

Raptor Pharmaceutical Corp
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Registration No. 333-179215

Prospectus Supplement

(To prospectus dated February 3, 2012)

Shares of Common Stock, par value \$0.001 per share

We have entered into a sales agreement with Cowen and Company, LLC, or Cowen, relating to shares of our common stock, offered by this prospectus supplement and the 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.

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 April 27, 2012 was \$6.02 per share.

Upon our delivery of a placement notice and subject to the terms and conditions of the sales agreement, 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 S-5 of this prospectus supplement 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.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this 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 prospectus supplement is April 30, 2012

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, including the documents incorporated by reference herein, which describes the specific terms of this offering. The second part, the accompanying prospectus, including the documents incorporated by reference therein, provides more general information. Generally, when we refer to this prospectus supplement, we are referring to both parts of this document combined. Before you invest, you should carefully read this prospectus supplement, the accompanying prospectus, all information incorporated by reference herein and therein, as well as the additional information described under “Where You Can Find More Information” on page S-14 of this prospectus supplement. These documents contain information you should consider when making your investment decision. This prospectus supplement may add, update or change information contained in the accompanying prospectus. To the extent that any statement that we make in this prospectus supplement is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein. You should not assume that the information appearing in this prospectus supplement, the accompanying prospectus, or information we previously filed with the Securities and Exchange Commission, or the SEC or the Commission, and incorporated by reference herein is accurate as of any date other than their respective dates, even though this prospectus supplement and any accompanying prospectus is delivered or shares of our common stock are sold on a later date. Our business, financial condition, results of operations and prospects may have changed since those dates.

You should rely only on the information contained or incorporated by reference in this 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 prospectus supplement 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 prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement outside the United States. This prospectus supplement 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 prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

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 prospectus supplement and the accompanying prospectus. You should carefully read this entire 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 that we are reformulating and repurposing for potential improvement in safety and/or efficacy and for potential application in new disease indications. These clinical development programs include the following:

- DR Cysteamine, or RP103, for the potential treatment of cystinosis, a rare genetic disorder;
- RP103 for the potential treatment of Huntington’s Disease, or HD, an inherited neurodegenerative disorder; and
- RP103, for the potential treatment of non-alcoholic steatohepatitis, or NASH, a metabolic disorder of the liver.

RP103 is our proprietary delayed-release formulation of cysteamine bitartrate microbeads in capsules, which may require less frequent dosing and reduce gastro-intestinal side effects compared to the current standard of care. Our plan is to eventually develop a delayed-release formulation of cysteamine bitartrate in tablets, referred to as RP104, for NASH.

Other Clinical-Stage Product Candidates

Our other clinical-stage product candidates include:

- Convivia™ for the potential management of acetaldehyde toxicity due to alcohol consumption by individuals with aldehyde dehydrogenase, or ALDH2 deficiency, an inherited metabolic disorder; and

· Tezampanel, a glutamate receptor antagonist as a potential anti-platelet agent for use in thrombotic disorders.

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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 cystinosis in the U.S. and Europe; supporting our ongoing extension study of RP103 in cystinosis until patients are converted onto commercial drug; supplying clinical material for the ongoing clinical trial of RP103 in HD; funding the collaboration and supplying clinical material in the Phase 2b clinical trial of RP103 in NASH; funding a potential Phase 1 clinical trial of tezampanel as a potential anti-platelet agent; continuing business development of our preclinical product candidates; 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 opportunities, future in-licensed technologies and acquired technologies.

Recent Developments

On March 6, 2012, U.S. Patent No. 8,129,433 issued. This patent, exclusively licensed to us under an agreement with the University of California, San Diego, or UCSD, covers DR cysteamine (RP103/RP104), as well as other compositions containing cysteamine or cystamine with a material that provides increased delivery to the small intestine.

On March 26, 2012, we announced that the European Medicines Agency, or EMA, has determined that our Marketing Authorization Application, or MAA, for RP103 for the potential treatment of nephropathic cystinosis, submitted in early March 2012, is valid. Validation of the MAA confirms that the submission is sufficiently complete for the EMA to begin its formal review process. Based upon standard reviews, we anticipate a decision from the EMA in the first calendar quarter of 2013.

On March 28, 2012, we announced the appointment of Henk Doude van Troostwijk as our General Manager of European Commercial Operations, effective April 15, 2012. Mr. Doude van Troostwijk is responsible for building and managing our commercial operations in Europe 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 anticipate additional hiring in Europe as well as the U.S. over the next nine months in preparation for the potential commercialization of RP103 for the potential treatment of nephropathic cystinosis in the U.S. and Europe.

On March 30, 2012, we announced that we submitted a New Drug Application, or NDA, to the U.S. Food and Drug Administration, or FDA, seeking approval to market RP103 for the potential treatment of nephropathic cystinosis. In our application, we have requested Priority Review of the NDA, which, if granted, could lead to a decision for marketing approval from the FDA of RP103 for the potential treatment of nephropathic cystinosis in the fourth calendar quarter of 2012. If Priority Review is not granted, we anticipate a decision by the FDA in the first calendar

quarter of 2013.

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On April 12, 2012, we announced that the European Patent Office had issued a Notice of Allowance for a key patent covering the use of delayed-release oral formulations of cysteamine bitartrate, including our proprietary microbead formulation, RP103, as well as other formulations of cysteamine.

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 United States. 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, 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 United States. 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.

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The Offering

Common stock offered by us	Shares having an aggregate gross offering price up to \$40,000,000.
Manner of offering	“At-the-market” offering that may be made from time to time through our agent, Cowen and Company, LLC, or Cowen. See “Plan of Distribution.”
Use of proceeds	We expect to use the net proceeds from the offering to fund our commercial and pre-commercial efforts, our clinical and preclinical development programs and other corporate purposes. See “Use of Proceeds” on page S-9 of this prospectus supplement.
Dividend policy	We intend to retain all future earnings, if any, to fund the development and growth of our business. We do not anticipate paying cash dividends on our common stock.
Risk factors	This investment involves a high degree of risk. See “Risk Factors” on page S-5 of this prospectus supplement and other information we include or incorporate by reference in this prospectus supplement and the accompanying prospectus.
Nasdaq Global Market symbol	RPTP

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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 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 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

Even if we are able to develop our drug product candidates, we may not be able to receive regulatory approval, or if approved, we may not be able to generate significant revenues or successfully commercialize our products, 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.

Although we have submitted our marketing applications in the U.S. and E.U. for our lead product candidate, we cannot predict when or if regulatory authorities will approve it for marketing. Also, our other drug product candidates are in the clinical or preclinical stage of development and will require extensive additional research and development, including preclinical testing and clinical trials, as well as regulatory approvals, before we can market them. Since our inception in 1997 (including the research and development efforts of our pre-merger company), we have dedicated substantially all of our resources to the research and development of our technologies and compounds. Our preclinical compounds may not enter human clinical trials on a timely basis, if at all, and we may not develop any clinical product candidates suitable for commercialization. We cannot predict if or when any of the drug product candidates we intend to develop will be approved for marketing. There are many reasons that 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;
- our drug product candidates may prove to be too expensive to manufacture or administer to patients;
- our drug product candidates may 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 or at reasonable costs;
- our drug product candidates, if approved, may not achieve commercial acceptance;
- 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 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 cease operations.

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The priority review for our drug product candidates, if obtained, may not actually lead to a faster review process and a delay in the review process or in the approval of our products will delay revenue from the sale of the products and will increase the capital necessary to fund these product development programs.

We have requested six-month priority review from the FDA for RP103 for the potential treatment of cystinosis; however, the FDA may not grant it. We intend to request six-month priority review for other eligible drug product candidates, which the FDA or EMA may not grant. Without priority review, the FDA and EMA review timeline could be at least 10 to 12 months. Under the FDA policies, a drug candidate is eligible for priority review from the time a complete NDA is accepted for filing, if the drug candidate provides a significant improvement compared to marketed drugs in the treatment, diagnosis or prevention of a disease. A lengthier review process will delay revenue from the sale of products and will increase the capital necessary to fund these product development programs.

If we do not achieve our projected development 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.

For planning purposes, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development 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. If we do not meet these milestones as publicly announced, our stockholders may lose confidence in our ability to meet these milestones and, as a result, the price of our common stock may decline.

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Risks Related to Our Common Stock and this Offering

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 \$6.02 per share, the last reported sale price of our common stock on The Nasdaq Global Market on April 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 \$4.44 per share to new investors who purchase our common stock in the offering. See “Dilution” for a more detailed discussion of the dilution new investors will incur in this offering.

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FORWARD-LOOKING STATEMENTS

In this prospectus supplement and the accompanying prospectus, in other filings with the SEC and in press releases and other public statements by our officers throughout the year, we make or will make statements that plan for or anticipate the future. These “forward-looking statements,” within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, include statements about our future business plans and strategies, as well as other statements that are not historical in nature. These forward-looking statements are based on our current expectations.

In some cases, these statements can be identified by the use of terminology such as “believes,” “expects,” “anticipates,” “plans,” “may,” “might,” “will,” “could,” “should,” “would,” “projects,” “anticipates,” “predicts,” “intends,” “continues,” “opportunity” or the negative of these terms or other comparable terminology. All such statements, other than statements of historical facts, including our financial condition, future results of operation, projected revenues and expenses, business strategies, operating efficiencies or synergies, competitive positions, growth opportunities for existing intellectual properties, technologies, products, plans, and objectives of management, markets for our securities, and other matters, are about us and our industry that involve substantial risks and uncertainties and constitute forward-looking statements for the purpose of the safe harbor provided by Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Such forward-looking statements, wherever they occur, are necessarily estimates reflecting the best judgment of our senior management on the date on which they were made, or if no date is stated, as of the date of the filing made with the SEC in which such statements were made. You should not place undue reliance on these statements, which only reflect information available as of the date that they were made. Our business’ actual operations, performance, development and results might differ materially from any forward-looking statement due to various known and unknown risks, uncertainties, assumptions and contingencies, including those described in the section titled “Risk Factors,” and including, but not limited to, the following:

- our need for, and our ability to obtain, additional funds;
- uncertainties relating to clinical trials and regulatory reviews;
- our dependence on a limited number of therapeutic compounds;
- the early stage of the product candidates we are developing;
- the acceptance of any of our future products by physicians and patients;
- competition and dependence on collaborative partners;
- loss of key management or scientific personnel;
- our ability to obtain adequate intellectual property protection and to enforce these rights;
- our ability to avoid infringement of the intellectual property rights of others; and
- the other factors and risks described under the section captioned “Risk Factors” as well as other factors not identified therein.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, the factors discussed in this prospectus supplement and the accompanying prospectus, in other filings with the SEC and in press releases and other public statements by our officers throughout the year, could cause actual results or outcomes to differ materially and/or adversely from those expressed in any forward-looking statements made by us or on our behalf, and therefore we cannot guarantee future results, levels of activity, performance or achievements and you should not place undue reliance on any such forward-looking statements. We cannot give you any assurance that such forward-looking statements will prove to be accurate and such forward-looking events may not occur. In light of the significant uncertainties inherent in such forward-looking statements, you should not regard the inclusion of this information as a representation by us or any other person that the results or conditions described in those statements or our objectives and plans will be achieved.

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USE OF PROCEEDS

We expect to use the net proceeds from the offering to fund our commercial and pre-commercial efforts, our clinical and preclinical development programs and other general corporate purposes. The amounts and timing of these expenditures will depend on a number of factors, such as: the timing of regulatory approvals, if any; the progress of our commercial and pre-commercial efforts in preparation for commercial launch of RP103 for the potential treatment of cystinosis; the progress of our other research and development programs; and technological advances and the competitive environment for all of our drug candidates. Pending these uses, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities.

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DILUTION

Purchasers of common stock offered by this 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 \$6.02 per share, the last reported sale price of our common stock on April 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 \$4.44 per share of common stock to investors participating in this offering. The following table illustrates this per share dilution:

Assumed offering price per share		\$6.02
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		\$4.44

Changes in the assumed offering price of \$6.02 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 \$6.02 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 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.

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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 \$6.02 per share, the last reported sale price of our common stock on The Nasdaq Global Market on April 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; 55,498,686 issued and outstanding, as adjusted	48,854	55,499
Additional paid-in capital	132,528,834	171,172,189
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 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.

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DESCRIPTION OF SECURITIES WE ARE OFFERING

Under the sales agreement that we have entered into with Cowen, we may issue and sell from time to time up to \$40,000,000 of our common stock through Cowen as our sales agent. The material terms and provisions of our common stock and each other class of our securities which qualifies or limits our common stock are described under the caption “Description of Our Capital Stock” starting on page 6 of the accompanying prospectus.

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PLAN OF DISTRIBUTION

We have entered into a sales agreement with Cowen, under which we may issue and sell from time to time up to \$40,000,000 of our common stock through Cowen as our sales agent. Sales of our common stock, if any, will be made at market prices by any method that is deemed to be an “at the market” offering as defined in Rule 415 under the Securities Act, including sales made directly on The Nasdaq Global Market and any other trading market for our common stock, and sales to or through a market maker other than on an exchange.

Cowen will offer our common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and Cowen. We will designate the maximum amount of common stock to be sold through Cowen on a daily basis or otherwise determine such maximum amount together with Cowen. Subject to the terms and conditions of the sales agreement, Cowen will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. Cowen or we may suspend the offering of our common stock being made through Cowen under the sales agreement upon proper notice to the other party. Cowen and we each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party’s sole discretion at any time.

The aggregate compensation payable to Cowen as sales agent equals 3.0% of the gross sales price of the shares sold through it pursuant to the sales agreement. We estimate that the total expenses of the offering payable by us, excluding commissions payable to Cowen under the sales agreement, will be approximately \$150,000.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such common stock.

Cowen will provide written confirmation to us following the close of trading on The Nasdaq Global Market as applicable, each day in which common stock is sold through it as sales agent under the sales agreement. Each confirmation will include the number of shares of common stock sold through it as sales agent on that day, the gross sales price per share, the net proceeds to us and the compensation payable by us to Cowen.

We will report at least quarterly the number of shares of common stock sold through Cowen under the sales agreement, the net proceeds to us and the compensation paid by us to Cowen in connection with the sales of common stock.

Settlement for sales of common stock will occur, unless the parties agree otherwise, on the third business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sales of our common stock on our behalf, Cowen may be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to Cowen may be deemed to be underwriting commissions or discounts. We have agreed in the sales agreement to provide indemnification and contribution to Cowen against certain liabilities, including liabilities under the Securities Act. As sales agent, Cowen will not engage in any transactions that stabilizes our common stock.

Our common stock is listed on the NASDAQ Global Market and trades under the symbol “RPTP.” The transfer agent of our common stock is American Stock Transfer & Trust Company, LLC.

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Cowen and/or its affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees.

In compliance with the guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker deal may not exceed 8.0% of the aggregate amount of securities offered pursuant to this prospectus supplement.

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LEGAL MATTERS

Paul Hastings LLP, Los Angeles, California will pass upon the validity of the securities being offered by this prospectus supplement. Certain matters will be passed upon for Cowen by Goodwin Procter LLP, New York, New York.

EXPERTS

Burr Pilger Mayer, Inc., an independent registered public accounting firm, has audited the consolidated financial statements of Raptor Pharmaceutical Corp. included in our Annual Report on Form 10-K, for the year ended August 31, 2011 as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 1 to such consolidated financial statements) which is incorporated by reference in this prospectus supplement and elsewhere in our registration statement of which this prospectus supplement forms a part. Such consolidated financial statements of Raptor Pharmaceutical Corp. are incorporated by reference in reliance on Burr Pilger Mayer, Inc.'s reports, given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any reports, statements or other information that we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available to the public from commercial document retrieval services and on the website maintained by the SEC at <http://www.sec.gov>. Reports, proxy statements and other information concerning us also may be inspected at the offices of the Financial Industry Regulatory Authority, Inc., Listing Section, 1735 K Street, Washington, D.C. 20006. You may also obtain free copies of the documents that we file with the SEC by going to the Investors & Media section of our website, www.raptorpharma.com. The information provided on our website is not part of this prospectus, and therefore is not incorporated by reference.

We have filed with the SEC a registration statement on Form S-3 relating to the securities covered by this prospectus supplement. This prospectus is a part of the registration statement and does not contain all the information in the registration statement. Whenever a reference is made in this prospectus supplement to a contract or other document, the reference is only a summary and you should refer to the exhibits that are a part of the registration statement for a copy of the contract or other document. You may review a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C., as well as through the SEC's internet website.

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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 prospectus. Any information incorporated by reference into this prospectus is considered to be part of this 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) 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

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- (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
- (l) 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 prospectus supplement 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 prospectus supplement. Information in such future filings updates and supplements the information provided in this prospectus supplement. 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 prospectus supplement 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 prospectus but not delivered with this prospectus supplement, 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 prospectus supplement and you should not rely on that information unless that information is also in this prospectus supplement or incorporated by reference in this prospectus supplement.

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.

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

Subject to completion, dated January 27, 2012

PROSPECTUS

\$100,000,000
Common Stock
Warrants
Units

From time to time, we may offer, issue and sell up to \$100,000,000 of any combination of the securities described in this prospectus, either individually or in units and in one or more transactions. We may also offer common stock upon the exercise of warrants.

We will provide the specific terms of these offerings and securities in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus, and any documents incorporated by reference therein, may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, carefully before buying any of the securities being offered.

Our common stock is traded on the NASDAQ Capital Market under the symbol "RPTP." On January 26, 2012, the last reported sale price of our common stock on the NASDAQ Capital Market was \$6.45. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the NASDAQ Capital Market or any securities market or other exchange of the securities covered by the applicable prospectus supplement. The aggregate market value of our outstanding common equity held by non-affiliates on January 26, 2012, was approximately \$297.6 million.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page 2 and contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus.

This prospectus may not be used to consummate a sale of any securities unless accompanied by a prospectus supplement.

The securities may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section titled "Plan of Distribution" in this prospectus. If any agents or underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

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

The date of this prospectus is _____, 2012.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process. Under this shelf registration process, we may offer shares of our common stock and/or warrants to purchase shares of our common stock, either individually or in units, in one or more offerings, up to a total dollar amount of \$100,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the terms of those securities. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. We may also add or update in the prospectus supplement (and in any related free writing prospectus that we may authorize to be provided to you) any of the information contained in this prospectus or in the documents we have incorporated by reference into this prospectus. We urge you to carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading “Where You Can Find More Information,” before buying any of the securities being offered. **THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.**

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized anyone to provide you with different information in addition to or different from that contained in this prospectus, any applicable prospectus supplement and any related free writing prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. We will not make an offer to sell our securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus, any applicable prospectus supplement, any related free writing prospectus, is accurate only as of the date on the front cover of this prospectus and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since that date.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. The registration statement containing this prospectus, including exhibits to the registration statement, provides additional information about us and the securities offered under this prospectus. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information.”

RAPTOR PHARMACEUTICAL CORP.

Raptor Pharmaceutical Corp., or Raptor, was initially incorporated in Nevada on July 29, 1997 as Axonyx Inc. In October 2006, Axonyx Inc. and its then-wholly-owned subsidiary completed a reverse merger, business combination with TorreyPines Therapeutics, Inc., reincorporated in Delaware and changed its name to TorreyPines Therapeutics, Inc. In September 2009, we and our wholly-owned subsidiary completed a reverse merger, business combination with Raptor Pharmaceuticals Corp. pursuant to which Raptor Pharmaceuticals Corp. became our wholly-owned subsidiary. Immediately prior to the merger, we changed our corporate name from TorreyPines Therapeutics, Inc. to Raptor Pharmaceutical Corp. Our principal executive offices are located at 9 Commercial Blvd., Suite 200, Novato, CA 94949, and our telephone number is (415) 382-8111. We are a NASDAQ-listed biotechnology company that seeks to research, manufacture, and commercialize medicines that improve life for patients with severe, rare disorders. We are developing drug therapies for the potential treatment of: genetic diseases including nephropathic cystinosis, or cystinosis, and Huntington's Disease, or HD; metabolic diseases including non-alcoholic steatohepatitis, or NASH, and aldehyde dehydrogenase, or ALDH2, deficiency. We are also researching a potential anti-platelet agent to treat thrombotic disorder.

We obtained statistical data, market data and other industry data and forecasts used throughout, or incorporated by reference in, this prospectus from market research, publicly available information and industry publications. Industry publications generally state that they obtain their information from sources that they believe to be reliable, but they do not guarantee the accuracy and completeness of the information. Similarly, while we believe that the statistical data, industry data and forecasts and market research are reliable, we have not independently verified the data, and we do not make any representation as to the accuracy of the information. We have not sought the consent of the sources to refer to their reports appearing or incorporated by reference in this prospectus.

As described elsewhere in this prospectus under the heading "Where You Can Find More Information," this prospectus and the information incorporated herein by reference include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

In this prospectus, we refer to common stock, warrants and units collectively as "securities." Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus to "we," "us," "our," the "Company," "Raptor" and similar references refer to Raptor Pharmaceutical Corp., a Delaware corporation, and its wholly-owned subsidiaries; except that in the description of the securities we may offer these terms refer solely to Raptor Pharmaceutical Corp. and not to any of our subsidiaries.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading "Risk Factors" contained in, or incorporated into, the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents, including our most recent annual report on Form 10-K, including any amendment thereto, any subsequent quarterly reports on Form 10-Q or any current reports on Form 8-K we file after the date of this prospectus, that are incorporated by reference into this prospectus. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. Additional risks not presently known to us or that we currently believe are immaterial may also

significantly impair our business operations and financial condition.

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FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain “forward-looking statements” of Raptor within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements may include statements relating to:

- our need for, and our ability to obtain, additional funds;
- uncertainties relating to clinical trials and regulatory reviews;
- our dependence on a limited number of therapeutic compounds and formulations of these compounds;
- the early stage of the products we are developing;
- the acceptance of any of our future products by physicians and patients;
- competition and dependence on collaborative partners;
- loss of key management or scientific personnel;
- our ability to obtain adequate intellectual property protection and to enforce these rights; and
- our ability to avoid infringement of the intellectual property rights of others.

Words such as “anticipates,” “believes,” “forecast,” “potential,” “contemplates,” “expects,” “intends,” “plans,” “believes,” “estimates,” “could,” “would,” “will,” “may,” “can” and negative versions of these and other similar expressions identify forward-looking statements. These forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements. Many of the important factors that will determine these results and values are beyond our ability to control or predict. You are cautioned not to put undue reliance on any forward-looking statements. Except as otherwise required by law, we do not assume any obligation to update any forward-looking statements. In evaluating an investment in our securities, you should carefully consider the discussion of risks and uncertainties described under the heading “Risk Factors” contained in this prospectus and the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents, including our most recent annual report on Form 10-K, including any amendment thereto, any subsequent quarterly reports on Form 10-Q or any current reports on Form 8-K we file after the date of this prospectus that are incorporated by reference into this prospectus, as well as any amendments to any of the foregoing reflected in subsequent filings with the SEC. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading “Where You Can Find

More Information,” completely and with the understanding that our actual future results may be materially different from what we expect.

THE SECURITIES WE MAY OFFER

We may offer shares of our common stock and/or warrants to purchase shares of our common stock, either individually or in units, in one or more offerings, with a total value of up to \$100,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of any offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- redemption, exercise or exchange terms, if any;
- restrictive covenants, if any;
- voting or other rights, if any;
- exercise prices, if any; and
- important United States federal income tax considerations.

The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add or update information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities to or through agents or underwriters, we will include in the applicable prospectus supplement:

- the names of those agents or underwriters;
- the terms of the offering;
- applicable fees, discounts, concessions and commissions to be paid to them;
- the anticipated date of delivery of the securities;
- details regarding over-allotment options, if any; and

- the net proceeds to us.

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Common Stock. We may issue shares of our common stock from time to time. The holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Subject to preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably only those dividends as may be declared by our board of directors out of legally available funds. Upon our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preferences of any outstanding shares of preferred stock.

Warrants. We may issue warrants for the purchase of common stock in one or more series. We may issue warrants together with common stock, and the warrants may be attached to or separate from such common stock. In this prospectus, we have summarized certain general features of the warrants. We urge you, however, to read the applicable prospectus supplement (and any free writing prospectus that we may authorize to be provided to you) related to the particular series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, forms of the warrant agreements and forms of warrant certificates containing the terms of the warrants being offered.

We will evidence each series of warrants by warrant certificates that we will issue. Warrants may be issued under an applicable warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

Units. We may issue, in one or more series, units consisting of common stock and warrants for the purchase of common stock. In this prospectus, we have summarized certain general features of the units. We urge you, however, to read the applicable prospectus supplement (and any free writing prospectus that we may authorize to be provided to you) related to the series of units being offered, as well as the complete unit agreement that contains the terms of the units. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement and any supplemental agreements that describe the terms of the series of units it is offering before the issuance of the related series of units.

USE OF PROCEEDS

Except as described in any prospectus supplement or in any related free writing prospectus that we may authorize to be provided to you, we currently intend to use the net proceeds from the sale of the securities offered hereby for general corporate purposes, including, among other things, working capital to support our potential commercial launch of our lead drug candidate, development of our other clinical and preclinical stage drug candidate programs and potential re-payment of indebtedness that may be outstanding at the time of any offering under this prospectus. We have not specifically allocated the proceeds to those purposes as of the date of this prospectus. We may also use a portion of the net proceeds to acquire or invest in businesses, services and technologies that are complementary to our own. Pending these uses, we expect to invest the net proceeds in short-term, investment-grade securities. The precise amount and timing of the application of proceeds from the sale of securities will depend on our funding requirements and the availability and cost of other funds at the time of sale. Allocation of proceeds of a particular series of securities, or the principal reason for the offering if no allocation has been made, will be described in the applicable prospectus supplement or in any related free writing prospectus.

DESCRIPTION OF OUR CAPITAL STOCK

The following summary description of our capital stock is based on the applicable provisions of the General Corporation Law of the State of Delaware, or DGCL, and on the provisions of our certificate of incorporation, as amended and our bylaws, as amended. This information is qualified entirely by reference to the applicable provisions of the DGCL and our certificate of incorporation, as amended, and our bylaws, as amended. For information on how to obtain copies of such documents, please refer to the heading “Where You Can Find More Information” in this prospectus.

Authorized and Outstanding Capital Stock

Under our certificate of incorporation, as amended, our authorized capital stock consists of 150 million shares of common stock, par value \$0.001 per share and 15 million shares of preferred stock, par value \$0.001 per share. As of January 24, 2012, there were 47,881,120 shares of common stock outstanding, 12,022,452 shares of common stock reserved for issuance upon exercise of outstanding stock options and warrants to purchase common stock, and no shares of preferred stock outstanding.

Common Stock

Dividend Rights

Dividends from our capital stock, subject to the provisions of our certificate of incorporation, as amended, and applicable law, if any, may be declared by our board of directors pursuant to law at any regular or annual meeting. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the certificate of incorporation, as amended, and applicable law.

Voting Rights

For the purpose of determining those stockholders entitled to vote at any meeting of our stockholders, except as otherwise provided by law, only persons in whose names stand on the stock records of the corporation on the record date, as provided in Section 12 of our bylaws, as amended, shall be entitled to vote at any meeting of stockholders.

Every person entitled to vote shall have the right to do so either in person, by remote communication, if applicable, or by an agent or agents authorized by a proxy granted in accordance with Delaware law. An agent so appointed need not be a stockholder. No proxy shall be voted after three (3) years from its date of creation unless the proxy provides for a longer period. Each share of our common stock has identical rights and privileges in every respect.

Our bylaws, as amended, provide that holders of shares of our common stock have the power to adopt, amend or repeal the bylaws of the corporation; provided, that in addition to any vote of the holders of any class or series of stock of the corporation required by law or by our certificate of incorporation, as amended, such action by stockholders shall require the affirmative vote of the holders of at least 66-2/3% of the voting power of all of the then-outstanding shares of our capital stock entitled to vote generally in the election of directors, voting together as a single class. In addition, our certificate of incorporation, as amended, and our bylaws, as amended, provide that a director may be removed at any time without cause by the affirmative vote of the holders of 66-2/3% of all of our then-outstanding shares of voting stock entitled to vote at an election of directors.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights and is not subject to conversion or redemption.

Right to Receive Liquidation Distributions

If we voluntarily or involuntarily liquidate, dissolve or wind-up, the holders of our common stock will be entitled to receive after distribution in full of the preferential amounts, if any, to be distributed to the holders of preferred stock or any series of preferred stock, all of the remaining assets available for distribution ratably in proportion to the number of shares of our common stock held by them. Holders of our common stock have no preferences or any preemptive conversion or exchange rights. Our outstanding common stock is fully paid and non-assessable. The rights, preferences and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock, which our board of directors may designate and issue in the future.

Anti-Takeover Provisions

Under the provisions of the DGCL, our certificate of incorporation, as amended, and our bylaws, as amended, may have the effect of delaying, deferring, or discouraging another person from acquiring control of us. Such provisions could limit the price that some investors might be willing to pay in the future for our common stock. These provisions of the DGCL and our certificate of incorporation, as amended, and our bylaws, as amended, may also have the effect of discouraging or preventing certain types of transactions involving an actual or threatened change of control of us, including unsolicited takeover attempts, even though such a transaction may offer our stockholders the opportunity to sell their stock at a price above the prevailing market price.

We are subject to Section 203 of the DGCL, which, subject to certain exceptions, prohibits a Delaware corporation from engaging in any “business combination” with an “interested stockholder” for a period of three years following the time that such stockholder became an interested stockholder, unless:

- the board of directors of the corporation approves either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder, prior to the time the interested stockholder attained that status;
- upon the closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (a) by persons who are directors or officers and (b) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock that is not owned by the interested stockholder.

With certain exceptions, an “interested stockholder” is a person or group who or which owns 15% or more of the corporation’s outstanding voting stock (including any rights to acquire stock pursuant to an option, warrant, agreement, arrangement or understanding, or upon the exercise of conversion or exchange rights, and stock with respect to which the person has voting rights only), or is an affiliate or associate of the corporation and was the owner of 15% or more of such voting stock at any time within the previous three years.

In general, Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

A Delaware corporation may “opt out” of this provision with an express provision in its original certificate of incorporation or an express provision in its amended and restated certificate of incorporation or bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. However, we have not “opted out” of this provision. Section 203 could prohibit or delay mergers or other takeover or change-in-control attempts and, accordingly, may discourage attempts to acquire us.

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Our certificate of incorporation, as amended, and our bylaws, as amended, provide that our board will have one class of directors serving concurrent, one-year terms. Subject to the rights of the holders of any outstanding series of our preferred stock, our certificate of incorporation, as amended, authorizes only our board of directors to fill vacancies, including newly created directorships. Accordingly, this provision could prevent a stockholder from obtaining majority representation on the board of directors by enlarging the board of directors and filling the new directorships with his, her or its own nominees. Our certificate of incorporation, as amended, also provides that directors may be removed by stockholders for cause by the affirmative vote of the holders of a majority of the outstanding shares of voting stock or without cause by the affirmative vote of the holders of 66-2/3% of the outstanding shares of voting stock.

Our certificate of incorporation, as amended, also provides that stockholders may not take action by written consent, but may only take action at duly called annual or special meetings of stockholders. Our certificate of incorporation, as amended, further provides that special meetings of our stockholders may be called only by the chairman of the board of directors, the chief executive officer or a majority of the board of directors. This limitation on the right of stockholders to call a special meeting could make it more difficult for stockholders to initiate actions that are opposed by our board of directors. These actions could include the removal of an incumbent director or the election of a stockholder nominee as a director. They could also include the implementation of a rule requiring stockholder ratification of specific defensive strategies that have been adopted by our board of directors with respect to unsolicited takeover bids. In addition, the limited ability of our stockholders to call a special meeting of stockholders may make it more difficult to change the existing board and management.

Our bylaws, as amended, provide that stockholders seeking to bring business before an annual meeting of stockholders, or to nominate candidates for election as directors at an annual meeting of stockholders, must provide timely notice thereof in writing. To be timely, a stockholder's notice must be delivered to or mailed and received at our principal executive offices not less than 120 days prior to the date of our annual meeting. Our bylaws, as amended, also specify certain requirements as to the form and content of a stockholder's notice. These provisions may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual meeting of stockholders.

The authorized but unissued shares of our common stock and preferred stock are available for future issuance without stockholder approval. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, employee benefit plans and "poison pill" rights plans. This could result in our management being able to issue more shares without further stockholder approval and could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Transfer Agent

The transfer agent for our common stock is American Stock Transfer & Trust Company, LLC.

Listing

Our common stock is listed on the NASDAQ Capital Market under the symbol "RPTP."

Preferred Stock

Our board of directors is authorized to provide for the issuance of shares of preferred stock in one or more series, and to fix for each series voting rights, if any, designations, preferences and relative, participating, optional or other

special rights and such qualifications, limitations or restrictions as provided in a resolution or resolutions adopted by our board of directors. Prior to the issuance of shares of each series, our board of directors is required by the DGCL and our certificate of incorporation, as amended, to adopt resolutions and file a certificate of designation with the Secretary of State of the State of Delaware. The certificate of designation fixes for each class or series the designations, powers, preferences, rights, qualifications, limitations and restrictions, including the following:

- the number of shares constituting each class or series;
- voting rights;
- rights and terms of redemption, including sinking fund provisions;
- dividend rights and rates;
- dissolution;

- terms concerning the distribution of assets;
- conversion or exchange terms;
- redemption prices; and
- liquidation preferences.

Series A Participating Preferred Stock

Our board of directors has authorized the issuance of Series A participating preferred stock which includes terms and conditions which could discourage a takeover or other transaction that holders of some or a majority of common stock might believe to be in their best interests. Each outstanding share of our common stock has attached to it one preferred share purchase right that entitles the registered holder to purchase from us a unit of one one-thousandth of a share of our Series A participating preferred stock, which is referred to herein as the Junior Preferred Stock, at a price of \$15.00 per unit. The description and terms of the rights are set forth in a rights agreement dated as of May 13, 2005, as amended, by and between American Stock Transfer & Trust Company, LLC, as rights agent, and us, which is referred to herein as the Rights Agreement.

Subject to certain exceptions, until the earlier to occur of (i) the close of business on the tenth day after a public announcement that a person or group of affiliated or associated persons has acquired beneficial ownership of 15% or more of our outstanding common stock, subject to certain exceptions, or (ii) 10 business days (or such later date as may be determined by action of our board of directors prior to such time as any person becomes an acquiring person) following the commencement of, or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 15% or more of such outstanding common stock (the earlier of such dates is the distribution date), the rights will be evidenced by our common stock certificates.

The Rights Agreement provides that, until the distribution date, the rights will be transferred with and only with our common stock. Until the distribution date (or earlier redemption or expiration of the rights), our common stock certificates, upon transfer or new issuance of common stock will contain a notation incorporating the Rights Agreement by reference. Until the distribution date (or earlier redemption or expiration of the rights), the surrender for transfer of any certificates of our common stock will also constitute the transfer of the rights associated with the common stock represented by such certificate. As soon as practicable following the distribution date, if any, separate certificates evidencing the rights will be mailed to holders of record of our common stock as of the close of business on the distribution date and such separate rights certificates alone will evidence the rights.

The rights are not exercisable until the distribution date. The rights will expire at the close of business on May 15, 2015 unless that final expiration date is extended or unless the rights are earlier redeemed or exchanged by us, in each case as described below.

The purchase price payable, and the number of units of Junior Preferred Stock or other securities or property issuable, upon exercise of the rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Junior Preferred Stock, (ii) upon the grant to holders of the units of Junior Preferred Stock of certain rights or warrants to subscribe for or purchase units of Junior

Preferred Stock at a price, or securities convertible into units of Junior Preferred Stock with a conversion price, less than the then current market price of the units of Junior Preferred Stock, or (iii) upon the distribution to holders of the units of Junior Preferred Stock of evidences of indebtedness or assets (excluding regular periodic cash dividends paid out of earnings or retained earnings or dividends payable in units of Junior Preferred Stock) or of subscription rights or warrants other than those referred to above.

The number of outstanding rights and the number of units of Junior Preferred Stock issuable upon exercise of each right are also subject to adjustment in the event of a stock split of our common stock or a stock dividend on the common stock payable in common stock or subdivisions, consolidations or combinations of the common stock occurring, in any such case, prior to the distribution date.

The Junior Preferred Stock purchasable upon exercise of the rights will not be redeemable. Each share of Junior Preferred Stock will be entitled to an aggregate dividend of 1,000 times the dividend declared per share of our common stock. In the event of liquidation, the holders of the shares of Junior Preferred Stock will be entitled to an aggregate payment of 1,000 times the payment made per share of our common stock. Each share of Junior Preferred Stock will have 1,000 votes, voting together with our common stock. Finally, in the event of any merger, consolidation or other transaction in which shares of our common stock are exchanged, each share of Junior Preferred Stock will be exchanged or changed in an amount per share equal to 1,000 times the amount received per share of common stock. These rights are protected by customary anti-dilution provisions.

Because of the nature of the dividend, liquidation and voting rights, the value of each unit of Junior Preferred Stock purchasable upon exercise of each right should approximate the value of one share of common stock.

If, after the rights become exercisable, we are acquired in a merger or other business combination transaction with an acquiring person or one of its affiliates, or 50% or more of our consolidated assets or earning power are sold to an acquiring person or one of its affiliates, proper provision will be made so that each holder of a right will thereafter have the right to receive, upon exercise thereof at the then current exercise price of the right, that number of shares of common stock of the acquiring company which at the time of such transaction will have a market value of two times the exercise price of the right.

If any person or group of affiliated or associated persons becomes the beneficial owner of 15% or more of the outstanding shares of our common stock, subject to certain exceptions, proper provision will be made so that each holder of a right, other than rights beneficially owned by the acquiring person (which will thereafter be unexercisable), will have the right to receive upon exercise that number of shares of our common stock or units of Junior Preferred Stock (or cash, other securities or property) having a market value of two times the exercise price of the right.

At any time after the acquisition by a person or group of affiliated or associated persons of beneficial ownership of 15% or more of the outstanding shares of our common stock, subject to certain exceptions, and prior to the acquisition by such person or group of 50% or more of the outstanding common stock, our board of directors may exchange the rights (other than rights owned by such person or group which have become void), in whole or in part, at an exchange ratio per unit of Junior Preferred Stock equal to the purchase price divided by the then current market price per unit of Junior Preferred Stock on the earlier of (i) the date on which any person becomes an acquiring person and (ii) the date on which a tender or exchange offer is announced which, if consummated would result in the offerer being the beneficial owner of 15% or more of the shares of our common stock then outstanding.

With certain exceptions, no adjustment in the purchase price will be required until cumulative adjustments require an adjustment of at least 1% in the purchase price. No fractional shares of Junior Preferred Stock will be issued (other than fractions which are integral multiples of one one-thousandth of a share of Junior Preferred Stock, which may, at our election, be evidenced by depositary receipts) and, in lieu thereof, an adjustment in cash will be made based on the market price of the units of Junior Preferred Stock on the last trading day prior to the date of exercise.

At any time on or prior to the earlier of (i) the close of business on the tenth day after a public announcement that a person or group of affiliated or associated persons acquires beneficial ownership of 15% or more of the outstanding our common stock (unless the board of directors extends the ten day period) or (ii) the tenth business day after a person commences, or announces its intention to commence, a tender offer or exchange offer that would result in the bidder's beneficial ownership of 15% or more of the shares of our common stock, our board of directors may redeem the rights in whole, but not in part, at a price of \$0.01 per right. The redemption of the rights may be made effective at such time, on such basis and with such conditions as our board of directors in its sole discretion may establish. Immediately upon any redemption of the rights, the right to exercise the rights will terminate and the only right of the holders of rights will receive the redemption price. The rights are also redeemable under other circumstances as specified in the Rights Agreement.

The terms of the rights may be amended by our board of directors without the consent of the holders of the rights except that from and after such time that there is an acquiring person no amendment may adversely affect the interests of the holders of the rights.

Until a right is exercised, the holder of a right will have no rights by virtue of ownership as our stockholder, other than those accruing as a result of the holder's ownership in our common stock, including, without limitation, the right to vote or to receive dividends.

The rights have certain anti-takeover effects. The rights will cause substantial dilution to a person or group that attempts to acquire us on terms not approved by our board of directors, except pursuant to an offer conditioned on a substantial number of rights being acquired. The rights should not interfere with any merger or other business combination approved by our board of directors since the rights may be redeemed by us at the redemption price prior to the occurrence of a distribution date. The foregoing description of the rights is qualified in its entirety by reference to the Rights Agreement.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock in one or more series. We may issue warrants independently or together with common stock, and the warrants may be attached to or separate from such common stock. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the particular series of warrants that it may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements that contain the terms of the warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants being offered, including:

- the offering price of securities that include such warrants and aggregate number of warrants offered;
 - the number of shares of common stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
 - any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements may be modified;
- a discussion of any material or special United States federal income tax consequences of holding or exercising the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of our common stock purchasable upon such exercise, including, the right to receive dividends, if any, or payments upon our liquidation,

dissolution or winding up or to exercise voting rights, if any.

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Exercise of Warrants

Each warrant will entitle the holder to purchase our common stock that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant agreement representing the warrants to be exercised together with specified information, and paying the required amount to us in immediately available funds, as provided in the applicable prospectus supplement.

Upon receipt of the required payment and the warrant agreement properly completed and duly executed at our or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant agreement are exercised, then we will issue a new warrant agreement for the remaining amount of warrants. Holders of the warrants may surrender common stock as all or part of the exercise price for warrants.

Enforceability of Rights by Holders of Warrants

Each warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrant agreements will be governed by and construed in accordance with the laws of the State of New York.

DESCRIPTION OF UNITS

We may issue, in one more series, units consisting of common stock and warrants for the purchase of common stock. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and

any supplemental agreements that contain the terms of the units.

General

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
 - any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Our Capital Stock” and “Description of Warrants” will apply to each unit to the extent comprised of any such security included in each unit, as well as the underlying, relevant securities, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the unit agreements will be governed by and construed in accordance with the laws of the State of New York.

Title

We, and any unit agent and any of their agents, may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary. See “Legal Ownership of Securities” below.

LEGAL OWNERSHIP OF SECURITIES

We can issue securities in registered form to “holders” and “indirect holders” or as global securities. We refer to those persons who have securities registered in their own names on the books that we or any applicable trustee or depository maintain for this purpose as the “holders” of those securities. These persons are the legal holders of the securities. We refer to those persons who, indirectly through others, own beneficial interests in securities that are not registered in their own names, as “indirect holders” of those securities. As discussed below, indirect holders are not legal holders, and investors in securities issued in book-entry form or in street name will be indirect holders.

Book-Entry Holders

We may issue securities in book-entry form only, as we will specify in the applicable prospectus supplement. This means securities may be represented by one or more global securities registered in the name of a financial institution that holds them as depository on behalf of other financial institutions that participate in the depository’s book-entry system. These participating institutions, which are referred to as participants, in turn, hold beneficial interests in the securities on behalf of themselves or their customers.

Only the person in whose name a security is registered is recognized as the holder of that security. Securities issued in global form will be registered in the name of the depository or its participants. Consequently, for securities issued in global form, we will recognize only the depository as the holder of the securities, and we will make all payments on the securities to the depository. The depository passes along the payments it receives to its participants, which in turn pass the payments along to their customers who are the beneficial owners. The depository and its participants do so under agreements they have made with one another or with their customers; they are not obligated to do so under the terms of the securities.

As a result, investors in a book-entry security will not own securities directly. Instead, they will own beneficial interests in a global security, through a bank, broker or other financial institution that participates in the depository’s book-entry system or holds an interest through a participant. As long as the securities are issued in global form, investors will be indirect holders, and not holders, of the securities.

Street Name Holders

We may terminate a global security or issue securities in non-global form. In these cases, investors may choose to hold their securities in their own names or in “street name.” Securities held by an investor in street name would be registered in the name of a bank, broker or other financial institution that the investor chooses, and the investor would hold only a beneficial interest in those securities through an account he or she maintains at that institution.

For securities held in street name, we will recognize only the intermediary banks, brokers and other financial institutions in whose names the securities are registered as the holders of those securities, and will make all payments, if any, on those securities to them. These institutions pass along the payments they receive to their customers who are the beneficial owners, but only because they agree to do so in their customer agreements or because they are legally required to do so. Investors who hold securities in street name will be indirect holders, not holders, of those securities.

Legal Holders

Our obligations, as well as the obligations of any applicable trustee and of any third parties employed by us or a trustee, run only to the legal holders of the securities. We do not have obligations to investors who hold beneficial interests in global securities, in street name or by any other indirect means. This will be the case whether an investor

chooses to be an indirect holder of a security or has no choice because we are issuing the securities only in global form.

For example, once we make a payment, if any, or give a notice to the holder, we have no further responsibility for the payment or notice even if that holder is required, under agreements with depository participants or customers or by law, to pass it along to the indirect holders but does not do so. In such an event, we would seek approval only from the holders, and not the indirect holders, of the securities. Whether and how the holders contact the indirect holders is up to the holders.

Special Considerations For Indirect Holders

If you hold securities through a bank, broker or other financial institution, either in book-entry form or in street name, you should check with your own institution to find out:

- how it handles securities payments and notices;
- whether it imposes fees or charges;
- how it would handle a request for the holders' consent, if ever required;
- whether and how you can instruct it to send you securities registered in your own name so you can be a holder, if that is permitted in the future;
- how it would exercise rights under the securities if there were a default or other event triggering the need for holders to act to protect their interests; and
- if the securities are in book-entry form, how the depository's rules and procedures will affect these matters.

Global Securities

A global security is a security that represents one or any other number of individual securities held by a depository. Generally, all securities represented by the same global securities will have the same terms.

Each security issued in book-entry form will be represented by a global security that we deposit with and register in the name of a financial institution or its nominee that we select. The financial institution that we select for this purpose is called the depository. Unless we specify otherwise in the applicable prospectus supplement, The Depository Trust Company, New York, New York, known as DTC, will be the depository for all securities issued in book-entry form.

A global security may not be transferred to or registered in the name of anyone other than the depository, its nominee or a successor depository, unless special termination situations arise. We describe those situations below under "Special Situations When a Global Security Will Be Terminated." As a result of these arrangements, the depository, or its nominee, will be the sole registered owner and holder of all securities represented by a global security, and investors will be permitted to own only beneficial interests in a global security. Beneficial interests must be held by means of an account with a broker, bank or other financial institution that in turn has an account with the depository or with another institution that does. Thus, an investor whose security is represented by a global security will not be a holder of the security, but only an indirect holder of a beneficial interest in the global security.

If the prospectus supplement for a particular security indicates that the security will be issued in global form only, then the security will be represented by a global security at all times unless and until the global security is

terminated. If termination occurs, we may issue the securities through another book-entry clearing system or decide that the securities may no longer be held through any book-entry clearing system.

Special Considerations For Global Securities

The rights of an indirect holder relating to a global security will be governed by the account rules of the investor's financial institution and of the depositary, as well as general laws relating to securities transfers. We do not recognize an indirect holder as a holder of securities but instead deal only with the depositary that holds the global security.

If securities are issued only in the form of a global security, an investor should be aware of the following:

- an investor cannot cause the securities to be registered in his or her name, and cannot obtain non-global certificates for his or her interest in the securities, except in the special situations described below;
- an investor will be an indirect holder and must look to his or her own bank or broker for payments on the securities and protection of his or her legal rights relating to the securities, as described above;
- an investor may not be able to sell interests in the securities to some insurance companies and to other institutions that are required by law to own their securities in non-book-entry form;
- an investor may not be able to pledge his or her interest in a global security in circumstances where certificates representing the securities must be delivered to the lender or other beneficiary of the pledge in order for the pledge to be effective;
- the depositary's policies, which may change from time to time, will govern payments, transfers, exchanges and other matters relating to an investor's interest in a global security;
- we and any applicable trustee have no responsibility for any aspect of the depositary's actions or for its records of ownership interests in a global security, nor do we or any applicable trustee supervise the depositary in any way;
- the depositary may, and we understand that DTC will, require that those who purchase and sell interests in a global security within its book-entry system use immediately available funds, and your broker or bank may require you to do so as well; and
- financial institutions that participate in the depositary's book-entry system, and through which an investor holds its interest in a global security, may also have their own policies affecting payments, notices and other matters relating to the securities.

There may be more than one financial intermediary in the chain of ownership for an investor. We do not monitor and are not responsible for the actions of any of those intermediaries.

Special Situations When a Global Security Will Be Terminated

In a few special situations described below, the global security will terminate and interests in it will be exchanged for physical certificates representing those interests. After that exchange, the choice of whether to hold securities directly or in street name will be up to the investor. Investors must consult their own banks or brokers to find out how to have their interests in securities transferred to their own name, so that they will be direct holders. We have described the rights of holders and street name investors above.

Unless we provide otherwise in the applicable prospectus supplement, the global security will terminate when the following special situations occur:

- if the depositary notifies us that it is unwilling, unable or no longer qualified to continue as depositary for that global security and we do not appoint another institution to act as depositary within 90 days;
- if we notify any applicable trustee that we wish to terminate that global security; or

- if an event of default has occurred with regard to securities represented by that global security and has not been cured or waived.

The prospectus supplement may also list additional situations for terminating a global security that would apply only to the particular series of securities covered by the applicable prospectus supplement. When a global security terminates, the depositary, and not us or any applicable trustee, is responsible for deciding the names of the institutions that will be the initial direct holders.

PLAN OF DISTRIBUTION

We may, from time to time, offer the securities registered hereby up to this maximum amount. We may sell the securities from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities to or through underwriters or dealers, with or without an underwriting syndicate, through agents, or directly to one or more purchasers or a combination of these methods. We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices or in competitive bid transactions.

A prospectus supplement or supplements will describe the terms of the offering of the securities, including:

- the name or names of the underwriters, dealers or agents, if any, and the types and amounts of securities underwritten or purchased by each of them;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or market on which the securities may be listed.

Only underwriters named in the prospectus supplement will be underwriters of the securities offered by the prospectus supplement.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all of the securities offered by the prospectus supplement, other than securities covered by any over-allotment option. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time. We may use underwriters with

whom we have a material relationship. We will describe in the prospectus supplement, naming the underwriter, the nature of any such relationship.

If we use dealers in the sale of securities, we will sell securities to such dealers as principals. The dealers may then resell the securities to the public at varying prices to be determined by such dealers at the time of resale. We may solicit offers to purchase the securities directly, and we may sell the securities directly to institutional or other investors, who may be deemed underwriters within the meaning of the Securities Act with respect to any resales of those securities. The terms of these sales will be described in the applicable prospectus supplement. If we use agents in the sale of securities, unless otherwise indicated in the prospectus supplement, they will use their reasonable best efforts to solicit purchases for the period of their appointment. Unless otherwise indicated in a prospectus supplement, if we sell directly, no underwriters, dealers or agents would be involved. We will not make an offer of securities in any jurisdiction that does not permit such an offer.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may authorize underwriters, dealers, or agents to solicit offers by certain types of institutional investors or other purchasers to purchase our securities from them at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions or discounts we pay for solicitation of these contracts.

We may provide agents and underwriters with indemnification against civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to these liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

Unless otherwise specified in an applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is listed on the NASDAQ Capital Market under the symbol "RPTP." Any common stock sold pursuant to a prospectus supplement will be listed on the NASDAQ Capital Market, subject to official notice of issuance. We may elect to list any other class or series of securities on any exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities. We cannot guarantee the liquidity of the trading markets for any securities.

In connection with any offering, the underwriters may purchase and sell securities in the open market. Any underwriter may engage in short sales, over-allotment, stabilizing transactions, short-covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum price and are made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress. Syndicate-covering or other short-covering transactions involve purchases of the securities, either through exercise of the over-allotment option or in the open market after the distribution is completed, to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a stabilizing or covering transaction to cover short positions. These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the securities. As a result, the price of the securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on an exchange or automated quotation system, if the securities are listed on an exchange or admitted for trading on an automated quotation system, in the over-the-counter market, or otherwise.

Any underwriters that are qualified market makers on the NASDAQ Capital Market may engage in passive market making transactions in our common stock on the NASDAQ Capital Market in accordance with Regulation M under the Exchange Act, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded. Passive market making may stabilize the market price of the securities at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus and any applicable prospectus supplement.

We may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates in connection with those derivatives then the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of securities. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment).

LEGAL MATTERS

Paul Hastings LLP, Los Angeles, California will pass upon the validity of the securities being offered by this prospectus. Any underwriter, dealer or agent may be advised about issues relating to any offering by its own legal counsel. The name of the law firm or law firms advising any underwriters, dealers or agents with respect to certain issues relating to any offering will be set forth in the applicable prospectus supplement.

EXPERTS

Burr Pilger Mayer, Inc., an independent registered public accounting firm, has audited the consolidated financial statements of Raptor Pharmaceutical Corp. included in our Annual Report on Form 10-K, for the year ended August 31, 2011 as set forth in their reports on the consolidated financial statements (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 1 to such consolidated financial statements) and the effectiveness of internal control over financial reporting which is incorporated by reference in this prospectus and elsewhere in this registration statement. Such consolidated financial statements of Raptor Pharmaceutical Corp. are incorporated by reference in reliance on Burr Pilger Mayer, Inc.'s reports, given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any reports, statements or other information that we files at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available to the public from commercial document retrieval services and on the website maintained by the SEC at <http://www.sec.gov>. Reports, proxy statements and other information concerning us also may be inspected at the offices of the Financial Industry Regulatory Authority, Inc., Listing Section, 1735 K Street, Washington, D.C. 20006. You may also obtain free copies of the documents that we file with the SEC by going to the Investors and Media section of our website, www.raptorpharma.com. The information provided on our website is not part of this prospectus, and therefore is not incorporated by reference.

We have filed with the SEC a registration statement on Form S-3 relating to the securities covered by this prospectus. This prospectus is a part of the registration statement and does not contain all the information in the registration statement. Whenever a reference is made in this prospectus to a contract or other document, the reference is only a summary and you should refer to the exhibits that are a part of the registration statement for a copy of the contract or other document. You may review a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C., as well as through the SEC's internet website.

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 prospectus. Any information incorporated by reference into this prospectus is considered to be part of this 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:

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- Our Annual Report on Form 10-K for the fiscal year ended August 31, 2011 filed with the Commission on November 14, 2011;
- (n) Amendment No. 1 to our Annual Report on Form 10-K for the fiscal year ended August 31, 2011 filed with the Commission on December 19, 2011;
 - (o) Our Quarterly Report on Form 10-Q for the quarterly period ended November 30, 2011 filed with the Commission on January 6, 2012;
 - (p) Our Current Report on Form 8-K filed with the Commission on September 8, 2011;
 - (q) Our Current Report on Form 8-K filed with the Commission on September 19, 2011;
 - (r) Our Current Report on Form 8-K filed with the Commission on September 28, 2011;
 - (s) Our Current Report on Form 8-K filed with the Commission on October 26, 2011;
 - (t) Our Current Report on Form 8-K filed with the Commission on December 21, 2011;

- (u) 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
- (v) 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 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 prospectus. Information in such future filings updates and supplements the information provided in this 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 a 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 prospectus but not delivered with the 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 prospectus and you should not rely on that information unless that information is also in this prospectus or incorporated by reference in this 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.

\$40,000,000

Raptor Pharmaceutical Corp.

Common Stock

Prospectus Supplement

April 30, 2012

Cowen and Company