

Raptor Pharmaceutical Corp
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PROSPECTUS

3,747,558 SHARES OF COMMON STOCK SERIES A WARRANTS TO PURCHASE UP TO 1,873,779 SHARES OF COMMON STOCK SERIES B WARRANTS TO PURCHASE UP TO 1,873,779 SHARES OF COMMON STOCK

This prospectus relates to the offering for sale of 3,747,558 units, consisting of (i) 3,747,558 shares of our common stock, (ii) warrants to purchase an aggregate of up to 1,873,779 shares of our common stock (and the shares of common stock issuable from time to time upon exercise of such warrants), exercisable, subject to its terms, at \$2.45 per share, during the period beginning on June 20, 2010 and ending on December 22, 2014, or the Series A Warrants, and (iii) warrants to purchase an aggregate of up to 1,873,779 shares of our common stock (and the shares of common stock issuable from time to time upon exercise of such warrants), exercisable, subject to its terms, at \$2.45 per share, during the period beginning on June 20, 2010 and ending on June 22, 2011, or the Series B Warrants.

On December 22, 2009, we issued 3,747,558 units to investors in this offering. The purchase price for each unit purchased in this offering was \$2.00. Each unit consisted of one share of our common stock, one Series A Warrant exercisable for 0.5 of a share of our common stock and one Series B Warrant exercisable for 0.5 of a share of our common stock. Units were not issued or certificated. The shares of our common stock and the Series A Warrants and Series B Warrants comprising the units were issued separately.

We retained Ladenburg Thalmann & Co. Inc. as our exclusive placement agent to use its best efforts to solicit offers to purchase our securities in this offering. In addition to the placement agent's fee below, we also issued the placement agent warrants to purchase up to an aggregate of 74,951 shares of our common stock at an exercise price of \$2.50 per share. See "Plan of Distribution" beginning on page 90 of this prospectus for more information regarding these arrangements.

Our common stock is registered under Section 12(g) of the Securities Exchange Act of 1934, as amended, and listed on the NASDAQ Capital Market under the symbol "RPTP." On November 30, 2010, the last reported sale price for our common stock as reported on the NASDAQ Capital Market was \$3.79 per share.

INVESTING IN OUR COMMON STOCK INVOLVES SUBSTANTIAL RISKS. SEE THE SECTION TITLED "RISK FACTORS" BEGINNING ON PAGE 9 OF THIS PROSPECTUS TO READ ABOUT FACTORS YOU SHOULD CONSIDER BEFORE BUYING SHARES OF OUR COMMON STOCK.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is December 1, 2010.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before making an investment decision with respect to our securities. You should read this entire prospectus, including all documents incorporated by reference, carefully, especially the “Risk Factors” section beginning on page 9 of this prospectus and our financial statements and related notes contained in this prospectus before making an investment decision with respect to our securities. Please see the section titled, “Where You Can Find More Information,” beginning on page 97 of this prospectus. Unless the context indicates otherwise, references to “Raptor,” “the Company,” “we,” “us,” or “our,” refers to Raptor Pharmaceutical Corp. and our wholly-owned subsidiaries, Raptor Pharmaceuticals Corp., Raptor Discoveries Inc., Raptor Therapeutics Inc. and Raptor Pharmaceuticals Europe BV. On August 30, 2010, our former wholly owned subsidiary, TPTX, Inc. was merged into Raptor Therapeutics Inc.

You should rely only on the information contained in this prospectus or any related prospectus supplement, including the content of all documents incorporated by reference into the registration statement of which this prospectus forms a part. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The information contained in this prospectus or incorporated by reference herein is accurate only on the date of this prospectus. Our business, financial condition, results of operations and prospects may have changed since such date. Other than as required under the federal securities laws, we undertake no obligation to publicly update or revise such information, whether as a result of new information, future events or any other reason.

Some of the industry data contained in this prospectus is derived from data from various third-party sources. We have not independently verified any of this information and cannot assure you of its accuracy or completeness. While we are not aware of any misstatements regarding any industry data presented herein, such data is subject to change based on various factors, including those discussed under the “Risk Factors” section beginning on page 9 of this prospectus.

Unless otherwise expressly provided in this prospectus, our number of shares of common stock provided herein are on a post-merger basis calculated as of after the 2009 Merger (as defined below).

Overview

We believe that we are building a balanced pipeline of drug candidates that may expand the reach and benefit of existing therapeutics. 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 three other clinical-stage product candidates, for which we are seeking business development partners but are not actively developing, and we have four preclinical product candidates we are developing, three of which are based upon our proprietary drug-targeting platforms.

Clinical Development Programs

Our three active clinical development programs are based on an existing therapeutic that we are reformulating for potential improvement in safety and/or efficacy and for application in new disease indications. These clinical development programs include the following:

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

Other Clinical-Stage Product Candidates

We have three clinical-stage product candidates for which we are seeking partners:

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- 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 and NGX426, non-opioids for the potential treatment of migraine, acute pain, and chronic pain.

Preclinical Product Candidates

Our preclinical platforms consist of targeted therapeutics, which we are developing for the potential treatment of multiple indications, including liver diseases, neurodegenerative diseases and breast cancer. These preclinical platforms 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.

We are also examining our glutamate receptor antagonists, tezampanel and NGX426, for the potential treatment of thrombosis disorder.

Future Activities

Over the next 12 months, we plan to conduct research and development activities based upon our DR Cysteamine clinical programs and continued development of our preclinical product candidates. We also plan to seek business development partners for our Convivia™ product candidate and Tezampanel and NGX426. We may also develop future in-licensed technologies and acquired technologies. A brief summary of our primary objectives in the next 12 months for our research and development activities is provided in the section titled “Description of Business.” There can be no assurances that our research and development activities will be successful. In addition, if we do not raise additional funds, we may not be able to continue as a going concern.

Strategic Acquisitions

Reverse Merger with Raptor Pharmaceuticals Corp., or RPC

In July 2009, we, and our then wholly-owned subsidiary ECP Acquisition, Inc., a Delaware corporation, or merger sub, entered into an Agreement and Plan of Merger and Reorganization, or the 2009 Merger Agreement, with Raptor Pharmaceuticals Corp., a Delaware corporation, or RPC. On September 29, 2009, on the terms and subject to the conditions set forth in the 2009 Merger Agreement, merger sub was merged with and into RPC and RPC survived such merger as our wholly-owned subsidiary. This merger is referred to herein as the 2009 Merger. Immediately prior to the 2009 Merger and in connection therewith, we effected a 1-for-17 reverse stock split of our common stock and

changed our corporate name to “Raptor Pharmaceutical Corp.”

As of immediately following the effective time of the 2009 Merger, RPC’s stockholders (as of immediately prior to such 2009 Merger) owned approximately 95% of our outstanding common stock and our stockholders (as of immediately prior to such 2009 Merger) owned approximately 5% of our outstanding common stock, in each case without taking into account any of our or RPC’s shares of common stock, respectively, that were issuable pursuant to outstanding options or warrants of ours or RPC, respectively, outstanding as of the effective time of the 2009 Merger. Although RPC became our wholly-owned subsidiary, RPC was the “accounting acquirer” in the 2009 Merger and its board of directors and officers manage and operate the combined company. Our common stock currently trades on the NASDAQ Capital Market under the ticker symbol, “RPTP.”

Purchase of Convivia™

In October 2007, prior to the 2009 Merger, RPC purchased certain assets of Convivia, Inc., or Convivia, including intellectual property, know-how and research reports related to a product candidate targeting liver ALDH2 deficiency, a genetic metabolic disorder. RPC hired Convivia's chief executive officer and founder, Thomas E. (Ted) Daley, as the President of its clinical development division. In exchange for the assets related to the ALDH2 deficiency program, what we now call Convivia™, RPC issued to Convivia 46,625 shares of our common stock, an additional 46,625 shares of our common stock to a third party in settlement of a convertible loan between the third party and Convivia, and another 8,742 shares of our common stock in settlement of other obligations of Convivia. Mr. Daley, as the former sole stockholder of Convivia, may earn additional shares of our common stock based on certain triggering events or milestones related to the development of the Convivia assets. In addition, Mr. Daley may earn cash bonuses based on the same triggering events pursuant to his employment agreement. In January 2008, Mr. Daley earned a \$30,000 cash bonus pursuant to his employment agreement as a result of the milestone of our execution of a formulation agreement for manufacturing Convivia™ with Patheon. In March 2008, RPC issued to Mr. Daley 23,312 shares of our common stock pursuant to the Convivia purchase agreement as a result of the milestone of our execution of an agreement to supply us with the active pharmaceutical ingredient for Convivia™ and two \$10,000 cash bonuses pursuant to his employment agreement for reaching his six-month and one-year employment anniversaries. In October 2008, RPC issued to Mr. Daley 23,312 shares of our common stock valued at \$27,000 and a \$30,000 cash bonus as a result of fulfilling a clinical milestone. In July 2010, we issued 11,656 shares of our restricted common stock valued at \$35,551 and paid a \$10,000 cash bonus to Mr. Daley as a result of the execution of the license agreement with Uni Pharma for the development of Convivia™ in Taiwan.

Purchase of DR Cysteamine

In December 2007, prior to the 2009 Merger, through a merger between Encode Pharmaceuticals, Inc., or Encode, and Raptor Therapeutics, RPC purchased certain assets, including the clinical development and commercial rights to DR Cysteamine. Under the terms of and subject to the conditions set forth in the merger agreement, RPC issued 802,946 shares of its common stock to the stockholders of Encode, or Encode Stockholders, options, or Encode Options, to purchase up to, in the aggregate, 83,325 shares of its common stock to the optionholders of Encode, or Encode Optionholders, and warrants, or Encode Warrants, to purchase up to, in the aggregate, 256,034 shares of its common stock to the warrantholders of Encode, or Encode Warrantholders, and together with the Encode Stockholders and Encode Optionholders, referred to herein collectively as the Encode Securityholders, as of the date of such agreement. The Encode Securityholders are eligible to receive up to an additional 559,496 shares of our common stock, Encode Options and Encode Warrants to purchase our common stock in the aggregate based on certain triggering events related to regulatory approval of DR Cysteamine, an Encode product program, if completed within the five year anniversary date of the merger agreement.

As a result of the Encode merger, we received the exclusive worldwide license to DR Cysteamine, referred to herein as the License Agreement, developed by clinical scientists at the University of California at San Diego, or UCSD, School of Medicine. In consideration of the grant of the license, we are obligated to pay an annual maintenance fee of \$15,000 until we begin commercial sales of any products developed pursuant to the License Agreement. In addition to the maintenance fee, we are obligated to pay during the life of the License Agreement: milestone payments ranging from \$20,000 to \$750,000 for orphan indications and from \$80,000 to \$1,500,000 for non-orphan indications upon the occurrence of certain events, if ever; royalties on commercial net sales from products developed pursuant to the License Agreement ranging from 1.75% to 5.5%; a percentage of sublicense fees ranging from 25% to 50%; a

percentage of sublicense royalties; and a minimum annual royalty commencing the year we begin commercially selling any products pursuant to the License Agreement, if ever. Under the License Agreement, we are obligated to fulfill predetermined milestones within a specified number of years ranging from 0.75 to 6 years from the effective date of the License Agreement, depending on the indication. In addition, we are obligated, among other things, to spend annually at least \$200,000 for the development of products (which we satisfied, as of August 31, 2010 and 2009 by spending approximately \$6.2 million and \$4.1 million, respectively, on such programs) pursuant to the License Agreement. To-date, we have accrued \$470,000 in milestone payments to UCSD based upon the initiation of clinical trials in cystinosis and in NASH. To the extent that we fail to perform any of our obligations under the License Agreement, UCSD may terminate the license or otherwise cause the license to become non-exclusive.

Company History

Corporate Structure

We were 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 our corporate name to “TorreyPines Therapeutics, Inc.”

On September 29, 2009, we and a wholly-owned subsidiary completed a reverse merger, business combination with RPC pursuant to which RPC became our wholly-owned subsidiary. Immediately prior to such time, we changed our corporate name to “Raptor Pharmaceutical Corp.” After such merger, our common stock began trading on the NASDAQ Capital Market and currently trades under the ticker symbol “RPTP.” This merger is referred to herein as the 2009 Merger. Immediately prior to the 2009 Merger and in connection therewith, we effected a 1-for-17 reverse stock split of our common stock.

RPC was incorporated in the State of Nevada on April 1, 2002 under the name of Highland Clan Creations Corp., or HCCC. On June 9, 2006, HCCC merged with RPC which was incorporated on May 5, 2006 in Delaware. As a result, HCCC was reincorporated from the State of Nevada to the State of Delaware and changed its corporate name to “RPC”. HCCC was a publicly traded company quoted on the OTC Bulletin Board and upon such merger, its common stock traded on the OTC Bulletin Board under the ticker “RPTP.” Our principal executive office is located at 9 Commercial Blvd., Suite 200, Novato, CA 94949. Our phone number is (415) 382-8111.

On May 25, 2006, RPC acquired 100% of the outstanding capital stock of Raptor Discoveries (f/k/a Raptor Pharmaceutical Inc.) (incorporated in Delaware on September 8, 2005), a development-stage research and development company and on June 9, 2006, RPC disposed of its former wholly-owned subsidiary, Bodysentials Health & Beauty Inc., which sold nutritional milkshakes and drinks on the Internet. On August 1, 2007, RPC formed Raptor Therapeutics Inc. (f/k/a Bennu Pharmaceuticals Inc.) as its wholly-owned subsidiary for the purpose of developing clinical-stage drug product candidates through to commercialization.

Financing History of RPC

Initial Investors

On May 25, 2006, in exchange for all of the outstanding common stock of Raptor Pharmaceutical Inc. (now known as Raptor Discoveries Inc.), RPC issued 1,864,987 shares of our common stock to the-then Raptor Pharmaceutical Inc. stockholders including 699,370 shares of our common stock to each of Christopher M. Starr, Ph.D., and Todd C. Zankel, Ph.D., our Chief Executive Officer and Chief Scientific Officer, respectively, 233,123 shares of our common stock to Erich Sager, a member of our board of directors and 233,123 shares of our common stock to an unrelated third party. These initial stockholders of Raptor Pharmaceutical Inc. purchased common stock of Raptor Pharmaceutical Inc. when it was a privately held company for the following amounts of proceeds: Dr. Starr \$5,000;

Dr. Zankel \$5,000; Mr. Sager \$100,000 and the unrelated third party \$200,000.

\$5 Million Financing and the 2006 Reverse Merger

Pursuant to an agreement dated March 8, 2006, with HCCC, on May 25, 2006, RPC closed a \$5 million financing concurrent with a reverse merger. As part of that agreement, HCCC loaned RPC \$0.2 million to be repaid with accrued interest upon the earlier of six months or the closing of the financing. Also, the agreement stated that pending the closing of at least a \$3.5 million financing, HCCC would be obligated to issue 186,499 units as fees to a placement agent and \$30,000 in commissions to an investment broker. In the financing HCCC sold 1,942,695 units of RPC at \$2.57 per unit. Each such unit consisted of one share of our common stock and one common stock purchase warrant exercisable for one share of our common stock at \$2.57 per share. The warrants were exercisable for 18 months and expired on November 25, 2007. Gross proceeds from the financing were \$5 million and net proceeds after the repayment of the \$0.2 million loan plus interest and the deduction of commissions and legal fees totaled approximately \$4.6 million. Prior to the warrants expiring, RPC received \$3,895,000 in gross proceeds from the exercise of warrants in exchange for 1,513,359 shares of our common stock.

Issuance of Common Stock Pursuant to Stock Option Exercises

Since inception, we and RPC have received \$72,722 from the exercise of stock options resulting in the issuance of 41,262 shares of common stock. Our common stock outstanding as of November 5, 2010 was 30,213,378 shares.

RPC's 2008 and 2009 Private Placements and Warrant Exchange

During May and June 2008, prior to the 2009 Merger, RPC, issued an aggregate of 4,662,468 units of its securities, each unit comprised of one share of our common stock and one warrant to purchase one half of one share of our common stock, at a unit purchase price of \$2.15 per unit, in a private placement with various accredited investors. The warrants, exercisable for two years from closing of such private placement, as initially issued, entitled such investors to purchase up to an aggregate of 2,331,234 shares of RPC's common stock at an exercise price of \$3.22 per share during the first year and \$3.86 per share during the second year. In connection with this private placement, RPC issued placement agents warrants to purchase in the aggregate 489,559 shares of our common stock at an exercise price of \$2.36 per share for a five year term and it paid to such placement agents cash fees totaling \$700,000. Such placement agent warrants contained a cashless (net exercise) feature that allows its holders, under certain circumstances, to exercise such warrants without making any cash payment. Of the placement agents compensated, Limetree Capital was issued warrants to purchase 438,890 shares of our common stock and was paid cash commissions of \$627,550. Erich Sager, one of our board members, serves on the board of directors of Limetree Capital and is a founding partner thereof.

In July 2009, prior to the 2009 Merger, RPC closed a warrant exchange offer with those investor-warrant holders who were holders of the warrants to purchase its common stock issued in connection with its May and June 2008 private placement, as described above, of the right to exchange such warrants and subscribe for new warrants to purchase shares of RPC's common stock at an exercise price of \$1.29 per share (to the extent such new warrants were exercised (in whole or in part) on or before July 17, 2009). Pursuant to such warrant exchange, new warrants were exercised for an aggregate amount of 2,031,670 shares of our common stock which resulted in aggregate proceeds to RPC of \$2,614,500.

In August 2009, prior to the 2009 Merger, RPC issued an aggregate of 1,738,226 units of our securities, each unit comprised of one share of our common stock and one warrant to purchase one half of one share of our common stock, at a unit purchase price of \$1.37 per unit, in a private placement with various accredited investors. The warrants, exercisable for two years from closing of such private placement, as initially issued, entitled such investors to purchase up to an aggregate of 869,113 shares of our common stock at an exercise price of \$2.57 per share during the first year and \$3.22 per share during the second year. In connection with this private placement, RPC issued Limetree Capital, the placement agent in such private placement, warrants to purchase in the aggregate 129,733 shares of our common stock at an exercise price of \$1.50 per share for a five year term and it paid to such placement agent cash fees totaling \$59,360. Such placement agent warrants contained a cashless (net exercise) feature that allows its holders, under certain circumstances, to exercise such warrants without making any cash payment.

We filed a registration statement with the SEC, covering the resale of 5,557,865 shares of our common stock, including common stock issuable upon the exercise of the warrants, on October 13, 2009. Such registration statement

covers certain of our common stock as described above.

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Post-Merger Financings

Registered Direct Offering

On December 17, 2009, we entered into a Placement Agent Agreement with Ladenburg Thalmann & Co. Inc., or Ladenburg, as placement agent relating to the issuance and sale to the Direct Offering Investors (as defined below) pursuant to a registered direct offering, or the Direct Offering, of up to 3,747,558 units, or the Units, consisting of (i) 3,747,558 shares of our common stock, (ii) warrants to purchase an aggregate of up to 1,873,779 shares of our common stock (and the shares of common stock issuable from time to time upon exercise of such warrants), or the Series A Warrants, and (iii) warrants to purchase an aggregate of up to 1,873,779 shares of our common stock (and the shares of common stock issuable from time to time upon exercise of such warrants), or the Series B Warrants, and collectively with the Series A Warrants we refer to as Investor Warrants.

Ladenburg received a placement fee equal to 6.5% of the gross cash proceeds to us from the Direct Offering of the Units or \$487,183 (excluding any consideration that may be paid in the future upon exercise of the Warrants), a warrant to purchase up to an aggregate of 74,951 shares of our common stock at \$2.50 per share (valued at approximately \$52,000 using the following Black-Scholes pricing model assumptions: risk-free interest rate 2.23%; expected term 5 years and annual volatility 49.28%) and \$25,000 in out-of-pocket accountable expenses. The warrant issued to Ladenburg has the same terms and conditions as the Investor Warrants except that the exercise price is 125% of the public offering price per share or \$2.50 per share, and the expiration date is five years from the effective date of that certain shelf registration statement on Form S-3 (Registration No. 333-162374) which was declared effective by the SEC on November 5, 2009. Such registration statement is being amended by the amendment to the registration statement of which this prospectus forms a part.

In connection with the Direct Offering, following execution of the Placement Agent Agreement, we also entered into a definitive securities purchase agreement, or the Direct Offering Purchase Agreement, dated as of December 17, 2009, with 33 investors set forth on the signature pages thereto, collectively referred to as Direct Offering Investors, with respect to the Direct Offering of the Units, whereby, on an aggregate basis, the Direct Offering Investors agreed to purchase 3,747,558 Units for a negotiated purchase price of \$2.00 per Unit, amounting to gross proceeds of approximately \$7.5 million and estimated net proceeds after commissions and expenses of approximately \$6.2 million. Each Unit consists of one share of our common stock, one Series A Warrant exercisable for 0.5 of a share of our common stock and one Series B Warrant exercisable for 0.5 of a share of our common stock. The shares of our common stock and the Warrants were issued separately. The Series A Warrants are exercisable during the period beginning one hundred eighty (180) days after the date of issue and ending on the fifth (5th) anniversary of the date of issue. The Series B Warrants are exercisable during the period beginning one hundred eighty (180) days after the date of issue and ending on the eighteen (18) month anniversary of the date of issue. The Investor Warrants have a per share exercise price of \$2.45. The Series A Warrants were valued at \$1.3 million (using the following Black-Scholes pricing model assumptions: risk-free interest rate 2.23%; expected term 5 years and annual volatility 49.28%) and the Series B Warrants were valued at \$0.5 million (using the following Black-Scholes pricing model assumptions: risk-free interest rate 0.56%; expected term 18 months and annual volatility 49.28%). Based on the underlying terms of the Investor Warrants and Placement Agent Warrants, the Investor Warrants are classified as liability on our consolidated financial statements.

Equity Line Facility with Lincoln Park Capital Fund, LLC, or LPC

On April 16, 2010, we executed a purchase agreement, or the LPC Purchase Agreement, and a registration rights agreement, or the LPC Registration Rights Agreement, with LPC. Under the LPC Purchase Agreement, LPC is obligated to purchase from us up to \$15 million of our common stock, from time to time over a twenty-five (25) month period. The issuance of our common stock to LPC under the LPC Purchase Agreement is exempt from registration under the Securities Act in reliance on Section 4(2) of the Securities Act, as the transaction did not involve a public offering.

Pursuant to the LPC Registration Rights Agreement, we filed a registration statement on April 23, 2010 with the SEC, for 4.5 million shares of our common stock covering the shares that have been issued or may be issued to LPC under the LPC Purchase Agreement. The registration statement was declared effective on May 7, 2010. Thereafter, over approximately 25 months, generally we have the right to direct LPC to purchase up to \$15,000,000 of our common stock in amounts up to \$100,000 as often as every two business days under certain conditions. We can also accelerate the

amount of our common stock to be purchased under certain circumstances. No sales of shares may occur at a purchase price below \$1.50 per share. The purchase price of the shares will be based on the market prices of our shares at the time of sale as computed under the LPC Purchase Agreement without any fixed discount. We may at any time in our sole discretion terminate the LPC Purchase Agreement without fee, penalty or cost upon one business days notice. We issued 145,033 shares of our common stock to LPC as a commitment fee for entering into the agreement, and we are obligated to issue up to 217,549 shares pro rata as LPC purchases up to \$15,000,000 of our common stock as directed by us.

The 4.5 million shares that we registered consist of 4,137,418 shares that we have or may sell to LPC, 145,033 shares we issued as a commitment fee, and 217,549 shares that we have or are obligated to issue to LPC as a commitment fee pro rata as up to \$15 million of our common stock is purchased by LPC.

Cumulatively, as of November 5, 2010, we have sold approximately 2.2 million shares under the equity line, raising approximately \$4.9 million in gross proceeds to us. We may direct LPC to purchase up to an additional \$10.1 million of shares of our common stock under the LPC Purchase Agreement over the next 21 months, generally in amounts of up to \$100,000 every 2 business days. The selling price of our common stock to LPC will have to average at least \$5.14 per share for us to receive the maximum proceeds of \$15 million under the LPC Purchase Agreement. Assuming a purchase price of \$1.50 per share (the minimum price of the common stock) and the purchase by LPC of the 1,966,620 shares left under the LPC Purchase Agreement plus the proceeds from the 2,170,798 shares purchased by LPC to-date, proceeds to us would only be approximately \$7.8 million unless we choose to register more than 4,137,418 shares for sale to LPC under the LPC Purchase Agreement, which, subject to the approval of our board of directors, we have the right, but not the obligation, to do. In the event we elect to issue more than the 4.5 million shares of our common stock registered under a certain registration statement with the SEC, we must first register under the Securities Act, any additional shares we may elect to sell to LPC before we can sell such additional shares, which could cause substantial dilution to our stockholders. In addition, in the event that we decide to issue more than 4.5 million shares, i.e., greater than 19.99% of our outstanding shares of common stock as of the date of the LPC Purchase Agreement, we would first be required to seek stockholder approval in order to be in compliance with the NASDAQ Capital Market rules.

2010 Private Placement

On August 9, 2010, we entered into a securities purchase agreement with 23 investors set forth on the signature pages thereto (or, the U.S. Investors) and a separate securities purchase agreement with a certain Canadian investor (or, the Canadian Investor and together with the U.S. Investors, the 2010 Private Placement Investors) set forth on the signature pages thereto (or collectively, the 2010 Private Placement Purchase Agreements), for the private placement, or the 2010 Private Placement, of our common stock and warrants to purchase our common stock, at a purchase price of \$3.075 per unit, with each unit comprised of one share of common stock and a warrant to purchase one share of common stock. JMP Securities LLC, or the Placement Agent, served as our placement agent in the 2010 Private Placement.

The closing of this private placement occurred on August 12, 2010. We issued and sold an aggregate of 4,897,614 units, comprised of 4,897,614 shares of common stock and warrants to purchase up to 4,897,614 shares of our common stock for gross proceeds of approximately \$15.1 million. Each warrant, exercisable for 5 years from August

12, 2010, has an exercise price of \$3.075 per share. As the placement agent for the 2010 Private Placement, the Placement Agent was issued one warrant to purchase 97,952 shares of our common stock, paid a cash commission of \$978,911 and reimbursed for certain of its expenses incurred in connection with the 2010 Private Placement.

In connection with the 2010 Private Placement, on August 12, 2010, we entered into a registration rights agreement, or the 2010 Private Placement Registration Rights Agreement, with the 2010 Private Placement Investors, pursuant to which we filed with the SEC a registration statement covering the resale of the common stock issued to the 2010 Private Placement Investors under the 2010 Private Placement Purchase Agreements and the shares of common stock that will be issued to the 2010 Private Placement Investors upon exercise of the warrants, including the warrant issued to the Placement Agent. Such registration statement was declared effective on August 31, 2010.

Our securities offered and sold under the 2010 Private Placement Purchase Agreements to the 2010 Private Placement Investors were offered and sold in reliance upon exemptions from registration under the Securities Act in reliance on Section 4(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder, as transactions by an issuer not involving a public offering.

SECURITIES OFFERED

Securities sold and offered:	3,747,558 shares of our common stock have been issued in the Direct Offering. 1,873,779 Series A Warrants and 1,873,779 Series B Warrants to purchase our common stock have been issued in the Direct Offering. 3,698,808 shares of our common stock to be issued upon exercise of the Series A Warrants and Series B Warrants.
Warrant terms	The Series A Warrants and Series B Warrants are exercisable at a price of \$2.45 per share and are exercisable commencing on June 20, 2010. The Series A Warrants have a term of five years terminating on December 22, 2014, and the Series B Warrants have a term of eighteen months terminating on June 22, 2011.
Use of proceeds:	The net proceeds from the issuance of the units, after deducting the placement agent's fees and our expenses, was approximately \$6.9 million, based on a public offering price of \$2.00 per share. The net proceeds from the exercise of the Series A Warrants and the Series B Warrants will be approximately \$9.2 million, based on an exercise price of \$2.45 per share. We expect to use the net proceeds from the offering to fund part of our capital expenditure program and for other corporate purposes. See "Use of Proceeds" on page 28 of this prospectus.
Risk Factors	See "Risk Factors" beginning on page 9 and other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in the shares.
NASDAQ Ticker Symbol:	RPTP

RISK FACTORS

An investment in our securities involves a high degree of risk. Before you decide to invest in our securities, you should consider carefully all of the information in this prospectus, including the risks described below, as well as other information included in this 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 Securities Exchange Act of 1934, as amended, or the Exchange Act. 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. You should also refer to the other information contained in this prospectus, or incorporated herein by reference, including our financial statements and the notes to those statements, and the information set forth under the caption “Forward Looking Statements.” The risks described below and contained in our other periodic reports are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also adversely affect our business operations.

Risks Related to Our Business

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

Our consolidated financial statements as of August 31, 2010 have been prepared assuming that we will continue as a going concern. As of August 31, 2010, we had an accumulated deficit of approximately \$40.8 million. We expect to continue to incur losses for the foreseeable future and will have to raise substantial cash to fund our planned operations. Our recurring losses from operations and our stockholders’ deficit raise substantial doubt about our ability to continue as a going concern and, as a result, our independent registered public accounting firm included an explanatory paragraph in its report on our consolidated financial statements for the year ended August 31, 2010, with respect to this uncertainty. We will need to generate significant revenue or raise additional capital to continue to operate as a going concern. In addition, the perception that we may not be able to continue as a going concern may cause others to choose not to deal with us due to concerns about our ability to meet our contractual obligations and may adversely affect our ability to raise additional capital.

We believe our cash and cash equivalents as of August 31, 2010 of \$16.9 million will be sufficient to meet our obligations into December 2011. We are currently in the process of negotiating strategic partnerships, collaborations and potential equity sales to supplement the funding of our preclinical and clinical programs beyond December 2011. If we are unable to obtain such additional capital when needed, we may be forced to scale down our expenditures.

On August 9, 2010, we entered into the 2010 Private Placement Purchase Agreements with the 2010 Private Placement Investors for the private placement of units comprised of our common stock, and warrants to purchase our common stock, at a purchase price of \$3.075 per unit, with each unit comprised of one share of common stock and a warrant to purchase one share of common stock. We issued and sold an aggregate of 4,897,614 units, comprised of an aggregate of 4,897,614 shares of common stock and warrants to purchase up to 4,897,614 shares of our common stock for gross proceeds of approximately \$15.1 million. Each warrant, exercisable for 5 years from August 12, 2010,

has an exercise price of \$3.075 per share. As the placement agent to this private placement, JMP Securities LLC was issued one warrant to purchase 97,952 shares of our common stock, paid a cash commission of \$978,911 and reimbursed for certain of its expenses incurred in connection with the 2010 Private Placement. Even with the 2010 Private Placement, in the future, we may need to sell equity or debt securities to raise additional funds. The sale of additional securities is likely to result in additional dilution to our stockholders. Additional financing may not be available in amounts or on terms satisfactory to us or at all. We may be unable to raise additional financing due to a variety of factors, including our financial condition, the status of our research and development programs, and the general condition of the financial markets. If we fail to raise additional financing when needed, we may have to delay or terminate some or all of our research and development programs, our financial condition and operating results may be adversely affected and we may have to scale back our operations.

While we were restricted from selling additional shares of our common stock under the 2010 Private Placement Purchase Agreements until November 10, 2010, we may issue shares in connection with the exercise of warrants and/or stock options, and after the

expiration of such “lock-up” period, we may draw on the equity line with LPC. The extent to which we rely on LPC as a source of funding will depend on a number of factors including, the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. Specifically, LPC does not have the right nor the obligation to purchase any shares of our common stock on any business days that the purchase price of our common stock is less than \$1.50 per share. If obtaining sufficient funding from LPC were to prove unavailable or prohibitively dilutive, and if other sources of funding are available to us, we may determine not to sell shares to LPC under the LPC Purchase Agreement.

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

- the progress, timing and scope of our preclinical studies and clinical trials;
- the time and cost necessary to obtain regulatory approvals;
- the time and cost necessary to develop commercial manufacturing processes, including quality systems, and to build or acquire manufacturing capabilities;
- the time and cost necessary to launch and successfully commercialize our product candidates, once approved;
- the time and cost necessary to respond to technological and market developments; and
- any changes made or new developments in our existing collaborative, licensing and other corporate relationships or any new collaborative, licensing and other commercial relationships that we may establish.

Moreover, our fixed expenses such as rent, collaboration and license payments and other contractual commitments are substantial and will likely inc