the future, we may need to sell equity or debt securities to raise additional funds. The sale of additional equity securities will result in additional dilution to our stockholders. Additional financing may not be available in amounts or on terms satisfactory to us or at all. We may be unable to raise additional capital due to a variety of factors, including our financial condition, the status of our research and development programs, the status of regulatory reviews for marketing approvals, the status of our commercialization activities, the execution of our potential launch of RP103 and the general condition of the financial markets. If we fail to raise additional financing when needed, we may have to delay or terminate some or all of our research and development programs, scale back our operations and/or reduce our pre-launch/launch expenses for RP103, our financial condition and operating results will be adversely affected and our potential future value may be significantly diminished.

If we obtain additional capital, we expect to continue to spend substantial amounts of capital on our operations for the foreseeable future. The amount of additional capital we will need depends on many factors, including:

- the progress, timing and scope of our preclinical studies and clinical trials;
- the time and cost necessary to obtain regulatory approvals;

- the time and cost necessary to develop commercial manufacturing processes, including quality systems and to build, acquire, or contract for manufacturing capabilities;
- the time and cost necessary to build commercial infrastructure, launch product candidates into the marketplace and successfully commercialize our product candidates, if approved;
- the time and cost necessary to respond to technological and market developments; and
- any changes made to, or new developments in, our existing collaborative, licensing and other corporate relationships or any new collaborative, licensing and other commercial relationships that we may establish.

Moreover, our fixed expenses such as rent, collaboration and license payments and other contractual commitments are substantial and will likely increase in the future. These fixed expenses are likely to increase because we expect to enter into:

- additional licenses and collaborative agreements;
- contracts for manufacturing, clinical and preclinical research, regulatory services, consulting, maintenance and administrative services; and
- additional contracts for expanded facilities.

We are a late development stage company that has not generated any product sales or other revenues to date and have a limited operating history. Our lead product candidate is under FDA and EMA review for potential marketing approval in 2013. One of our drug product candidates is in a Phase 2/3 trial. A second candidate is in a Phase 2b clinical trial. Other product candidates are in the concept stage and have not undergone significant testing in preclinical studies or any testing in clinical trials. Moreover, we cannot be certain that our research and development efforts will be successful or, if successful, that our drug product candidates will ever be approved for sale, or will generate commercially viable revenue levels. We have a limited relevant operating history upon which an evaluation of our performance and prospects can be made. As a company, we have not launched a product candidate. We are subject to all of the business risks associated with a new enterprise, including, but not limited to, risks of unforeseen capital requirements, failure of drug product candidates either in preclinical testing, clinical trials, regulatory reviews or commercialization, failure to establish business relationships and competitive disadvantages against larger and more established companies.

We may not be able to obtain regulatory approval for our drug product candidates, which would adversely affect our financial results and financial condition and we would have to delay or terminate some or all of our research product development programs.

We are not permitted to market RP103 or any of our other product candidates in the U.S. until we obtain regulatory approval from the FDA. To market a new drug in the U.S., we must submit to the FDA and obtain FDA approval of a new drug application, or NDA. To market a new drug in Europe, we must submit to the applicable regulatory authority in the designed Reference Member State and obtain approval of, a Marketing Authorization Application, or MAA. An NDA or MAA must be supported by extensive clinical and preclinical data, as well as extensive information regarding chemistry, manufacturing and controls, to demonstrate the safety and effectiveness of the applicable product candidate.

In March 2012, we submitted an NDA to the FDA and an MAA to the EMA seeking approval to market our investigational drug candidate, Cysteamine Bitartrate Delayed-release Capsules (RP103), for the potential treatment of nephropathic cystinosis. The FDA has assigned the user fee goal date of January 30, 2013 for the RP103 NDA. Our MAA for RP103 is under review by the EMA. We anticipate a decision from the EMA in the first

half of calendar 2013. However, there is no assurance that we will obtain regulatory approval for RP103 for the potential treatment of nephropathic cystinosis in the U.S. or the E.U. Other than RP103 for the potential treatment of nephropathic cystinosis, none of our other drug product candidates have been submitted for marketing approval. Despite regulatory guidelines, we cannot reliably predict if or when any of the drug product candidates we intend to develop will be approved for marketing. If we fail to gain approval for our drug product candidates, our financial results and financial condition will be adversely affected, we will have to delay or terminate some or all of our research product development programs and may be forced to dramatically restructure or cease operations.

Even if we obtain FDA approval for our product candidates, we will be subject to ongoing FDA obligations and continued regulatory review, which may result in significant additional expense. Additionally, any of our product candidates, if approved by the FDA, could be subject to labeling and other restrictions and market withdrawal, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products, which may adversely affect the value of our Company and our operating results.

Any regulatory approvals that we obtain for our product candidates may also be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials and extraordinary requirements for surveillance to monitor the safety and efficacy of the product candidate. In addition, if the FDA approves a product candidate, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements will include submissions of safety and other post- marketing information and reports, registration, as well as continued compliance with cGMPs or GCPs, and good laboratory practices. If we do not comply with the applicable regulations and requirements, the range of possible sanctions includes issuance of adverse publicity, product recalls or seizures, fines, total or partial suspensions of production and/or distribution, suspension of marketing applications, and enforcement actions, including injunctions and civil or criminal prosecution. The FDA and comparable international regulatory agencies can withdraw a product's approval under some circumstances, such as the failure to comply with regulatory requirements or unexpected safety issues. Post-marketing studies and/or post-market surveillance may suggest that a product causes undesirable side effects which present an increased risk to the patient. If data we collect from post-marketing studies suggest that one of our approved products may present a risk to safety, the government authorities could withdraw our product approval, suspend production or place other marketing restrictions on our products. If regulatory sanctions are applied or if regulatory approval is delayed or withdrawn, the value of our Company and our operating results will be adversely affected.

If we fail to obtain and maintain approval from regulatory authorities in international markets for RP103 and any future product candidates for which we have rights in international markets, our market opportunities will be limited and our business will be adversely impacted.

Sales of our product candidates outside of the U.S. will be subject to foreign regulatory requirements governing clinical trials, manufacturing and marketing approvals. Even if the FDA grants marketing approval for a product candidate, comparable regulatory authorities of foreign countries, including the European Medicines Agency, or the EMA, must also approve the manufacturing and marketing of our product candidates in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the U.S., including additional preclinical studies or clinical trials or manufacturing and control requirements. In many countries outside the U.S., a product candidate must be approved for reimbursement before it can be approved for sale in that country. In many cases, the price that we propose to charge for our products is also subject to approval by individual countries before we can launch our product candidates in those countries. Obtaining foreign regulatory approvals, compliance with foreign regulatory requirements and approved pricing could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries and regulatory approval in one country does not ensure approval in any other country, while a failure

or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory approval process in others.

Even if we receive regulatory approval for RP103 for the potential treatment of nephropathic cystinosis, our ability to generate revenues from RP103 will be subject to attaining significant market acceptance among physicians, patients and healthcare payers.

RP103 for the potential treatment of cystinosis, if approved, may not attain market acceptance among physicians, patients, healthcare payers or the medical community. We believe that the degree of market acceptance and our ability to generate revenues from RP103 if marketing approval is obtained will depend on a number of factors, including:

- timing of market introduction of our products as well as competitive drugs;
- efficacy and safety of our products;
- identification of patients and continued projected growth of the nephropathic cystinosis market;
- prevalence and severity of any side effects;
- acceptance by patients, primary care specialists and key specialists;
- potential or perceived advantages or disadvantages of our products over alternative treatments, including cost of treatment and relative convenience and ease of administration;
- strength of sales, marketing and distribution support;
- the price of our products, both in absolute terms and relative to alternative treatments;
- the effect of current and future healthcare laws;
- availability of coverage and adequate reimbursement and pricing from government and other third- party payers; and
- product labeling or product insert requirements of the FDA or other regulatory authorities.

If RP 103 for the potential treatment of nephropathic cystinosis does not receive significant market acceptance among physicians, patients, healthcare payers or the medical community, our ability to generate revenues from this drug product may be severely affected.

Our current business plan is highly dependent upon our ability to successfully execute on our sales and marketing strategy for the commercialization of RP103. If we are not able to successfully execute on our sales and marketing strategy, we may not be able to generate significant product revenues, and our stock price may decline.

Our strategy is to build a fully-integrated biopharmaceutical company focused on the development of RP103 and a robust pipeline. We may not be able to successfully market or commercialize RP103 for the potential treatment of nephropathic cystinosis. If we are unable to successfully implement our commercial plans and drive adoption of RP 103 by patients and physicians through our sales, marketing and commercialization efforts, we will not be able to generate sustainable revenues from product sales. In addition, we will lose revenue if our marketing activities are restricted, if coverage, pricing or reimbursement is limited, or if alternative treatments for nephropathic cystinosis gain commercial acceptance. The patient population with nephropathic cystinosis disease is not large.

Therefore, opportunities for future sales growth will be limited and will depend on patient identification. Because our current business plan is highly dependent on the commercialization of RP103 for the potential treatment of nephropathic cystinosis, negative trends in revenue from this product could have an adverse effect on our results of operations and cause the value of our common stock to decline.

Because the target patient populations for some of our orphan drug products are small, we must achieve significant market share and obtain relatively high per-patient prices for our products to achieve meaningful profitability and to generate an appropriate return for the investment in the associated product development programs.

Our clinical development of RP103 targets diseases with small patient populations, including nephropathic cystinosis and HD. A key component of the successful commercialization of a drug product for these indications includes identification of patients for the drug product. If we are successful in obtaining regulatory approval to market RP103 for a disease with a small patient population and, in the case of HD, successful in developing this product candidate for that indication, we will need to identify patients and market RP103 for these indications in the U.S. and Europe, at a minimum, to achieve significant market penetration. In addition, the per-patient prices at which we sell RP103 for these indications will need to be relatively high in order for us to generate an appropriate return for the investment in these product development programs and achieve meaningful profitability. There can be no assurance that we will be successful in identifying patients or obtaining high per-patient prices for our product candidates that target diseases with small patient populations.

Pressure on drug product pricing and third-party coverage and reimbursement may impair our ability to raise capital, form collaborations and, if any of our product candidates become marketable, sell such products or to sell them on terms sufficient to provide a viable financial outcome.

The continuing efforts of governmental and third-party payers to contain or reduce the costs of healthcare through various means may harm our business. For example, in some foreign markets, the pricing or profitability of healthcare products is subject to government control. In the U.S., there have been, and we expect there will continue to be, a number of federal and state proposals to implement similar government control. The implementation or even the announcement of any of these legislative or regulatory proposals or reforms could harm our business if any of our product candidates become marketable by reducing the prices we are able to charge for our products (if marketable), impeding our ability to achieve profitability, raise capital or form collaborations.

Market acceptance and sales of any of our product candidates that we may develop will depend in large part on global reimbursement policies and may be affected by future healthcare reform measures, both in the U.S. and other key international markets. Successful commercialization of our products will depend in part on the availability of governmental and third-party payer reimbursement for the therapeutic value and cost of our products. In particular, in the U.S., private health insurers and other third-party payers often follow the coverage and reimbursement policies of government payors, including the Medicare or Medicaid programs, and in many European countries, patients are unlikely to use prescription drugs that are not reimbursed by their governments. In the U.S., E.U. and other significant or potentially significant markets for our product candidates, government authorities and third-party payers are increasingly attempting to limit or regulate the price of medical products and services, particularly for new and innovative products and therapies, which has resulted in lower average selling prices. Further, the increased emphasis on managed healthcare in the U.S. and on country and regional pricing and reimbursement controls in the E.U. will put additional pressure on product pricing, reimbursement and usage, which

may adversely affect our product sales, and results of operations. These pressures can arise from rules and practices of managed care groups, judicial decisions and governmental laws and regulations related to Medicare, Medicaid and healthcare reform, drug coverage and reimbursement policies and pricing in general. For our product candidates, we will not know what the reimbursement rates will be until we are ready to market the product and we actually negotiate the rates. If we are unable to obtain sufficiently high reimbursement rates for our products, they may not be commercially viable.

Government health care reform could increase our costs, which could adversely affect our financial condition and results of operations.

Our industry is highly regulated and changes in law may adversely impact our business, operations or financial results. The Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, or the PPACA, is a sweeping measure intended to expand healthcare coverage within the U.S., primarily through the imposition of health insurance mandates on employers and individuals and expansion of the Medicaid program.

Several provisions of the new law, which have varying effective dates, may affect us, including our costs. For example, the PPACA increased the Medicaid rebate rate, revised the definition of "average manufacturer price" for reporting purposes, which could further increase the amount of the Medicaid drug rebates paid to states, and extended the rebate program to beneficiaries enrolled in Medicaid managed care organizations. The PPACA also expanded the 340B drug discount program (excluding orphan drugs), including the creation of new penalties for non-compliance and included a 50% discount on brand name drugs for Medicare Part D participants in the coverage gap, or "donut hole." The law also established an annual non-deductible fee on entities that sell branded prescription drugs or biologics to specified government programs in the U.S. Substantial new provisions affecting compliance also have been added, which may require us to modify our business practices with healthcare practitioners.

Although the U.S. Supreme Court recently upheld most of the PPACA, it remains unclear whether there will be any changes made to certain provisions of PPACA through acts of Congress at some point in the future. In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. Most recently, on August 2, 2011, the President signed into law the Budget Control Act of 2011, which may result in such changes as aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. The full impact on our business of PPACA and the Budget Control Act is uncertain. We cannot predict whether other legislative changes will be adopted, if any, or how such changes would affect the pharmaceutical industry generally.

We are or may be subject to various healthcare regulations, and if we fail to comply with such regulations, we could face substantial penalties.

The laws that may affect our ability to operate include:

- the federal healthcare programs' Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce 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 federal healthcare programs such as the Medicare and Medicaid programs;

- federal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third- party payors that are false or fraudulent;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers.

If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, the exclusion from participation in federal and state healthcare programs and imprisonment, any of which could adversely affect our ability to market our products after receiving regulatory approval and impact our financial results.

If we are not able to develop our drug product candidates, we would have to terminate or delay some of our research product development programs and our financial results and financial condition will be adversely affected.

There are many reasons why we may fail in our efforts to develop our drug product candidates. These include:

- the possibility that preclinical testing or clinical trials may show that our drug product candidates are ineffective and/or cause harmful side effects sufficient to prevent marketing;

- our drug product candidates may prove to be too expensive to manufacture or administer to patients;

- even if we believe our preclinical and clinical data demonstrate the safety and effectiveness of our products, regulatory authorities may disagree and deem these data insufficient to support approval;

- our drug product candidates may otherwise fail to receive necessary regulatory approvals from the FDA or foreign regulatory authorities in a timely manner, or at all;

- our drug product candidates, if approved, may not be produced in commercial quantities;

- our drug product candidates, if approved, may not achieve required pricing or commercial acceptance;

- our drug product candidates may not gain acceptable pricing in the diverse markets, U.S. and international, in which we plan to conduct commercialization activities. For our small patient population indications, favorable pricing in multiple markets is essential to a financially acceptable product;

- regulatory or governmental authorities may apply restrictions to our drug product candidates, which could adversely affect their commercial success; and

- the proprietary rights of other parties may prevent us or our potential collaborative partners from marketing our drug product candidates.

If we fail to successfully develop our drug product candidates, our financial results and financial condition will be adversely affected, we will have to delay or terminate some or all of our research product development programs and may be forced to dramatically restructure or cease operations.

If we fail to demonstrate efficacy in our preclinical studies, clinical trials, regulatory submissions and product commercialization activities, our future business prospects, financial condition and operating results will be materially adversely affected.

The success of our development and commercialization efforts will be greatly dependent upon our ability to demonstrate drug product candidate efficacy in preclinical studies and clinical trials. Preclinical studies involve testing drug product candidates in appropriate non-human disease models to demonstrate efficacy and safety. Regulatory agencies evaluate these data carefully before they will approve clinical testing in humans. If certain preclinical data reveals potential safety issues or the results are inconsistent with an expectation of the drug product candidate's efficacy in humans, the regulatory agencies may require additional more rigorous testing, before allowing human clinical trials. This additional testing will increase program expenses and extend timelines. We may decide to suspend further testing on our drug product candidates or technologies if, in the judgment of our management and advisors, the preclinical test results do not support further development.

Moreover, 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. The clinical trial process may fail to demonstrate that our drug product candidates are safe for humans and effective for indicated uses. This failure would cause us to abandon a drug product candidate and may delay development of other drug product candidates. Any delay in, or termination of, our preclinical testing or clinical trials will delay the filing of our investigational new drug application, or IND, and new drug application, or NDA, as applicable, with the FDA and, ultimately, our ability to commercialize our drug product candidates and generate product revenues. In addition, some of our clinical trials will involve small patient populations. Because of the small sample size, the results of these early clinical trials may not be indicative of future results. Following successful preclinical testing, drug product candidates will need to be tested in a clinical development program to provide data on safety and efficacy prior to becoming eligible for product approval and licensure by regulatory agencies.

If any of our future clinical development drug product candidates become the subject of problems, including those related to, among others:

- efficacy or safety concerns with the drug product candidates, even if not justified;
- unexpected side-effects;
- regulatory proceedings subjecting the drug product candidates to potential recall;
- publicity affecting doctor prescription or patient use of the drug product candidates;
- pressure from competitive products; or
- introduction of more effective treatments;

our ability to sustain our development programs will become critically compromised. For example, efficacy or safety concerns may arise, whether or not justified, that could lead to the suspension or termination of our clinical programs.

Each clinical phase is designed to test attributes of drug product candidates and problems that might result in the termination of the entire clinical plan can be revealed at any time throughout the overall clinical program. The failure to demonstrate efficacy in our clinical trials would have a material adverse effect on our future business prospects, financial condition and operating results.

Completion of clinical tests depends on, among other things, the number of patients available for testing, which is a function of many factors, including the number of patients with the relevant conditions, the nature of the clinical testing, the proximity of patients to clinical testing centers, the eligibility criteria for tests as well as competition with other clinical testing programs involving the same patient profile but different treatments. We will rely on third parties, such as contract research organizations and/or co-operative groups, to assist us in overseeing and monitoring clinical trials as well as to process the clinical results and manage test requests, which may result in delays or failure to complete trials, if the third parties fail to perform or to meet the applicable standards. A failure by us or such third parties to keep to the terms of a product program development for any particular product candidate or to complete the clinical trials for a product candidate in the anticipated time frame could have significant negative repercussions on our business and financial condition.

If we do not achieve our projected development and commercialization goals in the time frames we announce and expect, the credibility of our management and our technology may be adversely affected and, as a result, the price of our common stock may decline and our reputation among potential collaborators may also decline.

For planning purposes, we estimate the timing of the accomplishment of various scientific, clinical, regulatory, and market launch and commercialization goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings.

From time to time, we may publicly announce the expected timing of some of these milestones. All of these milestones will be based on a variety of assumptions. The actual timing of these milestones can vary dramatically compared to our estimates, in many cases for reasons beyond our control, including for clinical trials, due to factors such as delays, scheduling conflicts with participating clinicians and clinical institutions and the rate of patient enrollment. In certain circumstances we will rely on academic institutions, governmental research organizations (U.S. or internationally based), clinical research organizations or contract manufacturing organizations to conduct, supervise or monitor some or all aspects of clinical trials involving our product candidates. We will have less control over the timing and other aspects of these clinical trials than if we conducted them entirely on our own.

If we do not meet the milestones as publicly announced, our stockholders or potential stockholders may lose confidence in our ability to meet these milestones and, as a result, the price of our common stock may decline.

Our product development and commercialization programs will require substantial future funding which could impact our operational and financial condition.

With respect to most of our drug product candidates, it will take several years before we are able to develop them into marketable drug product candidates, if at all. The marketing and sales effort of our products, our ability to gain adequate reimbursement, if approved for sale, and our product development programs will require substantial additional capital to successfully complete them, arising from costs to:

- conduct research, preclinical testing and human studies and clinical trials;

- establish pilot scale and commercial scale manufacturing processes and facilities;

- market and distribute our products; and

- establish and develop quality control, regulatory, medical, manufacturing, distribution, marketing, sales, finance and administrative capabilities to support these programs.

Our future operating and capital needs will depend on many factors, including:

- the effectiveness of our commercialization activities;
- the scope and results of preclinical testing and human clinical trials;
- the pace of scientific progress in our research and development programs and the magnitude of these programs;
- our ability to obtain, and the time and costs involved in obtaining regulatory approvals;
- the cost of manufacturing scale-up;
- our ability to prosecute, maintain, and enforce, and the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims;
- competing technological and market developments;
- our ability to establish additional collaborations; and
- changes in our existing collaborations.

We base our outlook regarding the need for funds on many uncertain variables. Such uncertainties include the success of our efforts to commercialize our products, if approved, the success of our research initiatives, regulatory approvals, the timing of events outside our direct control such as negotiations with potential strategic partners and other factors. In additional, certain product programs may require collaborative agreements with corporate partners with substantial assets and organizations to help with the very substantial funds required and the complex organizational resources required. Such agreements may require substantial time to complete and may not be available in the time frame desired, with acceptable financial terms, if at all. Any of these uncertain events can significantly change our cash requirements as they determine such one-time events as the receipt or payment of major milestones and other payments.

Significant additional funds from outside financing sources may be required to support our operations and if we are unable to obtain them on favorable terms, we may be required to cease or reduce further development or commercialization of our drug product programs, to sell some or all of our technology or assets, to merge with another entity or to cease operations.

If we are limited in our ability to utilize acquired or licensed technologies, we may be unable to develop, out-license, market and sell our product candidates, which could prevent new product introductions and/or cause delayed new product introductions, and/or adversely affect our reputation, any of which could have a material adverse effect on our business, prospects, financial condition, and operating results.

We have acquired and licensed certain proprietary technologies, discussed in the following risk factors, and plan to further license and acquire various patents and proprietary technologies owned by other parties. The agreements in-place are critical to our product development programs. These agreements may be terminated, and all rights to the technologies and product candidates will be lost, if we fail to perform our obligations under these agreements and licenses in accordance with their terms including, but not limited to, our ability for all payments due under such agreements. Our inability to continue to maintain these technologies could materially adversely affect our business, prospects, financial condition, and operating results. In addition, our business strategy depends on the

successful development of licensed and acquired technologies into commercial products, and, therefore, any limitations on our ability to utilize these technologies may impair our ability to develop, out-license, or market and sell our product candidates, delay new product introductions, and/or adversely affect our reputation, any of which could have a material adverse effect on our business, prospects, financial condition, and operating results.

If the purchase or licensing agreements we entered into are terminated, we will lose the right to use or exploit our owned and licensed technologies, in which case we will have to delay or terminate some or all of our research and development programs, our financial condition and operating results will be adversely affected and we may have to cease our operations.

We entered into: a licensing agreement with UCSD for RP103/RP104; a licensing agreement with Washington University for mesoderm development protein, or Mesd; and a licensing agreement with Yeda Research and Development Company Limited, or Yeda, for patents originating from Weizmann Institute of Technology and Niigata University, related to use of transglutaminase inhibitors to treat neurological diseases. UCSD, Washington University and Yeda may terminate their respective agreements with us upon the occurrence of certain events, including if we enter into certain bankruptcy proceedings or if we materially breach our payment obligations and fail to remedy the breach within the permitted cure periods. Although we are not currently involved in any bankruptcy proceedings or in breach of these agreements, there is a risk that we may be in the future, giving UCSD, Washington University and Yeda the right to terminate their respective agreements with us. We have the right to terminate these agreements at any time by giving prior written notice. If the UCSD, Washington University or Yeda agreements are terminated by either party, we would lose our rights to RP103/RP104, in the case of UCSD, would lose our rights to the Mesd technology, in the case of the Washington University agreement, and would lose our rights to the Weizmann and Niigata patents in the case of Yeda. Under such circumstances, we would have no further right to use or exploit the patents, copyrights or trademarks in those respective technologies. If this happens, we will have to delay or terminate some or all of our research and development programs, our financial condition and operating results will be adversely affected, and we may have to cease our operations.

If we fail to compete successfully with respect to acquisitions, product or technology licenses, joint venture and other collaborative opportunities, we may be limited in our ability to develop our current or future drug product candidates.

Our competitors compete with us to attract established biotechnology and pharmaceutical companies or organizations for acquisitions, joint ventures, licensing arrangements or other collaborations. Collaborations include licensing proprietary technology from, and other relationships with, academic research institutions and government supported research or healthcare organizations. If our competitors successfully enter into partnering arrangements or license agreements with academic research institutions or governmental research organizations, we will then be precluded from pursuing those specific opportunities. Since each of these opportunities is unique, we may not be able to find a substitute. Other companies have already begun many drug development programs, which may target diseases that we are also targeting, and have already entered into partnering and licensing arrangements with academic research institutions, reducing the pool of available opportunities. Universities and public and private research institutions also compete with us or seek appropriate research collaborations with us or our competitors. While these organizations primarily have educational or basic research objectives, they may develop proprietary technology and acquire patents that we may need for the development of our drug product candidates. We will attempt to license this proprietary technology, if available. These licenses may not be available to us on acceptable terms, if at all. If we are unable to compete successfully with respect to acquisitions, joint venture and other collaboration opportunities, we may be limited in our ability to develop new products.

Our business could be adversely affected by macroeconomic conditions.

Various macroeconomic factors could adversely affect our business and the results of our operations and financial condition, including changes in inflation, interest rates, foreign currency exchange rates and overall economic

conditions and uncertainties, including those resulting from the current and future conditions in the global

financial markets. For instance, if inflation or other factors were to significantly increase our business costs, it may not be feasible to pass through price increases on to our future customers due to the process by which healthcare providers are reimbursed for our future products by the government.

The U.S. credit and capital markets have recently experienced historic dislocations and liquidity disruptions which have caused financing to be unavailable in many cases and, even if available, have caused the cost of prospective financings to significantly increase. These circumstances have materially impacted liquidity in the debt and capital markets, making financing terms for borrowers or for companies seeking equity capital, for those companies that are able to find financing at all, less attractive. In many cases, financial conditions have resulted in the unavailability of certain types of debt or equity financing. Continued uncertainty in the debt and equity markets may negatively impact our ability to access financing on favorable terms or at all. Federal legislation to deal with the current disruptions in the financial markets could have an adverse effect on our ability to raise other types of financing. In addition, our suppliers, manufacturers and other third parties important to our business also may be negatively impacted by market dislocations and disruptions, their business may be disrupted and this could adversely affect our business and results of operations.

If we do not obtain the support of new, and maintain the support of existing, key scientific and medical collaborators, it may be difficult to establish products using our technologies as a standard of care for various indications, which may limit our revenue growth and profitability and could have a material adverse effect on our business, prospects, financial condition and operating results.

We will need to establish relationships with additional leading scientists and research institutions. We believe that such relationships are pivotal to establishing products using our technologies as a standard of care for various indications. Although we have established a Medical and Scientific Advisory Board and research collaborations, there is no assurance that our Advisory Board members and our research collaborators will continue to work with us or that we will be able to attract additional research partners. If we are not able to maintain existing or establish new scientific relationships to assist in our research and development, we may not be able to successfully develop our drug product candidates.

If the manufacturers or suppliers upon whom we rely fail to produce in the volumes and quality that we require on a timely basis, or to comply with stringent regulations applicable to them, we may face delays in the development and commercialization of, or be unable to meet demand for, our products, if any, and may lose time in the development process and lose potential revenues.

We do not currently manufacture our drug product candidates and do not currently plan to develop the capacity to do so. The manufacture of pharmaceutical products requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of pharmaceutical products often encounter difficulties in production, particularly in scaling up initial production. These problems include difficulties with production costs and yields, quality control, including stability of the product candidate and quality assurance testing, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Our third-party manufacturers and key suppliers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes, unstable political environments at foreign facilities or financial difficulties. If these manufacturers or key suppliers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to timely launch any potential product candidate, if approved, would be jeopardized.

In addition, all manufacturers and suppliers of pharmaceutical products must comply with cGMP requirements enforced by the FDA, through its facilities inspection program. The FDA is likely to conduct inspections of our third party manufacturer and key supplier facilities as part of their review of any of our NDAs. If our third party manufacturers and key suppliers are not in compliance with cGMP requirements, it may result in a delay of approval,

particularly if these sites are supplying single source ingredients required for the manufacture of

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any potential product. These cGMP requirements include quality control, quality assurance and the maintenance of records and documentation. Furthermore, regulatory qualifications of manufacturing facilities are applied on the basis of the specific facility being used to produce supplies. As a result, if one of the manufacturers that we rely on shifts production from one facility to another, the new facility must go through a complete regulatory qualification and be approved by regulatory authorities prior to being used for commercial supply. Our manufacturers may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the safety of any quantities supplied is compromised due to our third party manufacturer's or key supplier's failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products.

If we fail to obtain or maintain orphan drug exclusivity for some of our drug product candidates, our competitors may sell products to treat the same conditions and our revenues will be reduced.

As part of our business strategy, we intend to develop some drugs that may be eligible for FDA and E.U. orphan drug designation. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, defined as a patient population of less than 200,000 in the U.S. The company that first obtains FDA approval for a designated orphan drug for a given rare disease receives marketing exclusivity for use of that drug for the stated condition for a period of seven years. Orphan drug exclusive marketing rights may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug. Similar regulations are available in the E.U. with a 10-year period of market exclusivity.

Because the extent and scope of patent protection for some of our drug products is particularly limited, orphan drug designation is especially important for our products that are eligible for orphan drug designation. For eligible drugs, we plan to rely on the exclusivity period under Orphan Drug Act designation to maintain a competitive position. If we do not obtain orphan drug exclusivity for our drug products that do not have patent protection, our competitors may then sell the same drug to treat the same condition and our revenues will be reduced.

Even though we have been granted orphan drug designation for RP103 for the potential treatment of cystinosis and the potential treatment of HD, and even if we obtain orphan drug designation for our future drug product candidates, due to the uncertainties associated with developing pharmaceutical products, we may not be the first to obtain marketing approval for any orphan indication. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs can be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is safer, more effective or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a drug, nor gives the drug any advantage in the regulatory review or approval process.

There are many difficult challenges associated with developing proteins that can be used to transport therapeutics across the blood-brain barrier.

Our RAP technology has a potential clinical use as a drug transporter through the blood-brain barrier. However, we do not know that our technology will work or work safely. Many groups and companies have attempted to solve the critical medical challenge of developing an efficient method of transporting therapeutic proteins from the blood stream into the brain. Unfortunately, these efforts to date have met with little success due in part to a lack of adequate understanding of the biology of the blood-brain barrier and to the enormous scientific complexity of the transport process itself. In the research and development of our RAP technology, we will certainly face many of the same issues that have caused these earlier attempts to fail. It is possible that:

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- we or any future collaborator/licensee will not be able to produce enough RAP drug product candidates for testing;
- the pharmacokinetics, or where the drug distributes in the body, of our RAP drug product candidates will preclude sufficient binding to the targeted receptors on the blood-brain barrier;
- the targeted receptors are not transported across the blood-brain barrier;
- other features of the blood-brain barrier, apart from the cells, block access molecules to brain tissue after transport across the cells;
- the targeted receptors are expressed on the blood-brain barrier at densities insufficient to allow adequate transport of our RAP drug product candidates into the brain;
- targeting of the selected receptors induces harmful side-effects which prevent their use as drugs; or
- that we or our collaborator/licensee's RAP drug product candidates cause unacceptable side-effects.

Any of these conditions may preclude the use of RAP or RAP fusion compounds from potentially treating diseases affecting the brain.

If our competitors succeed in developing products and technologies that are more effective than our own, or if scientific developments change our understanding of the potential scope and utility of our drug product candidates, then our technologies and future drug product candidates may be rendered less competitive.

We face significant competition from industry participants that are pursuing similar technologies that we are pursuing and are developing pharmaceutical products that are competitive with our drug product candidates. Many of our large pharmaceutical competitors have greater capital resources, larger overall research and development staffs and facilities, and a longer history in drug discovery, development, regulatory approval, manufacturing and marketing than we do. With these additional resources and experience, our competitors may be able to respond to rapid and significant technological changes in the biotechnology and pharmaceutical industries faster than we can.

We expect that the technologies associated with biotechnology research and development will continue to develop rapidly. Our future success will depend in large part on our ability to maintain a competitive position with respect to these technologies. Rapid technological development, as well as new scientific developments, may result in our compounds, drug product candidates or processes becoming obsolete before we can recover any or all of the expenses incurred to develop them. For example, changes in our understanding of the appropriate population of patients who should be treated with a targeted therapy like we are developing may limit the drug's market potential if it is subsequently demonstrated that only certain subsets of patients should be treated with the targeted therapy.

Our reliance on third parties, such as collaborators (including government agencies such as the U.S. National Institutes of Health and a French academic healthcare agency), university laboratories, contract manufacturing organizations, contract or clinical research organizations and consulting organizations, may result in delays in completing, or a failure to complete, preclinical testing, clinical trials, or regulatory marketing submissions if they fail to perform under our agreements with them.

In the course of product development, we may engage or collaborate with a variety of external organizations to perform services essential to drug product development. The organizations which perform services can include, but are not limited to:

- governmental agencies, U.S. and international university laboratories;

- other biotechnology companies;
- contract manufacturing organizations;
- clinical research organizations;
- distribution and supply (logistics) service organizations;
- testing organizations;
- consultants or consulting organizations with specialized knowledge based expertise;
- intellectual property legal firms; and
- multiple other service organizations.

If we engage these organizations to help us with our product development programs, many important aspects of this process have been and will be out of our direct control. If any of these organizations we engage in the future fail to perform their obligations under our agreements with them or fail to perform in a satisfactory manner, we may face delays in completing our development and commercialization processes for any of our drug product candidates. Furthermore, any loss or delay in obtaining contracts with such entities may also delay the completion of our clinical trials, regulatory filings and the potential market approval of our drug product candidates.

Companies and universities, including those that have licensed product candidates to us for research, clinical development and marketing, are sophisticated competitors that could develop similar products to compete with our products which could reduce our future revenues.

Licensing our product candidates from other companies, universities or individuals does not always prevent them from developing non-identical but competitive products for their own commercial purposes, or from pursuing patent protection in areas that are competitive with us. While we seek patent protection for all of our owned and licensed product candidates, our licensors or assignors or other research organizations who created these product candidates are experienced scientists and business people who may continue to do research and development and seek patent protection in the same areas that led to the discovery of the product candidates that are licensed or assigned to us. By virtue of the previous research that led to the discovery of the drugs or product candidates that they licensed or assigned to us, these companies, universities, or individuals may be able to develop and market competitive products in less time than might be required to develop a product with which they have no prior experience and may reduce our future revenues from such product candidates. In some instances, information published in the scientific literature can provide insights which could enable development of viable competitive product candidates on an accelerated time frame.

Any product revenues could be reduced by imports from countries where our product candidates are available at lower prices.

Even if we obtain FDA approval to market our potential products in the U.S., our sales in the U.S. may be reduced if our products are imported into the U.S. from lower priced markets, whether legally or illegally. In the U.S., prices for pharmaceuticals are generally higher than in the bordering nations of Canada and Mexico. There have been proposals to legalize the import of pharmaceuticals from outside the U.S. If such legislation were enacted, our potential future revenues could be reduced.

The use of any of our drug product candidates in clinical trials or the commercialization of our drug products in the future may expose us to liability claims.

The nature of our business exposes us to potential liability risks inherent in the testing (including through human trials), manufacturing and marketing of our drug product candidates. While we are in clinical stage testing, our drug product candidates could potentially harm people or allegedly harm people and we may be subject to costly and damaging product liability claims. Many of the patients who participate in our current clinical trials are already critically ill or suffering from chronic debilitating diseases when they enter a trial. The waivers we obtain may not be enforceable and may not protect us from liability or the costs of product liability litigation. Although we currently carry a $5.0 million clinical product liability insurance policy, it may not be sufficient to cover future claims.

In addition, the product liability insurance that we will need to obtain in connection with the commercial sales of our product candidates, if and when they receive regulatory approval, may not be sufficient or available in meaningful amounts or at a reasonable cost. Furthermore, while we continue to take precautionary steps, we may not be able to avoid significant liability if any product liability claim is brought against us. If a successful product liability claim is brought against us and the amount of liability exceeds our insurance coverage, we may incur substantial charges that would adversely affect our business, financial condition and results of operation. We currently do not have any clinical or product liability claims or threats of claims filed against us.

Our future success depends, in part, on the continued services of our management team.

Our success is dependent in part upon the availability of our senior executive officers, including our Chief Executive Officer, Dr. Christopher M. Starr, our Chief Scientific Officer, Dr. Todd C. Zankel, our Chief Financial Officer, Kim R. Tsuchimoto, Ted Daley, the President of our clinical development subsidiary, and Dr. Patrice P. Rioux, Chief Medical Officer of our clinical development subsidiary. The loss or unavailability to us of any of these individuals or key research and development personnel, and particularly if lost to competitors, could have a material adverse effect on our business, prospects, financial condition, and operating results. We have no key-man insurance on any of our employees.

There is intense competition for qualified scientists and managerial personnel from numerous pharmaceutical and biotechnology companies, as well as from academic and government organizations, research institutions and other entities. In addition, we will rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development strategy. All of our consultants and advisors will be employed by other employers or be self-employed, and will have commitments to or consulting or advisory contracts with other entities that may limit their availability to us. There is no assurance that we will be able to retain key employees and/or consultants. If key employees terminate their employment, or if insufficient numbers of employees are retained to maintain effective operations, our development activities might be adversely affected, management's attention might be diverted from managing our operations to hiring suitable replacements, and our business might suffer. In addition, we might not be able to locate suitable replacements for any key employees that terminate, or that are terminated from, their employment with us and we may not be able to offer employment to potential replacements on reasonable terms, which could negatively impact our product candidate development timelines and may adversely affect our future revenues and financial condition.

Our success depends on our ability to manage our growth.

With the potential commercial launch of RP103 for cystinosis, the continued progress of our clinical-stage programs and with our plan to in-license and acquire additional clinical-stage product candidates, we will be required to retain existing and add required new experienced personnel in the commercial, regulatory, clinical and medical areas over the next several years. Also, as our preclinical pipeline diversifies through internal discoveries, or the acquisition or in-licensing of new molecules, we will need to hire additional scientists to supplement our existing scientific expertise over the next several years.

Our staff, financial resources, systems, procedures or controls may be inadequate to support our expanding operations and our management may be unable to take advantage of future market opportunities or manage successfully our relationships with third parties if we are unable to adequately manage our anticipated growth and the integration of new personnel.

We may not be successful in integrating our European operations with our U.S. operations.

In connection with the potential commercial launch of RP103 for nephropathic cystinosis, we have expanded our operations in the E.U. and have added and expect to continue to add personnel. We may encounter difficulties successfully managing a substantially larger and internationally diverse organization and may encounter delays in drug development and commercialization if we are not successful in integrating our international operations. Challenges related to managing international operations include the following:

- the potential strain on our financial and managerial controls and reporting systems and procedures;
- potential miscommunication between U.S. personnel and European personnel due to cultural and language differences;
- ability to operate with individual country regulatory and statutory laws;
- delayed communication due to time zone differences between the U.S. and Europe;
- creating a cohesive branding and corporate presence between the U.S. and European offices;
- the potential impairment of relationships with employees and suppliers as a result of any integration of new personnel; and
- greater than anticipated costs of maintaining E.U. presence and related Dutch tax structure.

Our executive offices and laboratory facility are located near known earthquake fault zones, and the occurrence of an earthquake or other catastrophic disaster could cause damage to our facility and equipment, or that of our third-party manufacturers or single-source suppliers, which could materially impair our ability to continue our product development programs.

Our executive offices and laboratory facility are located in the San Francisco Bay Area near known earthquake fault zones and are vulnerable to significant damage from earthquakes. We and the third-party manufacturers with whom we contract and our single-source suppliers of raw materials are also vulnerable to damage from other types of disasters, including fires, floods, power loss and similar events. If any disaster were to occur, our ability to continue our product development programs, could be seriously, or potentially completely impaired. The insurance we maintain may not be adequate to cover our losses resulting from disasters or other business interruptions.

We will incur increased costs as a result of recently enacted and proposed changes in laws and regulations and our management will be required to devote substantial time to comply with such laws and regulations.

We face burdens relating to the recent trend toward stricter corporate governance and financial reporting standards. Legislation or regulations such as the Sunshine Act, Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and the Dodd-Frank Wall Street Reform and Consumer Protection Act, as well as other rules implemented by the FDA, the SEC and NASDAQ, follow the trend of imposing stricter corporate governance and financial reporting standards have led to an increase in the costs of compliance for companies similar to us, including increases in consulting, auditing and legal fees. New rules could make it more difficult or more costly for us to obtain certain types of insurance, including directors' and officers' liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on

our board of directors, our board committees or as executive officers. Failure to comply with these new laws and regulations may impact market perception of our financial condition and could materially harm our business. Additionally, it is unclear what additional laws or regulations may develop, and we cannot predict the ultimate impact of any future changes in law. Our management and other personnel will need to devote a substantial amount of time to these requirements.

In addition, the Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting, as required by Section 404 of the Sarbanes- Oxley Act. Our compliance with Section 404 will require that we incur substantial accounting and related expense and expend significant management efforts. In the future, we may need to hire additional accounting and financial staff to satisfy the ongoing requirements of Section 404. Moreover, if we are not able to comply with the requirements of Section 404, or we or our independent registered public accounting firm identifies deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by NASDAQ, the SEC or other regulatory authorities.

If we fail to establish and maintain collaborations or if our partners do not perform, we may be unable to develop and commercialize our product candidates, which may adversely affect our future revenues and financial condition.

We have entered into collaborative arrangements with third parties to develop and/or commercialize product candidates. Additional collaborations might be necessary in order for us to fund our research and development activities and third-party manufacturing arrangements, seek and obtain regulatory approvals and successfully commercialize existing and future product candidates. If we fail to maintain the existing collaborative arrangements held by us or fail to enter into additional collaborative arrangements, the number of product candidates from which we could receive future revenues would decline.

Our dependence on collaborative arrangements with third parties will subject us to a number of risks that could harm our ability to develop and commercialize products:

- collaborative arrangements might not be available on terms which are reasonably favorable to us;

- disagreements with partners may result in delays in the development and marketing of products, termination of collaboration agreements or time consuming and expensive legal action;

- outside of agreement terms (which may be different or costly to enforce, if enforceable), we cannot control the amount and timing of resources partners devote to product candidates or their prioritization of product candidates, and partners may not allocate sufficient funds or resources to the development, promotion or marketing of our product candidates, or may not perform their obligations as expected;

- partners may choose to develop, independently or with other companies, alternative products or treatments, including products or treatments which compete with ours;

- agreements with partners may expire or be terminated without renewal, or partners may breach collaboration agreements with us;

- business combinations or significant changes in a partner's business strategy might adversely affect that partner's willingness or ability to complete their obligations to us; and

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- the terms and conditions of the relevant agreements may no longer be suitable.

We cannot guarantee that we will be able to negotiate acceptable future collaboration agreements or that those currently in existence will make it possible for us to fulfill our objectives.

If we are unable to protect our proprietary technology, we may not be able to compete as effectively and our business and financial prospects may be harmed.

Where possible, we seek patent protection for certain aspects of our technology. Patent protection may not be available for some of the drug product candidates we are developing. If we must spend extraordinary time and money protecting our patents, designing around patents held by others or licensing, potentially for large fees, patents or other proprietary rights held by others, our business and financial prospects may be harmed.

The patent positions of biopharmaceutical products are complex and uncertain.

We own or license issued U.S. and foreign patent and pending U.S. and foreign patent applications related to certain of our drug product candidates. However, these patent and patent applications do not ensure the protection of our intellectual property for a number of reasons, including the following:

- We do not know whether our patent applications will result in issued patents. For example, we may not have developed a method for treating a disease before others developed similar methods;

Competitors may interfere with our patent process in a variety of ways. Competitors may claim that they invented the claimed invention prior to us, or file patent applications before we do. Competitors may also claim that we are infringing on their patents and therefore cannot practice our technology as claimed under our patents, if issued.
- Competitors may also contest our patents, if issued, by showing the patent examiner that the invention was not original, was not novel or was obvious. In litigation, a competitor could claim that our patents, if issued, are not valid for a number of reasons. If a court agrees, we would lose that patent. As a company, we have no meaningful experience with competitors interfering with our patents or patent applications;

Enforcing patents is expensive and may absorb significant time of our management. Management would spend less
- time and resources on developing drug product candidates, which could increase our operating expenses and delay product programs; and

- Receipt of a patent may not provide much practical protection. If we receive a patent with a narrow scope, then it will be easier for competitors to design products that do not infringe on our patent.

In addition, competitors also seek patent protection for their technology. Due to the number of patents in our field of technology, we cannot be certain that we do not infringe on those patents or that we will not infringe on patents granted in the future. If a patent holder believes our drug product candidate infringes on its patent, the patent holder may sue us even if we have received patent protection for our technology. If someone else claims we infringe on their technology, we would face a number of issues, including the following:

- Defending a lawsuit takes significant time and can be very expensive;

- If a court decides that our drug product candidate infringes on the competitor's patent, we may have to pay substantial damages for past infringement;

- A court may prohibit us from selling or licensing the drug product candidate unless the patent holder licenses the patent to us. The patent holder is not required to grant us a license. If a license is available, we may have to pay

substantial royalties or grant cross licenses to our patents; and

- Redesigning our drug product candidates so we do not infringe may not be possible or could require substantial funds and time.

It is also unclear whether our trade secrets are adequately protected. While we use reasonable efforts to protect our trade secrets, our employees or consultants may unintentionally or willfully disclose our information to competitors. Enforcing a claim that someone else illegally obtained and is using our trade secrets, like patent litigation, is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. are sometimes less willing to protect trade secrets. Our competitors may independently develop equivalent knowledge, methods and know-how. We may also support and collaborate in research conducted by government organizations, hospitals, universities or other educational institutions. These research partners may be unwilling to grant us any exclusive rights to technology or products derived from these collaborations prior to entering into the relationship. If we do not obtain required licenses or rights, we could encounter delays in our product development efforts while we attempt to design around other patents or even be prohibited from developing, manufacturing or selling drug product candidates requiring these licenses. There is also a risk that disputes may arise as to the rights to technology or drug product candidates developed in collaboration with other parties.

If our agreements with employees, consultants, advisors and corporate partners fail to protect our intellectual property, proprietary information or trade secrets, it could have a significant adverse effect on us.

We have taken steps to protect our intellectual property and proprietary technology, by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, advisors and corporate and educational institution partners. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate. Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the U.S.

Risks Related to this Offering and Our Common Stock

Management may invest or spend the proceeds of this offering in ways with which you may not agree and in ways that may not yield a return to our stockholders.

We will retain broad discretion over the use of proceeds from this offering. We expect to use the net proceeds from this offering to fund our commercial and pre-commercial efforts, our clinical and preclinical development programs and other general corporate purposes. A number of variables will influence our actual use of the proceeds from this offering, and our actual uses of the proceeds of this offering may vary substantially from our currently planned uses. Management could choose to spend the net proceeds from this offering in ways in which stockholders may not deem desirable, or in ways that do not improve our operating results or result in a significant return or any return at all for our stockholders.

New investors in our common stock could experience immediate and substantial dilution.

The offering price of our common stock could be substantially higher than what the net tangible book value per share of our common stock is at the time of any offering. As a result, investors of our common stock in this offering could incur immediate and substantial dilution. After giving effect to the sale of our common stock in the maximum aggregate offering amount of $40,000,000 at an assumed offering price of $5.85 per share, the last reported sale price of our common stock on The Nasdaq Global Market on June 27, 2012, and after deducting estimated offering commissions and expenses payable by us, our net tangible book value as of February 29, 2012 would have been $87,911,690, or $1.58 per share of common stock. This represents an immediate increase in the net tangible book

value of $0.57 per share to our existing stockholders and an immediate and substantial dilution in net

tangible book value of $4.27 per share to new investors who purchase our common stock in the offering. The information above does not take into account 99,500 shares of our common stock that have been issued under this offering at a weighted average selling price of $5.50 per share. See "Dilution" for a more detailed discussion of the dilution new investors will incur in this offering.

There are a substantial number of shares of our common stock eligible for future sale in the public market, and the issuance or sale of equity, convertible or exchangeable securities in the market, or the perception of such future sales or issuances, could lead to a decline in the trading price of our common stock.

Any issuance of equity, convertible or exchangeable securities, including for the purposes of financing acquisitions and the expansion of our business, will have a dilutive effect on our existing stockholders. In addition, the perceived market risk associated with the possible issuance of a large number of shares of our common stock or securities convertible or exchangeable into a large number of shares of our common stock could cause some of our stockholders to sell their common stock, thus causing the trading price of our common stock to decline. Subsequent sales of our common stock in the open market or the private placement of our common stock or securities convertible or exchangeable into our common stock could also have an adverse effect on the trading price of our common stock. If our common stock price declines, it may be more difficult for us to, or we may be unable to, raise additional capital.

As of February 29, 2012, we had the following warrants outstanding related to the assumption of warrants from our Encode merger, issuance of warrants related to our May/June 2008 private placement, issuance of warrants related to our August 2009 private placement, the assumption of warrants pursuant to the 2009 Merger, issuance of warrants related to our December 2009 registered direct offering and issuance of warrants related to our August 2010 private placement. See Note 9 in our condensed consolidated financial statements located in our quarterly report on Form 10-Q for the quarter ended February 29, 2012, as filed with the SEC on April 9, 2012, for further discussion regarding our common stock warrants.

As of February 29, 2012, there were (i) outstanding warrants to purchase 5,277,483 shares of our common stock at a weighted average exercise price of $3.01 per share (ii) outstanding options to purchase 5,692,401 shares of our common stock outstanding under our 2010 and 2006 Raptor stock option plans at a weighted-average exercise price of $3.96, (iii) options to purchase 149,447 shares of our common stock outstanding under our TorreyPines Therapeutics stock option plans at a weighted-average exercise price of $76.26 and (iv) 1,563,508 shares of our common stock available for future stock option grants issued under our 2010 Raptor Pharmaceutical stock option plan. The shares issuable under our stock option plans will be available for immediate resale in the public market. The shares issuable under the warrants are available for immediate resale in the public market. The market price of our common stock could decline as a result of such resales due to the increased number of shares available for sale in the market.

	Number of shares exercisable	Exercise price	Expiration date
Issued in connection with Encode merger	233,309	$ 2.87	12/13/2015
Issued to placement agents in May/June 2008	432,649	$ 2.36	5/21/2013
Issued to placement agents in August 2009	65,000	$ 1.50	8/21/2014
TorreyPines warrants assumed in 2009 Merger	8,140	$ 80.86*	6/11/2013-9/26/2015
Issued to registered direct investors in Dec. 2009	818,750	$ 2.45	12/22/2014
Issued to private placement investors in Aug. 2010	3,621,683	$ 3.075	8/12/2015
Issued to placement agent in Aug. 2010	97,952	$ 3.075	8/12/2015
Total warrants outstanding	5,277,483	$ 3.01*	

* Weighted average exercise price

Our executive officers and our Board of Directors own, in the aggregate, 1,723,810 shares, or approximately 3.5% of our outstanding common stock as of February 29, 2012. Sales of a substantial number of shares of our common stock by such officers and directors in the public trading market, whether in a single transaction or a series of transactions, or the perception that these sales may occur, could also have a significant effect on volatility and the trading price of our common stock.

Future milestone payments, as more fully set forth under "Contractual Obligations with Thomas E. Daley (assignee of the dissolved Convivia, Inc.)" under Note 10 Commitments and Contingencies in our condensed consolidated financial statements and "Contractual Obligations with Former Encode Securityholders" section located in our quarterly report on Form 10-Q for the quarter ended February 29, 2012, in connection with our acquisition of the Convivia assets and merger with Encode will result in dilution. We may be required to make additional contingent payments of up to 699,369 shares of our common stock, in the aggregate, under the terms of our acquisition of Convivia assets and merger with Encode, based on milestones related to certain future marketing and development approvals obtained with respect to Convivia and Encode product candidates. The issuance of any of these shares will result in further dilution to our existing stockholders.

In connection with other collaborations, joint ventures, license agreements or future financings that we may enter into in the future, we may issue additional shares of common stock or other equity securities, and the value of the securities issued may be substantial and create additional dilution to our existing and future common stockholders.

Because we do not intend to pay any cash dividends on our common stock, investors will benefit from an investment in our common stock only if it appreciates in value. Investors seeking dividend income or liquidity should not purchase shares of our common stock.

We have not declared or paid any cash dividends on our common stock since our inception. We anticipate that we will retain our future earnings, if any, to support our operations and to finance the growth and development of our business and do not expect to pay cash dividends in the foreseeable future. As a result, the success of an investment in our common stock will depend upon any future appreciation in the value of our common stock. There is no guarantee that our common stock will appreciate in value or even maintain its current price. Investors seeking dividend income or liquidity should not invest in our common stock.

Our stock price is volatile, which could result in substantial losses over short periods of time for our stockholders. The trading volume in our common stock may be limited.

Our common stock is quoted on the NASDAQ Global Market. The trading price of our common stock has been and may continue to be volatile. Our operating performance, both financial and in the development of approved products, does and will continue to significantly affect the market price of our common stock. We face a number of risks including those described herein, which may negatively impact the price of our common stock.

The market price of our common stock also may be adversely impacted by broad market and industry fluctuations regardless of our operating performance, including general economic and technology trends. The NASDAQ Global Market has, from time to time, experienced extreme price and trading volume fluctuations, and the market prices of biopharmaceutical development companies such as ours have been extremely volatile. Market prices for securities of early-stage pharmaceutical, biotechnology and other life sciences companies have historically been particularly volatile and trading in such securities has often been limited. Some of the factors that may cause the market price of our common stock to fluctuate include:

- the results and timing of regulatory reviews relating to the approval of our drug candidates;
- failure of any of our drug candidates, if approved, to achieve commercial success;

- the results of our current and any future clinical trials of our current drug candidates;

- issues in manufacturing our drug candidates or any approved products;
- the entry into, or termination of, key agreements, including key strategic alliance agreements;
- difference in security analysts' and investors' expectations;
- the results of ongoing preclinical studies and planned early stage clinical trials of our preclinical drug candidates;
- the initiation of, material developments in, or conclusion of litigation to enforce or defend any of our intellectual property rights;
- general and industry-specific economic conditions that may affect our product program expenditures;
- the results of clinical trials conducted by others on drugs that would compete with our drug candidates;
- the loss of key employees;
- the introduction by others of technological innovations or new commercial products or development of product programs which have a direct negative competitive impact on our products or product development programs;
- changes in estimates or recommendations by securities analysts, if any, who cover our common stock;
- future sales of our common stock or exercise of common stock warrants or options;
- changes in the structure of health care payment systems; and
- period-to-period fluctuations in our financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of our common stock. In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against those companies. Such litigation can result in substantial costs and diversion of management attention and resources, which could significantly harm our profitability and reputation.

We can issue shares of preferred stock that may adversely affect the rights of a stockholder of our common stock.

Our certificate of incorporation authorizes us to issue up to 15.0 million shares of preferred stock with designations, rights and preferences determined from time-to-time by our board of directors. Accordingly, our board of directors is empowered, without stockholder approval, to issue preferred stock with dividend, liquidation, conversion, voting or other rights superior to those of stockholders of our common stock.

Anti-takeover provisions under Delaware law, in our stockholder rights plan and in our certificate of incorporation and bylaws may prevent or complicate attempts by stockholders to change the board of directors or current management and could make a third-party acquisition of us difficult.

We are incorporated in Delaware. Certain anti-takeover provisions of Delaware law as currently in effect may make a change in control of our Company more difficult, even if a change in control may be beneficial to the stockholders. Our board of directors has the authority to issue up to 15.0 million shares of preferred stock, none of which are issued or outstanding. The rights of holders of our common stock are subject to the rights of the holders of

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any preferred stock that may be issued. The issuance of preferred stock could make it more difficult for a third-party to acquire a majority of our outstanding voting stock. Our charter contains provisions that may enable our management to resist an unwelcome takeover attempt by a third party, including: a prohibition on actions by written consent of our stockholders; the fact that stockholder meetings must be called by our board of directors; and provisions requiring stockholders to provide advance notice of proposals. Delaware law also prohibits corporations from engaging in a business combination with any holders of 15% or more of their capital stock until the holder has held the stock for three years unless, among other possibilities, the board of directors approves the transaction. Our board of directors may use these provisions to prevent changes in the management and control of our Company. Also, under applicable Delaware law, our board of directors may adopt additional anti-takeover measures in the future.

We are a party to a stockholder rights plan, also referred to as a poison pill, which is intended to deter a hostile takeover of us by making such proposed acquisition more expensive and less desirable to the potential acquirer. The stockholder rights plan and our certificate of incorporation and bylaws, as amended, contain provisions that may discourage, delay or prevent a merger, acquisition or other change in control that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock.

DILUTION

Purchasers of common stock offered by this Amendment, the Prospectus Supplement and the Accompanying Prospectus will suffer immediate and substantial dilution in the net tangible book value per share of common stock. Our net tangible book value as of February 29, 2012 was approximately $49,261,690, or approximately $1.01 per share of common stock. Net tangible book value per share represents the amount of total tangible assets less total liabilities other than warrant liabilities (non-cash), divided by the number of shares of our common stock outstanding as of February 29, 2012.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the assumed sale of shares of our common stock in the aggregate amount of $40,000,000 at an assumed offering price of $5.85 per share, the last reported sale price of our common stock on June 27, 2012, and after deduction of commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of February 29, 2012 would have been approximately $87,911,690, or $1.58 per share of common stock. This represents an immediate increase in net tangible book value of $0.57 per share of common stock to our existing stockholders and an immediate dilution in net tangible book value of $4.27 per share of common stock to investors participating in this offering. The following table illustrates this per share dilution:

Assumed offering price per share		$5.85
Net tangible book value per share as of February 29, 2012	$1.01	
Increase per share attributable to this offering	0.57	
As adjusted net tangible book value per share after the offering as of February 29, 2012, after giving effect to this offering		1.58
Net dilution per share to investors participating in this offering		$4.27

Changes in the assumed offering price of $5.85 per share would not affect our as adjusted net tangible book value after this offering because this offering is currently limited to $40,000,000. However, each $1.00 increase (decrease) in the assumed offering price of $5.85 per share would increase (decrease) our as adjusted per share net tangible book value after this offering by approximately $0.12 per share, and the dilution per share to new investors by approximately $0.88 per share, assuming that the aggregate dollar amount of shares offered by us, as set forth above, remains at $40,000,000 and after deducting the commissions and estimated offering expenses payable by us. We may also increase or decrease the aggregate dollar amount of shares we are offering from the amount set forth above. The information discussed above is illustrative only and will adjust based on the actual offering price, the actual number of shares that we offer and sell in this offering, and other terms of this offering determined at the time of each offer and sale.

The information above and in the foregoing table is based upon 48,854,168 shares of our common stock outstanding as of February 29, 2012. The information above and in the foregoing table does not take into account 99,500 shares of our common stock that have been issued under this offering at a weighted average selling price of $5.50 per share and excludes:

· 5,841,848 shares of our common stock issuable upon the exercise of options outstanding under our stock option plans at a weighted average exercise price of $5.80 per share;

· 1,563,508 shares of our common stock available for future issuance under our stock option plans; and

· 5,277,483 shares of our common stock issuable upon exercise of outstanding warrants at a weighted average exercise price of $3.01 per share.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments and our capitalization as of February 29, 2012:

- on an actual basis; and
- on an as adjusted basis to give effect to the sale of shares of common stock having an aggregate offering price of up to $40,000,000 in this offering at the offering price of $5.85 per share, the last reported sale price of our common stock on The Nasdaq Global Market on June 27, 2012, after deducting sales discounts and estimated offering expenses.

This capitalization table should be read in conjunction 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 in our annual report on Form 10-K for the year ended August 31, 2011, as amended, and our quarterly report on Form 10-Q for the quarter ended February 29, 2012.

	As of February 29, 2012	
	Actual	As Adjusted
Cash, cash equivalents and short-term investments	$ 49,930,572	$ 88,580,572
Long-term debt	$ 7,714	$ 7,714
Stockholders' equity:		
Preferred stock, $0.001 par value, 15,000,000 shares authorized, none issued and outstanding, actual and as adjusted	$ -	$ -
Common stock, $0.001 par value, 150,000,000 shares authorized, 48,854,168 issued and outstanding, actual; 55,691,775 issued and outstanding, as adjusted	48,854	55,692
Additional paid-in capital	132,528,834	171,171,996
Accumulated other comprehensive loss	(4,979)	(4,979)
Deficit accumulated during development stage	(103,426,621)	(103,426,621)
Total stockholders' equity	$29,146,088	$67,796,088

The information above does not take into account 99,500 shares of our common stock that have been issued under this offering at a weighted average selling price of $5.50 per share. The number of shares of our common stock to be in the actual and as adjusted columns in the table above excludes the following shares of our common stock as of February 29, 2012:

· 5,841,848 shares of our common stock issuable upon the exercise of options outstanding under our stock option plans at a weighted average exercise price of $5.80 per share;

· 1,563,508 shares of our common stock available for future issuance under our stock option plans; and

· 5,277,483 shares of our common stock issuable upon exercise of outstanding warrants at a weighted average exercise price of $3.01 per share.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this Amendment, the Prospectus Supplement and the Accompanying Prospectus. Any information incorporated by reference into this Amendment, the Prospectus Supplement and the Accompanying Prospectus is considered to be part of this Amendment, the Prospectus Supplement and the Accompanying Prospectus from the date we file that document. We incorporate by reference the following information or documents that we have filed with the SEC (Commission File No. 000-25571), which shall not include, in each case, documents, or information deemed to have been furnished and not filed in accordance with SEC rules:

(a) Our Annual Report on Form 10-K for the fiscal year ended August 31, 2011 filed with the Commission on November 14, 2011, as amended by Form 10-K/A filed with the Commission on December 19, 2011;
(b) Our Quarterly Report on Form 10-Q for the quarterly period ended November 30, 2011 filed with the Commission on January 6, 2012;
(c) Our Quarterly Report on Form 10-Q for the quarterly period ended February 29, 2012 filed with the Commission on April 9, 2012;
(d) Our Current Report on Form 8-K filed with the Commission on December 21, 2011;
(e) Our Current Report on Form 8-K filed with the Commission on March 27, 2012;
(f) Our Current Report on Form 8-K filed with the Commission on March 29, 2012;
(g) Our Current Report on Form 8-K filed with the Commission on March 30, 2012;
(h) Our Current Report on Form 8-K filed with the Commission on April 12, 2012;
(i) Our Current Report on Form 8-K filed with the Commission on April 16, 2012;
(j) Our Current Report on Form 8-K filed with the Commission on April 19, 2012;
(k) Our Current Report on Form 8-K filed with the Commission on April 26, 2012;
(l) Our Current Report on Form 8-K filed with the Commission on May 1, 2012;
(m) Our Current Report on Form 8-K filed with the Commission on May 14, 2012;
(n) Our Current Report on Form 8-K filed with the Commission on May 25, 2012;
(o) Our Current Report on Form 8-K filed with the Commission on June 14, 2012;
(p) Our Current Report on Form 8-K filed with the Commission on June 19, 2012;
(q) Our Current Report on Form 8-K filed with the Commission on June 25, 2012;
(r) The description of our common stock contained in our Registration Statement on Form 10-SB filed with the SEC on March 17, 1999 (File No. 000-25571), as amended by that certain Registration Statement on Form 10-SB/A filed on August 19, 1999 (File No. 000-25571), which description has been updated by our Joint Proxy Statement on Form S-4 filed on August 19, 2009 (File No. 333-161424), including any other amendment or report filed for the purpose of updating such description; and
(s) The description of the our Series A Participating Preferred Stock contained in our Registration Statement on Form 8-A filed on May 16, 2005 (File No. 000-25571), pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

Any information in any of the foregoing documents will automatically be deemed to be modified or superseded to the extent that information in this Amendment, the Prospectus Supplement and the Accompanying Prospectus or in a later filed document or other report that is incorporated or deemed to be incorporated herein by reference modifies or replaces such information.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this Amendment, the Prospectus Supplement and the Accompanying Prospectus. Information in such future filings updates and supplements the information provided in this Amendment, the Prospectus Supplement and the Accompanying Prospectus. These documents include proxy statements and periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and, to the extent they are considered filed and except as described above, Current Reports on Form 8-K. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will provide to each person, including any beneficial owner, to whom this Amendment, the Prospectus Supplement and the Accompanying Prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this Amendment, the Prospectus Supplement and the Accompanying Prospectus, but not delivered with this Amendment, the Prospectus Supplement and the Accompanying Prospectus, including exhibits which are specifically incorporated by reference into such documents. If you would like to request documents from us, please send a request in writing or by telephone to us at the following address:

Raptor Pharmaceutical Corp.
9 Commercial Blvd., Suite 200
Novato, CA 94949
(415) 382-1390
Attn: Secretary

Information on Our Website

Information on any Raptor website, any subsection, page, or other subdivision of any Raptor website, or any website linked to by content on any Raptor website, is not part of this Amendment, the Prospectus Supplement and the Accompanying Prospectus and you should not rely on that information unless that information is also in this Amendment, the Prospectus Supplement and the Accompanying Prospectus or incorporated by reference in this Amendment, the Prospectus Supplement and the Accompanying Prospectus.

Trademark Notice

Raptor, our logos and all of our product candidates and trade names are our registered trademarks or our trademarks in the United States and in other select countries. Other third-party logos and product/trade names are registered trademarks or trade names of their respective companies.