

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

FORM 10-K

FOR ANNUAL & TRANSITION REPORTS PURSUANT TO  
SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(MARK ONE)

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the fiscal year ended December 31, 2011

or

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 001-33221

**A.P. PHARMA, INC.**

(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction of incorporation or organization)  
123 SAGINAW DRIVE, REDWOOD CITY, CALIFORNIA  
(Address of principal executive offices)

94-2875566  
(I.R.S. Employer Identification Number)  
94063  
(Zip Code)

Registrant's telephone number, including area code:  
(650) 366-2626

Securities registered pursuant to Section 12(b) of the Act:  
NONE

Securities registered pursuant to Section 12(g) of the Act:

COMMON STOCK

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Exchange Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).  Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

The aggregate market value of the voting and non-voting common equity of the registrant held by non-affiliates of the registrant as of June 30, 2011 was \$5,129,163<sup>(1)</sup> based upon the closing sale price on OTCQB reported for such date.

As of February 29, 2012, 200,046,292 shares of registrant's Common Stock, \$.01 par value, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information required to be disclosed in Part III of this report is incorporated by reference from the registrant's definitive Proxy

Statement for the 2012 Annual Meeting of Stockholders, which proxy statement will be filed not later than 120 days after the end of the fiscal year covered by this report.

- <sup>(1)</sup> Excludes 18,646,276 shares held by directors, officers and stockholders whose ownership exceeds 10% of the outstanding shares at June 30, 2011. Exclusion of such shares should not be construed as indicating that the holders thereof possess the power, directly or indirectly, to direct the management or policies of the registrant, or that such person is controlled by or under common control with the registrant.

---

[Table of Contents](#)

[PART I](#)

ITEM 1.	<a href="#">Business</a>	4
ITEM 1A.	<a href="#">Risk Factors</a>	21
ITEM 1B.	<a href="#">Unresolved Staff Comments</a>	41
ITEM 2.	<a href="#">Properties</a>	41
ITEM 3.	<a href="#">Legal Proceedings</a>	42
ITEM 4.	<a href="#">Mine Safety Disclosures</a>	42

[PART II](#)

ITEM 5.	<a href="#">Market for the Registrant's Common Stock, Related Stockholder Matters and Issuer Purchases of Equity Securities</a>	43
ITEM 6.	<a href="#">Selected Financial Data</a>	44
ITEM 7.	<a href="#">Management's Discussion and Analysis of Financial Condition and Results of Operations</a>	45
ITEM 7A.	<a href="#">Quantitative and Qualitative Disclosure About Market Risk</a>	53
ITEM 8.	<a href="#">Financial Statements and Supplementary Data</a>	54
ITEM 9.	<a href="#">Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</a>	79
ITEM 9A.	<a href="#">Controls and Procedures</a>	79
ITEM 9B.	<a href="#">Other Information</a>	80

[PART III](#)

ITEM 10.	<a href="#">Directors, Executive Officers and Corporate Governance</a>	81
ITEM 11.	<a href="#">Executive Compensation</a>	81
ITEM 12.	<a href="#">Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</a>	81
ITEM 13.	<a href="#">Certain Relationships and Related Transactions, and Director Independence</a>	81
ITEM 14.	<a href="#">Principal Accountant Fees and Services</a>	81

[PART IV](#)

ITEM 15.	<a href="#">Exhibits and Financial Statement Schedules</a>	82
	<a href="#">Signatures</a>	83
	<a href="#">Exhibit Index</a>	85

PART I

**Introduction—Forward-Looking Statements**

In this Annual Report on Form 10-K, the “Company,” “A.P. Pharma,” “we,” “us” and “our” refer to A.P. Pharma, Inc.

*This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. All statements contained in this Form 10-K, other than statements of historical fact, are forward-looking statements. When used in this report or elsewhere by management from time to time, the words “believe,” “anticipate,” “intend,” “plan,” “estimate,” “expect,” “may,” “will,” “should,” “seeks” and similar expressions are forward-looking statements. Such forward-looking statements are based on current expectations, but the absence of these words does not necessarily mean that a statement is not forward-looking. Forward-looking statements made in this Form 10-K include, but are not limited to, statements about:*

- *the progress of our research, development and clinical programs and timing of, and prospects for, regulatory approval and commercial introduction of APF530 and other future product candidates;*
- *estimates of the dates by which we expect to report results of our studies and the anticipated results of these studies;*
- *the timing of market introduction of APF530 or other future product candidates;*
- *our ability to market, commercialize and achieve market acceptance for APF530 or other future product candidates;*
- *our ability to establish collaborations for our technology, APF530 and other future product candidates;*
- *uncertainties associated with obtaining and enforcing patents;*
- *our estimates for future performance; and*
- *our estimates regarding our capital requirements and our needs for, and ability to obtain, additional financing.*

*Forward-looking statements are not guarantees of future performance and involve risks and uncertainties. Actual events or results may differ materially from those discussed in the forward-looking statements as a result of various factors. For a more detailed discussion of such forward-looking statements and the potential risks and uncertainties that may impact our actual results, see the “Risk Factors” section of this Form 10-K and the other risks and uncertainties described below under the headings: “Our Lead Product Candidate APF530,” “Development Pipeline,” “Our Technology Platform,” “Our Strategy,” “Patents and Trade Secrets,” “Competition,” and under “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” These forward-looking statements reflect our view only as of the date of this report. Except as required by law, we undertake no obligations to update any forward looking statements. Accordingly, you should also carefully consider the factors set forth in other reports or documents that we file from time to time with the Securities and Exchange Commission.*

---

[Table of Contents](#)

**ITEM 1. BUSINESS**

**Company Overview**

A.P. Pharma is a specialty pharmaceutical company developing pharmaceutical products using our proprietary Biochronomer™ polymer-based drug delivery technology. Our primary focus is on our lead product candidate, APF530, which is being developed for the prevention of chemotherapy-induced nausea and vomiting (CINV). In May 2009, we filed a New Drug Application (NDA) with the U.S. Food and Drug Administration (FDA) under Section 505(b)(2) of the Federal Food, Drug, and Cosmetic Act (FDCA) seeking approval for APF530. We are seeking regulatory approval of APF530 for the prevention of acute CINV for patients undergoing both moderately and highly emetogenic chemotherapy and for the prevention of delayed CINV for patients undergoing moderately emetogenic chemotherapy. In March 2010, we received a Complete Response Letter on the APF530 NDA. Since receiving the Complete Response Letter, we have been working to address the issues raised by the FDA. We met with the FDA in February and March 2011 to clarify the work needed to resubmit the NDA. Based on our discussions with the FDA and our assessment of the work remaining, we expect to resubmit the APF530 NDA in mid-2012.

Our core Biochronomer technology, on which APF530 and our other product candidates are based, consists of bioerodible polymers designed to release drugs over a defined period of time. We have completed over 100 *in vivo* and *in vitro* studies demonstrating that our Biochronomer technology is potentially applicable to a range of therapeutic areas, including prevention of nausea and vomiting, pain management, control of inflammation and treatment of ophthalmic diseases. We have also completed comprehensive animal and human toxicology studies that have established that our Biochronomer polymers are safe and well tolerated. Furthermore, our Biochronomer technology can be designed to deliver drugs over periods varying from days to several months.

In addition to our lead drug candidate, we have a pipeline of other product candidates that use our Biochronomer technology. Further development of our pipeline products has been temporarily deferred in order to focus both managerial and financial resources on the APF530 NDA resubmission that is responsive to issues identified in the March 2010 Complete Response Letter.

We were founded in February 1983 as a California corporation under the name AMCO Polymeric, Inc. (AMCO). AMCO changed its name to Advanced Polymer Systems, Inc. in 1984 and was reincorporated in the state of Delaware in 1987. We changed our name to A.P. Pharma, Inc. in May 2001 to reflect our new pharmaceutical focus. Our offices are located at 123 Saginaw Drive, Redwood City, California 94063. Our telephone number is (650) 366-2626. Our website is located at [www.appharma.com](http://www.appharma.com). Information contained on, or that can be accessed through, our website is not part of this Annual Report on Form 10-K.

**Our Lead Product Candidate—APF530**

***CINV Background***

Prevention and control of nausea and vomiting, or emesis, are paramount in the treatment of cancer patients. The majority of patients receiving chemotherapy will experience some degree of emesis if not prevented with an antiemetic. Chemotherapy treatments can be classified as moderately emetogenic, meaning that 30–90% of patients would experience CINV, or highly

[Table of Contents](#)

emetogenic, meaning that over 90% of patients would experience CINV, if they were not treated with an antiemetic prior to chemotherapy. Onset of CINV within the first 24 hours is described as “acute,” and CINV that occurs more than 24 hours after treatment is described as “delayed.” Delayed CINV may persist for several days. Prevention of CINV is important because the distress caused by CINV can severely disrupt patient quality of life and can lead some patients to delay or discontinue chemotherapy.

**Current Therapy**

Chemotherapeutic agents activate or destroy cells in the lining of the gut, releasing a neurotransmitter called serotonin. When serotonin binds to 5-hydroxytryptamine type 3 (5-HT<sub>3</sub>) receptors, the patient experiences nausea and vomiting. Granisetron, like other 5-HT<sub>3</sub> antagonists, inhibits the vomiting reflex by preventing serotonin from binding to 5-HT<sub>3</sub> receptors. Physicians may combine 5-HT<sub>3</sub> antagonists with other agents, such as corticosteroids or neurokinin-1 (NK1) antagonists, to better prevent CINV.

Current treatment options for preventing CINV include injectable 5-HT<sub>3</sub> antagonists such as palonosetron (Aloxi®), ondansetron (formerly marketed by GlaxoSmithKine as Zofran®) and granisetron (formerly marketed by Roche as Kytril®). Aprepitant (Emend®), an NK1 antagonist, is also used to prevent CINV and is typically used in combination with an injectable 5-HT<sub>3</sub> antagonist. As shown in the table below, several injectable 5-HT<sub>3</sub> antagonists are approved for the prevention of acute CINV in patients receiving either moderately or highly emetogenic chemotherapy. Within the last several years, generic versions of granisetron and ondansetron have become available. Aloxi is the only injectable 5-HT<sub>3</sub> antagonist approved for the prevention of delayed CINV in patients receiving moderately emetogenic chemotherapy. No injectable 5-HT<sub>3</sub> antagonist is approved for the prevention of delayed CINV in patients receiving highly emetogenic chemotherapy.

**Approved Injectable 5-HT<sub>3</sub> Antagonists**

<b>Chemotherapy Regimen</b>	<b>Acute CINV</b>	<b>Delayed CINV</b>
Moderately Emetogenic	Granisetron (Kytril) Ondansetron (Zofran) Palonosetron (Aloxi)	Palonosetron (Aloxi)
Highly Emetogenic	Granisetron (Kytril) Ondansetron (Zofran) Palonosetron (Aloxi)	None

Despite evidence that delayed CINV affects as many as 50–70% of patients and that more patients experience delayed CINV than acute CINV, oncology nurses and physicians are likely to underestimate the magnitude of these problems in the patients for whom they care. This may occur in part since patients often do not report side effects they experience at home following chemotherapy treatments. Even though high percentages of chemotherapy patients experience such delayed nausea and emesis, presently Aloxi is the only injectable 5-HT<sub>3</sub> antagonist approved for dealing with this delayed CINV. We believe that APF530, if approved, could become the second long-acting product given in a single injection that is capable of dealing with

---

[Table of Contents](#)

this important medical need. Eisai Company, which markets Aloxi in the U.S., reported U.S. Aloxi sales of \$423 million in calendar year 2010 and \$425 million in calendar year 2011. We believe the total U.S. market for antiemetics to prevent CINV is greater than \$800 million.

***Our Solution—APF530***

Our lead product candidate, APF530, is being developed for the prevention of acute CINV in patients receiving moderately or highly emetogenic chemotherapy and for the prevention of delayed CINV in patients receiving moderately emetogenic chemotherapy. APF530 is delivered by a single subcutaneous injection and contains the 5-HT<sub>3</sub> antagonist granisetron. Granisetron, for infusion and oral tablets, is approved for the prevention of acute CINV, but not delayed CINV. We selected granisetron because it is a potent, well-tolerated drug and the applicable granisetron patent expired in the United States on December 29, 2007.

Results from our APF530 Phase 3 clinical trial in over 1,300 patients showed results for the 500 mg dose of APF530 that were numerically better than and statistically non-inferior to those for Aloxi. If we obtain regulatory approval for the prevention of acute CINV in moderately and highly emetogenic chemotherapy and the prevention of delayed CINV in moderately emetogenic chemotherapy, we believe that we should have a product comparable to Aloxi.

***Phase 2 Clinical Trial***

In September 2005, we completed an open-label Phase 2 clinical trial for APF530. We evaluated the safety, tolerability and pharmacokinetics of APF530 in cancer patients. In addition, efficacy endpoints were evaluated relating to emetic events and the use of additional medication for treating CINV. The trial demonstrated that APF530 was well tolerated; there were no serious adverse events attributed to APF530, and fewer than 10% of participating patients had injection site reactions, all of which were mild.

Analysis of the efficacy data from our Phase 2 clinical trial, in which patient groups received either moderately or highly emetogenic chemotherapy, was based on complete responders, patients who experienced no vomiting and no use of additional medication for CINV during the observation period. These efficacy data compared favorably to similar data for Aloxi, as reported from its Phase 3 clinical trials. Based on these results, we designed our Phase 3 clinical program to directly compare APF530 to Aloxi in a prospective randomized trial design.

***Pivotal Phase 3 Clinical Trial***

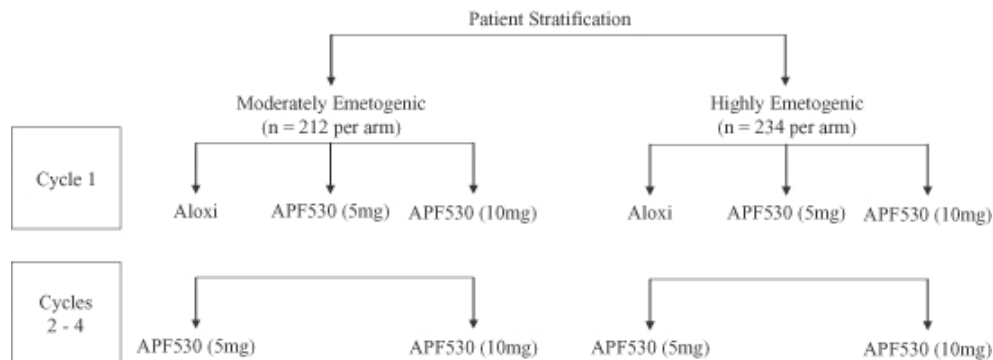
In December 2005, we held our end-of-Phase 2 meeting with the FDA, at which we discussed our registration strategy and our proposed design for the pivotal Phase 3 clinical trial. Following this meeting, we finalized plans for our pivotal Phase 3 clinical trial in accordance with FDA input. The goals of the trial were to demonstrate the safety and efficacy of APF530 in the treatment of CINV following the administration of highly or moderately emetogenic chemotherapy and to establish an effective dose for APF530. In the trial, APF530 containing 5 mg and 10 mg doses of granisetron were evaluated. The trial was structured to compare the two APF530 doses (5 mg and 10 mg) with Aloxi in four different primary efficacy endpoints:

- non-inferiority to Aloxi for the prevention of acute CINV in patients receiving moderately emetogenic chemotherapies;

[Table of Contents](#)

- non-inferiority to Aloxi for the prevention of delayed CINV in patients receiving moderately emetogenic chemotherapies;
- non-inferiority to Aloxi for the prevention of acute CINV in patients receiving highly emetogenic chemotherapies; and
- superiority to Aloxi for the prevention of delayed CINV in patients receiving highly emetogenic chemotherapies. Superiority to Aloxi was chosen for this endpoint because Aloxi is not approved for this indication.

Our pivotal Phase 3 clinical trial was initiated in May 2006 as a multicenter, randomized, observer-blind, actively-controlled, double-dummy, parallel group study that compared the efficacy of APF530 to Aloxi. The trial stratified patients into two groups, one receiving moderately and the other receiving highly emetogenic chemotherapeutic agents in accordance with the Hesketh algorithm, which assigns emetogenic levels based on the chemotherapy agent, drug dosage and combinations employed. In each emetogenic group, patients were randomized during Cycle 1 to receive either APF530 high dose (10 mg granisetron), APF530 low dose (5 mg granisetron) or the currently approved dose of Aloxi. For up to three subsequent treatment cycles (Cycles 2–4), the patients were re-randomized to receive either of the two APF530 doses. The diagram below provides further graphical representation of the patient stratification design and target enrollment for patient randomization in our clinical trial. The study completed patient enrollment of 1,395 patients in June 2008, and we announced top-line results on September 30, 2008.



The 10 mg dose of APF530 achieved complete response (CR) rates that were numerically higher than, and statistically non-inferior to, Aloxi across all four assessments. The 5 mg dose of APF530 did not demonstrate non-inferiority to Aloxi for all endpoints. APF530 did not achieve the superiority endpoint for the delayed CINV assessment for highly emetogenic chemotherapies. Aloxi is not FDA approved for the prevention of delayed CINV in patients receiving highly emetogenic chemotherapies; therefore, APF530 needed to be deemed superior to Aloxi for this endpoint to obtain a corresponding label claim. CR was defined as the absence of emetic episodes or use of anti-emetic rescue medications during a specified period of time. The time periods studied for CINV onset were 0 to 24 hours after chemotherapy, which is known as acute CINV, and 24 to 120 hours after chemotherapy, which is known as delayed CINV.



[Table of Contents](#)

The results summarized below are the primary endpoints from the study, with such data being drawn from the first cycle of treatment:

**Complete Response by Treatment–Cycle 1**

Emetogenicity Level	Treatment Group			Statistics vs. Aloxi (Confidence Interval)	
	APF530 (5 mg)	APF530 (10 mg)	Aloxi	5 mg	10 mg
Moderately emetogenic	(n=214)	(n=212)	(n=208)		
• Acute CINV	74.8%	76.9%	75.0%	NI (-9.8, 9.3)	NI (-7.5, 11.4)
• Delayed CINV	51.4%	59.0%	57.7%	I (-17.1, 4.6)	NI (-9.5, 12.1)
Highly emetogenic	(n=229)	(n=240)	(n=238)		
• Acute CINV	77.7%	81.3%	80.7%	NI (-12.1, 6.1)	NI (-8.2, 9.3)
• Delayed CINV	64.6%	68.3%	66.4%	NS (-12.4, 8.8)	NS (-8.3, 12.2)

(NI) Non-inferior efficacy was determined using a modified Bonferroni step down procedure. The lower bound of the adjusted Confidence Interval to establish non-inferiority was negative 15%. The Confidence Intervals shown for the moderately emetogenic and highly emetogenic levels are 97.5% and 98.3%, respectively. (NS) = No significant difference. (I) = Inferior efficacy.

APF530 was generally well tolerated, with a side effect profile consistent with previous human use of granisetron and only one serious adverse event reported as possibly attributed to APF530. In Cycle 1, the data showed a low incidence of patients discontinuing therapy due to any adverse events (related or unrelated to study drugs): 0.5%, 0.9% and 0.9% in the moderately emetogenic patient group, and 2.0%, 3.5% and 1.2% in the highly emetogenic patient group for APF530 5 mg, APF530 10 mg and Aloxi, respectively. Further, of the patients completing the first cycle, 1,043 went on to receive a total of 2,374 additional doses of APF530 in Cycles 2 to 4. Of these patients, only 2 (or 0.2%) discontinued therapy due to treatment-related adverse events.

Additional data from the pivotal Phase 3 clinical trial comparing APF530 to Aloxi were released on November 5, 2008, and are reported below. The additional data provided herein include predetermined secondary efficacy endpoints and safety data that were not available at the time the top-line data were released. Review of the clinical data package demonstrates the robustness of the APF530 clinical response within and across chemotherapy cycles. Some of the additional key findings follow:

- Collectively, the Phase 3 efficacy and safety data support the conclusion that the APF530 10 mg dose is the most effective dose and, therefore, was the selected dose for the NDA.

[Table of Contents](#)

- In patients receiving multiple cycles of APF530, CR rates were observed to generally increase over four cycles of chemotherapy. The data summarized below supports the continued benefits of APF530 over multiple cycles:

**Complete Response of APF530 10 mg Dose Over Four Chemotherapy Cycles**

<b>Emetogenicity Level</b>	<b>Cycle 1</b>	<b>Cycle 2</b>	<b>Cycle 3</b>	<b>Cycle 4</b>
<b>Moderately Emetogenic</b>	(n=212)	(n=240)	(n=184)	(n=134)
• Acute (0-24h)	76.9%	77.1%	78.8%	83.6%
• Delayed (24-120h)	59.0%	62.1%	61.4%	66.4%
• Overall (0-120h)	54.2%	58.8%	60.3%	63.4%
<b>Highly Emetogenic</b>	(n=240)	(n=263)	(n=202)	(n=148)
• Acute (0-24h)	81.3%	84.8%	89.6%	87.8%
• Delayed (24-120h)	68.3%	76.0%	81.2%	83.8%
• Overall (0-120h)	64.6%	72.2%	78.7%	79.7%

- The evaluation of “time to first treatment failure,” defined as either time to first emetic episode or use of rescue medication, showed that a greater proportion of patients treated with APF530 10 mg dose (vs. Aloxi) remained “failure free” on days one through five following either moderate or highly emetogenic chemotherapy.
- The Phase 3 clinical trial protocol predefined multiple primary and secondary endpoints, including complete response, complete control (no emesis, no rescue therapy and no greater-than-mild nausea) and total response (no emesis, no rescue therapy and no nausea) measured over defined time intervals (acute, delayed and overall). Although there were no significant differences between the APF530 10 mg dose vs. Aloxi, the response rates for the APF530 10 mg dose were numerically higher than Aloxi in all nine analyses for moderately emetogenic chemotherapy and in five of nine analyses for highly emetogenic chemotherapy.
- The safety profile for APF530 was very similar to that for Aloxi; the most notable adverse event was constipation, observed in 15.4% and 13.4% of patients receiving APF530 10 mg and Aloxi, respectively. Headache was observed in 10.0% and 9.7% of patients receiving the APF530 10 mg dose and Aloxi, respectively.
- Investigators were required to observe and record all reactions associated with the subcutaneous injection site on days one and five for each treatment cycle. Overall, greater than 90% of the recorded observations were mild in severity, the most common being injection-site redness and bruising. With each additional cycle of treatment, the frequency of injection site reactions decreased, indicating APF530 can safely be administered for multiple cycles.
- During the trial, patients received more than 1,600 separate injections of the APF530 10 mg dose. Assessment of any injection-site pain was made on days one and five of treatment: on day one, less than 0.1% of injections produced any reports of pain; on day five, approximately 4% of injections produced reported pain. All but four of these reports of pain were recorded as mild, with the four recorded as moderate.

---

[Table of Contents](#)

Additional data from the pivotal Phase 3 clinical trial were presented at the annual meeting of the American Society of Clinical Oncology on June 1, 2009, and are reported below.

- CR rates for the APF530 10 mg dose were generally higher in patients who had received prior chemotherapy when compared to patients who had not received any previous chemotherapy. Additionally, in all instances, CR rates for APF530 in patients receiving prior chemotherapy were numerically higher than those observed for Aloxi. Based on previous clinical studies, many physicians believe that the risk of CINV increases with each additional cycle of chemotherapy. These new data may suggest potential utility for APF530 in treating patients who have received prior chemotherapy.
- Of the highly emetogenic chemotherapy regimens, those containing cisplatin are considered to be the most troublesome due to their ability to cause significant delayed CINV. The CR rates for patients receiving cisplatin-based regimens were numerically higher for the APF530 10 mg dose when compared to Aloxi in both acute and delayed CINV. Specifically, in acute CINV, APF530 had an 81.1% CR rate versus 75.5% for Aloxi, and in delayed CINV, 66.0% versus 60.4% for Aloxi.
- A pharmacokinetic analysis, conducted in a sub-group of patients, confirmed that a single APF530 10 mg dose successfully maintained blood levels of granisetron for the entire five-day period.

***Additional Clinical Studies***

In the first quarter of 2012, the Company completed a thorough QT study of APF530. The study was conducted to assess the potential for granisetron, the active drug in APF530, to prolong the QT interval across a wide range of plasma drug concentrations. The study met its protocol-specified primary end point and demonstrated that granisetron did not have an effect on cardiac repolarization as measured by prolongation of the QT interval. A pharmacokinetic/pharmacodynamic (PK/PD) analysis demonstrated that there was no relationship between plasma granisetron concentrations and the heart-rate-corrected QT interval (QTc) (slope of zero).

This study was a randomized, double-blind, placebo-controlled, four-way, crossover trial in 56 healthy adults that compared the effects of (1) APF530 at twice its proposed therapeutic dose, (2) intravenous granisetron at five times its therapeutic dose, (3) oral moxifloxacin (400 mg), and (4) placebo on the surface electrocardiogram with primary focus on the QT interval. The primary end point was to determine that granisetron had no clinically meaningful effect on QTc, defined as the upper bound of the one-sided 95% confidence interval for placebo-adjusted, baseline-subtracted QTc being less than 10 milliseconds at all time points. The primary end point was met irrespective of heart-rate correction methodology (QTcF, QTcI, QTcB). Moxifloxacin, the study's positive control, demonstrated QTc prolongation consistent with previous clinical experience.

The QT interval represents the amount of time the heart's electrical system takes to repolarize after each beat. Prolongation of the QT interval may increase the risk of fatal cardiac tachyarrhythmias. As such, the FDA requires a tQT study, which examines a drug's potential to prolong the QT interval, for most drugs in development. Moxifloxacin, a drug known to prolong the QT interval, is a standard positive control used in tQT studies.

Also in the first quarter of 2012, the Company completed a study of the metabolism of APF530 in healthy volunteers. This study was requested by the FDA to corroborate pre-clinical animal metabolism data for the polymer used in APF530 with metabolism data in humans. The study provided quantitative results confirming how the polymer is metabolized by the human body. The results of the study will be included in the resubmission of the NDA.

---

[Table of Contents](#)

***New Drug Application***

In May 2009, we filed an NDA for APF530 with the FDA under Section 505(b)(2) of the FDCA. In March 2010, we received a Complete Response Letter from the FDA, which stated that the NDA we submitted in May 2009, requesting approval of APF530, could not be approved in its present form. The primary points raised in the FDA Complete Response Letter are as follows:

*Dosing System*

- The FDA expressed concerns relating to our two-syringe administration system, including potential issues with the transfer of material from one syringe to the other syringe prior to patient administration, certain components used in the dosing system and the potential risk of improper administration of the drug product.

*Chemistry, Manufacturing and Control*

- The FDA has completed inspections of our facility and several of our contract manufacturing facilities. The FDA identified certain deficiencies during these inspections, and satisfactory resolution of these deficiencies will be required for approval.
- During the NDA review, the FDA asked that we determine if terminal sterilization with gamma irradiation is a feasible approach to enhance the assurance of sterility. We have subsequently demonstrated that terminal sterilization is feasible, and the FDA has requested we change to terminal sterilization prior to approval.
- The FDA requested clarification and revision of certain analytical specifications proposed in our NDA.

*Clinical*

- The FDA did not request additional clinical efficacy studies, although the FDA has asked for the re-presentation and re-analysis of select existing Phase 3 clinical trial data.
- The FDA requested we perform two studies relating to bioavailability and metabolism.
- The FDA did not accept our request to waive the requirement for a thorough QT study.

Since receiving the Complete Response Letter, we have been working to address the issues raised by the FDA. The FDA granted the Company two meetings to discuss the Complete Response Letter in the first quarter of 2011, one in February and one in March.

At the February 2011 meeting, we presented information concerning the clinical pharmacology of APF530 and a revised presentation format for certain clinical data from the Company's Phase 3 clinical study. The FDA indicated the Company would need to complete a thorough QT study prior to resubmitting its NDA and clarified the requirements for a previously requested metabolism study. The FDA also indicated that the revised presentation format for the clinical data was acceptable for resubmission. The FDA did not request that the Company conduct any additional efficacy studies. At the March 2011 meeting,

---

[Table of Contents](#)

the dosing system and the characterization and manufacturing of APF530 were discussed. The Company also presented the results of the additional analytical work it has completed since receipt of the Complete Response Letter.

Following these meetings, we have continued working to address the items requested by the FDA. The thorough QT and metabolism studies have been completed (see Additional Clinical Studies), and we are making changes to the dosing system and manufacturing process to address the concerns raised by the FDA. Based on our discussions with the FDA and our assessment of the work remaining, we currently expect to resubmit the APF530 NDA in mid-2012.

Section 505(b)(2) of the FDCA permits the FDA, in its review of an NDA, to rely on previous FDA findings of safety and efficacy of the active ingredient in APF530, granisetron. Section 505(b)(2) applications may be submitted for drug products that represent a modification (e.g., a new indication or new dosage form) of an eligible approved drug and for which investigations other than bioavailability or bioequivalence studies are essential to the drug's approval. The additional information in 505(b)(2) applications can be provided by literature or by reference to past FDA findings of safety and efficacy for approved drugs, or it can be based upon studies conducted by or for the applicant to which it has obtained a right of reference. The majority of 505(b)(2) applications are filed for new formulations of currently approved drugs, so there is an existing understanding — on the part of the FDA, as well as the medical community — of their safety and efficacy.

***Development Pipeline***

We have previously submitted Investigational New Drug (IND) applications for two other product candidates, APF112 and APF580. APF112 utilizes our Biochronomer delivery technology to target post-surgical pain relief. This product is designed to provide up to 36 hours of localized pain relief by delivering mepivacaine directly to the surgical site. APF112 completed a Phase 2 clinical study in 2004, but failed to reach its primary endpoint. APF580 incorporates buprenorphine, an opiate, into our Biochronomer technology and is designed to provide analgesia lasting at least seven days following a single injection. An IND was filed in 2008, but no clinical studies have been conducted.

Since 2009, further development of these product candidates has been deferred in order to focus both managerial and financial resources on the development of APF530. We are currently evaluating potential applications of our Biochronomer delivery technology, including APF112 and APF580, to determine potential pipeline candidates following the possible approval of APF530.

***Research and Development***

As of December 31, 2011, we had 15 employees engaged in research and development. Research and development expenses for 2011, 2010 and 2009 were \$8.2 million, \$7.3 million and \$7.8 million, respectively.

***Our Technology Platform***

We have developed a broad family of polymers with unique attributes, known collectively as poly (ortho esters), under the trade name Biochronomer. We have completed over 100 *in vivo* and *in vitro* studies demonstrating that our Biochronomer technology is potentially applicable to a range of therapeutic areas, including pain management, prevention of nausea, control of inflammation and treatment of ophthalmic diseases. We have also completed comprehensive animal and human toxicology studies that have established that our Biochronomer polymers are safe and well tolerated.

---

## [Table of Contents](#)

Our Biochronomer technology can provide sustained levels of drugs for prolonged efficacy. The Biochronomer “links,” or bonds, are stable at neutral pH conditions. Upon coming into contact with water-containing media, such as internal body fluids, the water reacts with these bonds. This reaction is known as hydrolysis. During the hydrolysis of the Biochronomer links, acidic elements are produced in a local micro-environment, in a controlled manner, without impacting the overall neutrality of the drug delivery system. These elements assist in the continued, controlled erosion of the polymer with a simultaneous, controlled release of the active drug contained within the Biochronomer. By varying the amount of the acidic elements in the Biochronomer, different rates of hydrolysis may be effectively realized. In this manner, delivery times ranging from days to weeks to several months can be achieved.

Due to the inherent versatility of our Biochronomer technology, products can be designed to deliver drugs at a variety of implantation sites including: under the skin, at the site of a surgical procedure, in joints, in the eye or in muscle tissue. Our Biochronomers can be prepared in a variety of physical forms, ranging from hard, glassy materials to semi-solids that are injectable at room temperature, by proper selection of monomers. A significant advantage of our Biochronomer technology is that drugs can be incorporated by simple mixing procedures, allowing the production of formulations in the form of injectable gels, microspheres, coatings and strands.

### **Our Strategy**

Our primary near-term objective is to obtain regulatory approval of the NDA for APF530 from the FDA. We believe there is significant market potential for APF530 in preventing CINV. We plan to explore commercialization of APF530 in the United States and the rest of the world using our resources and/or in conjunction with one or more partners. Longer term, we intend to become a leading specialty pharmaceutical company focused on improving the effectiveness of existing pharmaceuticals using our proprietary drug delivery technologies.

### **Manufacturing and Supply**

We do not currently own or operate manufacturing facilities for the production of clinical or commercial quantities of any of our product candidates. We rely on a small number of third-party manufacturers to produce our compounds and expect to continue to do so to meet the preclinical and clinical requirements of our potential product candidates and for all of our commercial needs. We do not have long-term agreements with any of these third-parties. We require in our manufacturing and processing agreements that all third-party contract manufacturers and processors produce active pharmaceutical ingredients (APIs) and finished products in accordance with the FDA’s current Good Manufacturing Practices (cGMP) and all other applicable laws and regulations. We maintain confidentiality agreements with potential and existing manufacturers in order to protect our proprietary rights related to our drug candidates.

With regard to our lead product candidate, APF530, we source the API, granisetron, from two suppliers. We use one supplier to source raw materials and prepare our proprietary polymer, and another supplier to formulate the bulk drug product. We ship the bulk APF530 to a contract manufacturer for filling into syringes. This supplier is one of a small number of companies with the ability to perform the syringe filling function with a highly viscous material like APF530. To date, APF530 has been manufactured in small quantities for preclinical studies and clinical trials. If APF530 is approved for commercial sale, we will need to manufacture such product in larger quantities. Significant scale-up of manufacturing will require additional process development and validation studies, which the FDA must review and approve. The commercial success of APF530, in the near-term,

---

[Table of Contents](#)

will be dependent upon the ability of our contract manufacturers to produce a product in commercial quantities at competitive costs of manufacture. If APF530 receives regulatory approval, we plan to scale-up manufacturing through our third-party manufacturers for APF530 in order to realize important economies of scale. These scale-up activities will take time to implement, require additional capital investment, process development and validation studies, and FDA approval. We cannot guarantee that we will be successful in achieving competitive manufacturing costs through such scale-up activities.

**Sales and Marketing**

A key part of our business strategy is to form collaborations with pharmaceutical partners. In the past, we have successfully partnered our development stage programs with leading pharmaceutical companies. In general, we grant limited marketing exclusivity in defined markets for defined periods to our partners. However, after development is completed and a partner commercializes a formulated product utilizing our delivery technologies, we can exert only limited influence over the manner and extent of our partner's marketing efforts.

In September 2009, we entered into a licensing and development agreement with Merial Limited for a long-acting pain management product for use with companion animals. In May 2011, we received notice of termination from Merial due to their concerns about the commercial potential of the product under development in the animal health market. Pursuant to the notice, the agreement terminated in August 2011. We received an upfront payment and development funding during the contract period.

We have engaged and will continue to engage in potential partnership discussions with domestic and international pharmaceutical companies.

**Patents and Trade Secrets**

Patents and other proprietary rights are important to our business. It is our policy to seek patent protection for our inventions, and to rely upon trade secrets, know-how, continuing technological innovations and licensing opportunities to develop and maintain our competitive position.

As part of our strategy to protect our current product candidates and to provide a foundation for future products, we have filed a number of U.S. patent applications on inventions relating to the composition of a variety of polymers, specific products, product groups and processing technology. As of December 31, 2011, we had a total of 20 issued U.S. patents and an additional 54 issued (or registered) foreign patents. The patents on our bioerodible technologies expire between January 2016 and November 2023. APF530 is covered by multiple patents that have claims extending into 2021. In addition, we have filed patent applications on further improvements to our polymer technology, which, if issued, would provide additional exclusivity beyond these dates.

Although we believe the bases for these patents and patent applications are sound, they are untested, and there is no assurance that they will not be successfully challenged. There can be no assurance that any patent previously issued will be of commercial value, that any patent applications will result in issued patents of commercial value, or that our technology will not be held to infringe patents held by others.

---

[Table of Contents](#)

We also rely on unpatented trade secrets and know-how to protect certain aspects of our production technologies. Our employees, consultants, advisors and corporate partners have entered into confidentiality agreements with us. These agreements, however, may not necessarily provide meaningful protection for our trade secrets or proprietary know-how in the event of unauthorized use or disclosure. In addition, others may obtain access to, or independently develop, these trade secrets or know-how.

**Competition**

The pharmaceutical industry is highly competitive. Many of our competitors have substantially greater financial, research, development, manufacturing, sales, marketing and distribution resources than we currently do. In addition, they may have significantly more experience in drug development, obtaining regulatory approval and establishing strategic collaborations. We expect any future products we develop to compete on the basis of, among other things, product efficacy and safety, time to market, price, extent of adverse side effects experienced and convenience of administration and drug delivery. We also expect to face competition in our efforts to identify appropriate collaborators or partners to help commercialize our product candidates in our target commercial areas.

APF530 is expected to face significant competition for the prevention of delayed CINV, principally from Eisai's Aloxi (palonosetron). In addition to Aloxi, APF530 will compete with entrenched generic forms of granisetron (formerly marketed by Roche as Kytril) and ondansetron (formerly marketed by GlaxoSmithKline as Zofran). Generic versions of Aloxi may become available after its scheduled patent expiration date, which was recently extended to 2024. We are also aware of several companies that have developed, or are developing, both generic and new formulations of granisetron, including transdermal formulations such as ProStrakan's Sancuso<sup>®</sup> (granisetron transdermal patch).

There are several companies that are developing new formulations of existing drugs using novel drug delivery technologies. The following are some of our major competitors among drug delivery system developers: Alkermes, Inc., Durect Corporation and Pacira Pharmaceuticals, Inc.

**Government Regulation and Product Approvals**

The manufacturing and marketing of our potential products and our ongoing research and development activities are subject to extensive regulation by the FDA and comparable regulatory agencies in state and local jurisdictions and in foreign countries.

***United States Regulation***

Before any of our products can be marketed in the United States, they must be approved by the FDA. To secure approval, any drug we develop must undergo rigorous preclinical testing and clinical trials that demonstrate the product candidate's safety and effectiveness for each chosen indication for use. These extensive regulatory processes control, among other things: the development, testing, manufacture, safety, efficacy, record keeping, labeling, storage, approval, advertising, promotion, sale and distribution of biopharmaceutical products.



---

## [Table of Contents](#)

In general, the process required by the FDA before investigational drugs may be marketed in the United States involves the following steps:

- preclinical laboratory and animal tests;
- submission of an IND, which must become effective before human clinical trials may begin;
- adequate and well-controlled human clinical trials to establish the safety and efficacy of the proposed drug for its intended use;
- pre-approval inspection of manufacturing facilities and selected clinical investigators; and
- FDA approval of an NDA or of an NDA supplement (for subsequent indications).

### ***Preclinical Testing***

In the United States, drug candidates are tested in animals until adequate proof-of-safety is established. These preclinical studies generally evaluate the mechanism of action of the product and assess the potential safety and efficacy of the product. Tested compounds must be produced according to applicable cGMP requirements, and preclinical safety tests must be conducted in compliance with FDA and international regulations regarding good laboratory practices (GLP). The results of the preclinical tests, together with manufacturing information and analytical data, are generally submitted to the FDA as part of an IND, which must become effective before human clinical trials may commence. The IND will automatically become effective 30 days after receipt by the FDA, unless before that time the FDA requests an extension or raises concerns about the conduct of the clinical trials as outlined in the application. If the FDA has any concerns, the sponsor of the application and the FDA must resolve the concerns before clinical trials can begin. Submission of an IND may not result in FDA authorization to commence a clinical trial. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development, and the FDA must grant permission for each clinical trial to start and continue. Regulatory authorities may require additional data before allowing the clinical studies to commence or proceed from one Phase to another and could demand that the studies be discontinued or suspended at any time if there are significant safety issues. Furthermore, an independent institutional review board (IRB), for each medical center proposing to participate in the conduct of the clinical trial must review and approve the clinical protocol and patient informed consent before the center commences the study.

### ***Clinical Trials***

Clinical trials for new drug candidates are typically conducted in three sequential phases that may overlap. In Phase 1, the initial introduction of the drug candidate into human volunteers, the emphasis is on testing for safety or adverse effects, dosage, tolerance, metabolism, distribution, excretion and clinical pharmacology. Phase 2 involves studies in a limited patient population to determine the initial efficacy of the drug candidate for specific targeted indications, to determine dosage tolerance and optimal dosage and to identify possible adverse side effects and safety risks. Once a compound shows evidence of effectiveness and is found to have an acceptable safety profile in Phase 2 evaluations, pivotal Phase 3 clinical trials are undertaken to more fully evaluate clinical outcomes and to establish the overall risk/benefit profile of the drug and to provide, if appropriate, an adequate basis for product labeling. During all clinical trials, physicians will monitor patients to determine effectiveness of the

---

[Table of Contents](#)

drug candidate and to observe and report any reactions or safety risks that may result from use of the drug candidate. The FDA, the IRB (or their foreign equivalents) or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk.

The data from the clinical trials, together with preclinical data and other supporting information that establishes a drug candidate's safety, are submitted to the FDA in the form of an NDA, or NDA supplement (for approval of a new indication if the product candidate is already approved for another indication). Under applicable laws and FDA regulations, each NDA submitted for FDA approval is usually given an internal administrative review within 60 days following submission of the NDA. If deemed complete, the FDA will "file" the NDA, thereby triggering substantive review of the application.

The FDA can refuse to file any NDA that it deems incomplete or not properly reviewable. The FDA has established internal substantive review goals of six months for priority NDAs (for drugs addressing serious or life threatening conditions for which there is an unmet medical need) and ten months for regular NDAs. The FDA, however, is not legally required to complete its review within these periods, and these performance goals may change over time. Moreover, the outcome of the review, even if generally favorable, is not typically an actual approval, but a "complete response" that describes additional work that must be done before the NDA can be approved. The FDA's review of an NDA may involve review and recommendations by an independent FDA advisory committee. The FDA may deny approval of an NDA, or NDA supplement, if the applicable regulatory criteria are not satisfied, or it may require additional clinical data and/or an additional pivotal Phase 3 clinical trial. Even if such data are submitted, the FDA may ultimately decide that the NDA or NDA supplement does not satisfy the criteria for approval.

***Data Review and Approval***

Satisfaction of FDA requirements or similar requirements of state, local, and foreign regulatory agencies typically takes several years and requires the expenditure of substantial financial resources. Information generated in this process is susceptible to varying interpretations that could delay, limit or prevent regulatory approval at any stage of the process. Accordingly, the actual time and expense required to bring a product to market may vary substantially. We cannot assure you that we will submit applications for required authorizations to manufacture and/or market potential products or that any such application will be reviewed and approved by the appropriate regulatory authorities in a timely manner, if at all. Data obtained from clinical activities is not always conclusive and may be susceptible to varying interpretations which could delay, limit or prevent regulatory approval. Success in early stage clinical trials does not ensure success in later stage clinical trials. Even if a product candidate receives regulatory approval, the approval may be significantly limited to specific disease states, patient populations and dosages, or have conditions placed on them that restrict the commercial applications, advertising, promotion or distribution of these products.

Once issued, the FDA may withdraw product approval if ongoing regulatory standards are not met or if safety problems occur after the product reaches the market. In addition, the FDA may require testing and surveillance programs to monitor the effect of approved products which have been commercialized, and the FDA has the power to prevent or limit further marketing of a product based on the results of these post-marketing programs. The FDA may also request additional clinical trials after a product is approved. These so-called Phase 4 clinical studies may be made a condition to be satisfied after a drug receives approval. The results of Phase 4 clinical studies can confirm the effectiveness of a product candidate and can provide important safety information to augment the FDA's voluntary adverse drug reaction reporting system. Any products manufac-

---

[Table of Contents](#)

tured or distributed by us pursuant to FDA approvals would be subject to continuing regulation by the FDA, including record-keeping requirements and reporting of adverse experiences with the drug. Drug manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMPs which impose certain procedural and documentation requirements upon us and our third-party manufacturers. We cannot be certain that we, or our present or future suppliers, will be able to comply with the cGMP regulations and other FDA regulatory requirements. If our present or future suppliers are not able to comply with these requirements, the FDA may halt our clinical trials, require us to recall a drug from distribution, or withdraw approval of the NDA for that drug. Furthermore, even after regulatory approval is obtained, later discovery of previously unknown problems with a product may result in restrictions on the product or even complete withdrawal of the product from the market.

The FDA closely regulates the marketing and promotion of drugs. Approval may be subject to post-marketing surveillance and other record-keeping and reporting obligations, and involve ongoing requirements. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing. A company can make only those claims relating to safety and efficacy that are approved by the FDA. Failure to comply with these requirements can result in adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available drugs for uses that are not described in the product's labeling and that differ from those tested by us and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturers' communications on the subject of off-label use.

***Section 505(b)(2) Applications***

Some of our product candidates may be eligible for submission of applications for approval under the FDA's Section 505(b)(2) approval process, which requires less information than the NDAs described above. Section 505(b)(2) was enacted as part of the Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act. Section 505(b)(2) applications may be submitted for drug products that represent a modification (e.g., a new indication or new dosage form) of an eligible approved drug and for which investigations other than bioavailability or bioequivalence studies are essential to the drug's approval. Section 505(b)(2) applications may rely on the FDA's previous findings for the safety and effectiveness of the listed drug, scientific literature and information obtained by the 505(b)(2) applicant needed to support the modification of the listed drug. For this reason, preparing Section 505(b)(2) applications is generally less costly and time-consuming than preparing an NDA based entirely on new data and information from a full set of clinical trials. The law governing Section 505(b)(2) or FDA's current policies may change in such a way as to adversely affect our applications for approval that seek to utilize the Section 505(b)(2) approach. Such changes could result in additional costs associated with additional studies or clinical trials and delays.

The FDA provides that reviews and/or approvals of applications submitted under Section 505(b)(2) will be delayed in various circumstances. For example, the holder of the NDA for the listed drug may be entitled to a period of market exclusivity during which the FDA will not approve, and may not even review, a Section 505(b)(2) application from other sponsors. If the listed drug is claimed by a patent that the NDA holder has listed with the FDA, the Section 505(b)(2) applicant must submit a patent

---

[Table of Contents](#)

certification. If the 505(b)(2) applicant certifies that the patent is invalid, unenforceable or not infringed by the product that is the subject of the Section 505(b)(2) application, and within 45 days of its notice to the entity that holds the approval for the listed drug and the patent holder, the certification is challenged, the FDA will not approve the Section 505(b)(2) application until the earlier of a court decision favorable to the Section 505(b)(2) applicant or the expiration of 30 months. The regulations governing marketing exclusivity and patent protection are complex, and it is often unclear how they will be applied in particular circumstances.

In addition, both before and after approval is sought, we and our collaborators are required to comply with a number of FDA requirements. For example, we are required to report certain adverse reactions and production problems, if any, to the FDA, and to comply with certain limitations and other requirements concerning advertising and promotion for our products. Also, quality control and manufacturing procedures must continue to conform to cGMPs after approval, and the FDA periodically inspects manufacturing facilities to assess compliance with continuing cGMP. In addition, discovery of problems, such as safety problems, may result in changes in labeling or restrictions on a product manufacturer or NDA holder, including removal of the product from the market.

***DEA Regulation***

Our research and development processes involve the controlled use of hazardous materials, including chemicals. Some of these hazardous materials are considered to be controlled substances and subject to regulation by the U.S. Drug Enforcement Agency (DEA). Controlled substances are those drugs that appear on one of five schedules promulgated and administered by the DEA under the Controlled Substances Act (CSA). The CSA governs, among other things, the distribution, recordkeeping, handling, security and disposal of controlled substances. We must be registered by the DEA in order to engage in these activities, and are subject to periodic and ongoing inspections by the DEA and similar state drug enforcement authorities to assess ongoing compliance with the DEA's regulations. Any failure to comply with these regulations could lead to a variety of sanctions, including the revocation, or a denial of renewal, of the DEA registration, injunctions or civil or criminal penalties.

***Third-Party Payor Coverage and Reimbursement***

Although none of our current product candidates have been approved or commercialized for any indication, if they are approved for marketing, commercial success of our product candidates will depend, in part, upon the availability of coverage and reimbursement from third-party payors at the federal, state and private levels. Government payor programs, including Medicare and Medicaid, private health care insurance companies and managed care plans have attempted to control costs by limiting coverage and the amount of reimbursement for particular procedures or drug treatments. The U.S. Congress and state legislatures, from time to time, propose and adopt initiatives aimed at cost containment. Ongoing federal and state government initiatives directed at lowering the total cost of health care will likely continue to focus on health care reform, the cost of prescription pharmaceuticals and on the reform of the Medicare and Medicaid payment systems. Examples of how limits on drug coverage and reimbursement in the United States may cause reduced payments for drugs in the future include:

- changing Medicare reimbursement methodologies;
- fluctuating decisions on which drugs to include in formularies;

---

[Table of Contents](#)

- revising drug rebate calculations under the Medicaid program; and
- reforming drug importation laws.

Some third-party payors also require pre-approval of coverage for new or innovative devices or drug therapies before they will reimburse health care providers that use such therapies. While we cannot predict whether any proposed cost-containment measures will be adopted or otherwise implemented in the future, the announcement or adoption of these proposals could have a material adverse effect on our ability to obtain adequate prices for our product candidates and operate profitably.

**Foreign Approvals**

In addition to regulations in the United States, we will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our products. Whether or not we obtain FDA approval for a product, we must obtain approval of a product by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country, and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from country to country.

We have not started the regulatory approval process in any jurisdiction other than the United States, and we are unable to estimate when, if ever, we will commence the regulatory approval process in any foreign jurisdiction. Foreign approvals may not be granted on a timely basis, or at all. Regulatory approval of prices is required in most countries other than the United States. The prices approved may be too low to generate an acceptable return to us. If we fail to obtain approvals from foreign jurisdictions, the geographic market for our product candidates would be limited.

**Employees**

As of December 31, 2011, we had 19 full-time employees, two of whom hold Ph.D. degrees, and approximately 4 full-time equivalent contract workers. There were 15 employees engaged in research and development and quality control, and 4 individuals working in finance, information technology, human resources and administration.

We consider our relations with our employees to be good. None of our employees are covered by a collective bargaining agreement.

**Available Information**

We make available free of charge on or through our Internet website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Our Internet website address is "www.appharma.com." The reference to our Internet website does not constitute incorporation by reference of the information contained on or hyperlinked from our Internet website. We file electronically with the SEC, our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K pursuant to Section 13(a) or 15(d) of the Exchange Act. The SEC maintains an Internet site that contains reports, proxy information and information statements, and other information regarding issuers that file electronically with the

---

[Table of Contents](#)

SEC. The address of that website is <http://www.sec.gov>. The materials are also available at the SEC's Public Reference Room, located at 100 F Street, Washington, D.C. 20549. The public may obtain information through the public reference room by calling the SEC at 1-800-SEC-0330.

**ITEM 1A. RISK FACTORS**

Our business is subject to various risks, including those described below. You should consider carefully these risk factors and all of the other information included in this Form 10-K. Any of these risk factors could materially adversely affect our business, operating results and financial condition. These risks are not the only ones we face. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment in our securities. Before you decide whether to purchase any of our common stock, you should carefully consider the risk factors set forth below as may be updated from time to time by our future filings under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

**Risks Related To Our Business**

**We have a history of losses, we expect to generate losses in the near future, and we may never achieve or maintain profitability.**

We have incurred recurring losses and had an accumulated deficit of \$160.2 million as of December 31, 2011. We expect to continue to generate substantial losses over at least the next several years as we:

- expand drug product development and commercialization efforts;
- conduct preclinical testing and clinical trials; and
- pursue additional applications for our existing delivery technologies.

To achieve and sustain profitability, we must, alone or with others, successfully develop, obtain regulatory approval for, manufacture, market and sell our products. We will incur substantial expenses in our efforts to develop and commercialize products and we may never generate sufficient revenue to become profitable or to sustain profitability.

**We are substantially dependent upon the success of our APF530 product candidate. Clinical trial results and the NDA for this product may not lead to regulatory approval.**

We have invested a significant portion of our time and financial resources in the development of our most advanced product candidate, APF530, which prevents chemotherapy-induced nausea and vomiting (CINV). Our near-term ability to generate revenues and our future success, in large part, depends on the development and commercialization of APF530.

We will not be able to commercialize our lead product candidate, APF530, until we obtain regulatory approval in the United States or foreign countries. To satisfy U.S. Food and Drug Administration (FDA) or foreign regulatory approval standards for the commercial sale of APF530, we must have demonstrated in adequate and controlled clinical trials that APF530 is safe and

---

[Table of Contents](#)

effective. APF530 is designed to provide at least five days prevention of CINV. In September and November 2008, we announced results of our pivotal Phase 3 human clinical trial of APF530 that achieved most of its primary and secondary endpoints. In May 2009, we submitted our new drug application (NDA) for approval of APF530 to the FDA. The NDA was accepted for review by the FDA in July 2009. In March 2010, we received a Complete Response Letter from the FDA, which stated that the NDA we submitted in May 2009 requesting approval of APF530 could not be approved in its present form. Since receiving the Complete Response Letter, we have been working to address the issues raised by the FDA. We met with the FDA in February and March 2011 to clarify the work needed to resubmit the NDA. Based on our discussions with the FDA and our assessment of the work remaining, we currently expect to resubmit the APF530 NDA in mid-2012. If the FDA does not approve our NDA or requests additional work or changes to the NDA, our continued ability to commercialize APF530 could be seriously impaired, and our business would be adversely impacted. Obtaining regulatory approval of APF530 for the prevention of acute CINV for both moderately and highly emetogenic chemotherapy, and for the prevention of delayed CINV in moderately emetogenic chemotherapy, is subject to many variables. For example, the FDA's review may not produce positive decisions as to:

- whether APF530 is safe and effective in its proposed use(s) and whether its benefits outweigh the risks;
- whether the proposed labeling (package insert) for APF530 is appropriate and what it should contain; and
- whether the methods used in manufacturing APF530 and the controls used to maintain its quality are adequate to preserve its identity, strength, quality and purity.

Deficiencies on any of the above, or other factors, could prevent or delay obtaining regulatory approval of APF530, which would impair our reputation, increase our costs and prevent us from earning revenue.

**We may not obtain regulatory approval for APF530 or any of our product candidates. Regulatory approval may also be delayed or cancelled or may entail limitations on the indicated uses of a proposed product.**

The process for obtaining approval of an NDA is time consuming, subject to unanticipated delays and costs, and requires the commitment of substantial resources. The regulatory process, particularly for pharmaceutical product candidates like ours, is uncertain, can take many years and requires the expenditure of substantial resources. Any product that we or our collaborative partners develop must receive all relevant regulatory agency approvals or clearances, if any, before it may be marketed in the United States or other countries. In particular, human pharmaceutical therapeutic products are subject to rigorous preclinical and clinical testing and other requirements by the FDA in the United States and similar health authorities in foreign countries. We may not receive necessary regulatory approvals or clearances to market APF530 or any other product candidate. In March 2010, we received a Complete Response Letter from the FDA which stated that the NDA we submitted in May 2009 requesting approval of APF530 could not be approved in its present form due to a number of issues raised by the FDA.

Since receiving the Complete Response Letter, we have been working to address these issues. The FDA granted the Company two meetings to discuss the Complete Response Letter in the first quarter of 2011, one in February and one in March.

Based on our discussions with the FDA and our assessment of the work remaining, we currently expect to resubmit the APF530 NDA in mid-2012.

---

[Table of Contents](#)

Our NDA for APF530 may not be approved after our resubmission, or approval may be delayed, as a result of changes in FDA policies for drug approval prior to the resubmission of our NDA. For example, although many products have been approved by the FDA in recent years under Section 505(b)(2) under the Federal Food, Drug, and Cosmetic Act, objections have been raised to the FDA's interpretation of Section 505(b)(2). If challenges to the FDA's interpretation of Section 505(b)(2) are successful, the Agency may be required to change its interpretation, which could delay or prevent the approval of our NDA for APF530. The review of our resubmitted NDA may also be delayed due to the FDA's internal resource constraints.

Additionally, data obtained from preclinical and clinical activities is susceptible to varying interpretations that could delay, limit or prevent regulatory agency approvals or clearances. For example, the FDA may require additional clinical data to support approval, such as confirmatory studies and other data or studies to address questions or concerns that may arise during the FDA review process.

Delays in resubmitting an NDA and obtaining regulatory approval for APF530, or the issuance of a second Complete Response letter, would, among other consequences, delay the launch of APF530 and adversely affect our ability to generate revenue from sales of this product and adversely affect our ability to raise additional capital that would be necessary to sustain our operations. Given the additional delays that we would face prior to obtaining approval for APF530, if such approval is ever granted, we would need significant additional capital to fund our operations.

Even if granted, regulatory approvals may include significant limitations on the uses for which products may be marketed. Failure to comply with applicable regulatory requirements can, among other things, result in warning letters, imposition of civil penalties or other monetary payments, delay in approving or refusal to approve a product candidate, suspension or withdrawal of regulatory approval, product recall or seizure, operating restrictions, interruption of clinical trials or manufacturing, injunctions and criminal prosecution.

In addition, the marketing and manufacturing of drugs and biological products are subject to continuing FDA review, and later discovery of previously unknown problems with a product, its manufacture or its marketing may result in the FDA requiring further clinical research or restrictions on the product or the manufacturer, including withdrawal of the product from the market.

**Additional capital is needed to enable us to implement our business plan, and we may be unable to raise capital, which would force us to limit or cease our operations and related product development programs. Raising such capital may have to be accomplished on unfavorable terms, possibly causing dilution to our existing stockholders.**

We believe that our cash resources as of December 31, 2011 should allow us to fund planned operations into 2013, other than commercial launch of APF530, if approved. In April 2011, we entered into definitive agreements for a \$4.5 million convertible note facility with certain institutional investors. At the initial closing on May 2, 2011, we sold \$1.5 million in principal amount of notes, which are convertible into common stock at an effective price of \$0.04 per share. In June 2011, we entered into definitive agreements for a \$24.0 million private placement of units, with such units comprised of common stock and warrants, which closed in July 2011.

We anticipate pursuing either a collaborative arrangement to commercialize APF530 with a partner, which will provide the necessary financial resources and expertise to launch APF530, or anticipate obtaining additional funding and resources that



---

[Table of Contents](#)

would be required to launch APF530 without a partner. We do not currently have the financial resources to launch APF530. The amount of additional funding that we may require depends on various factors, including the results of the on-going regulatory review by the FDA of our APF530 NDA, our efforts to respond to the FDA's Complete Response Letter, our ability to establish a partnership with a pharmaceutical company for the commercialization of APF530, the time and costs related to manufacturing of APF530, if approved, and technological and market developments of drugs that may compete with APF530. There can be no assurance that APF530 will be approved and, if approved, that we will be successful in obtaining the additional necessary financial resources and expertise, with or without a partner, that will be required to launch APF530.

The Company believes that the convertible note facility and any form of longer-term financing will be highly dilutive to existing stockholders. We may not be able to raise sufficient additional capital when we need it or to raise capital on favorable or any terms. As noted herein, the sale of additional equity or convertible debt securities in the future will be highly dilutive to our stockholders and may contain other terms that are not favorable to us or our stockholders. If we are unable to obtain adequate funds on reasonable terms, we may be required to curtail significantly or cease operations or to obtain funds by entering into financing, supply or collaboration agreements on unattractive terms.

The timing and degree of any longer-term capital requirements will depend on many factors, including:

- the number and characteristics of product development programs we pursue and the pace of each program;
- the scope, rate of progress, results and costs of preclinical testing and clinical trials;
- the time, cost and outcome involved in seeking regulatory approvals;
- scientific progress in our research and development programs;
- the magnitude and scope of our research and development programs;
- our ability to establish and maintain strategic collaborations or partnerships for research, development, clinical testing, manufacturing and marketing of our product candidates;
- the cost and timing of establishing sales, marketing and distribution capabilities for a specialty sales force if we commercialize any products independently;
- the cost of establishing clinical and commercial supplies of our product candidates and any products that we may develop; and
- general market conditions.

We do not anticipate that we will generate significant continuing revenues for at least several years, if ever. Until we can generate significant continuing revenues, we plan to satisfy our future cash needs through public or private equity offerings and debt financings, as well as strategic collaborations, in the form of license fees, research and development fees and milestone payments. If we issue additional equity securities or securities convertible into equity securities to raise funds, our stockholders

---

[Table of Contents](#)

will suffer dilution of their investment and it may adversely affect the market price of our common stock. Any debt financing we enter into may involve covenants that restrict our operations. These restrictive covenants may include, among other things, limitations on borrowing and specific restrictions on the use of our assets, as well as prohibitions on our ability to create liens, pay dividends, redeem capital stock or make investments. In the event that additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies, product candidates or products on terms that are not favorable to us or require us to enter into a collaboration arrangement that we would otherwise seek to develop and commercialize ourselves. If adequate funds are not available, we may again be required to delay, reduce the scope of, or eliminate one or more of our product development programs and reduce personnel-related and other costs, which will have a material adverse effect on our business.

**The general economic environment in which we operate is experiencing unprecedented weakness and volatility.**

Our ability to secure the additional capital necessary for implementation of our longer-term business plans and general corporate continuity may be diminished by the recent and continuing negative business conditions and financial markets. For example, the difficulty in obtaining additional capital necessary to develop our other product candidates has led us to temporarily suspend such development programs. If the economic environment continues its weak recovery and financial markets continue to experience significant volatility, we may have increasing difficulty in raising additional capital when needed.

**We depend on our collaborators as a source of capital and to help us complete the process of developing and testing our products.**

Our strategy for the development, clinical testing and commercialization of our products requires entering into collaborations with corporate partners, licensors, licensees and others. These collaborations are critical to funding our operations and our success in bringing our products and product candidates to the market and promoting such marketed products profitably. We are dependent upon the subsequent success of these other parties in performing their respective responsibilities and the cooperation of our partners. Our collaborators may not cooperate with us or perform their obligations under our agreements with them. We cannot control the amount and timing of our collaborators' resources that will be devoted to our research activities related to our collaborative agreements with them. Our collaborators may choose to pursue existing or alternative technologies in preference to those being developed in collaboration with us. We may prioritize other programs ahead of collaboration activities such that funding from these other parties could be reduced or deferred. Failure to make or maintain these arrangements, or a delay in a collaborative partner's performance, or factors that may affect our partner's sales may materially adversely affect our business, results of operations and financial condition.

Under agreements with collaborators, we may rely significantly on them, among other activities, to:

- fund research and development activities with us;
- pay us fees upon the achievement of milestones; and
- market for or with us any commercial products that result from our collaborations.

---

[Table of Contents](#)

**Suspension of our pipeline development program will delay potential realization of value from new products.**

Further development of our pipeline products has been temporarily deferred in order to focus managerial and financial resources on the APF530 NDA resubmission responsive to issues identified in the March 2010 Complete Response Letter. This action has delayed the planned development of these products, reducing their potential commercial value.

**Clinical trials are expensive and may not result in commercially viable products.**

Conducting clinical trials is a lengthy, time-consuming and expensive process. For example, we have incurred significant expenses in developing APF530 and, even if approved, it may not result in a commercially viable product. Before obtaining regulatory approvals for the commercial sale of any products, we, or our partners, must demonstrate through preclinical testing and clinical trials that our product candidates are safe and effective for use in humans. We have incurred and will continue to incur substantial expense and devote a significant amount of time to preclinical testing and clinical trials.

Our business, results of operations and financial condition may be materially adversely affected by any delays in, or termination of, our clinical trials. Factors impacting our ability to generate commercially viable products through the conduct of clinical trials include:

- insufficient funds to continue necessary clinical trials;
- inability to find partners;
- failure of clinical trials to demonstrate the safety and efficacy of our product candidates to the extent necessary to obtain regulatory approvals;
- failure of preclinical testing and early clinical trials to predict results of later clinical trials;
- delay in completion of clinical trials, resulting in increased costs; and
- inability to obtain regulatory approval of our product candidates following completion of clinical trials, or delays in obtaining such approvals.

There can be no assurance that if our clinical trials are successfully initiated and completed we will be able to obtain approval by the FDA in the United States or similar application to other regulatory authorities elsewhere in the world in a timely manner, if at all. If we are unable to obtain approval by the FDA or other regulatory authorities elsewhere in the world, we will be unable to commercialize that product. These authorities can, and do, reject NDAs and require additional clinical trials, even when product candidates have performed well or have achieved favorable results in clinical trials. If we fail to commercialize one or more of our product candidates, we may be unable to generate sufficient revenues to attain profitability and our reputation in the industry and in the investment community would likely be damaged, each of which would cause our stock price to decrease.

---

[Table of Contents](#)

**Delays in clinical testing could increase our costs and delay our ability to obtain regulatory approval and commercialize our product candidates.**

Before we, or our collaborators, can file for regulatory approval for the commercial sale of our potential products, the FDA requires extensive preclinical safety testing and clinical trials to demonstrate their safety and efficacy. Significant delays in preclinical and clinical testing could materially impact our product development costs and delay regulatory approval of our product candidates. For example, enrollment in the Phase 3 clinical trial for APF530 was slower than we expected, resulting in delays in our development timeline and increased costs. Completing clinical trials in a timely manner depends on, among other factors:

- obtaining regulatory approval to commence a trial;
- obtaining clinical materials;
- reaching agreement on acceptable clinical study terms with prospective sites and clinical research organizations;
- obtaining institutional review board approval to conduct a study at a prospective site; and
- recruiting patients to participate in a study.

Additionally, our current suspension of development work on our pipeline products will delay clinical testing of these products and their possible regulatory approvals, potentially reducing the remaining life of patents, the eventual competitiveness and commercial values of these candidates.

**We rely on third parties to conduct our clinical trials, and their failure to perform their obligations in a timely and competent manner may delay development and commercialization of our product candidates.**

We used clinical research organizations in the United States, India and Poland to oversee our clinical trial of APF530 and we expect to use the same or similar organizations for our future clinical trials. There are numerous alternative sources to provide these services; however, we may face delays outside of our control if these parties do not perform their obligations in a timely or competent fashion, or if we are forced to change service providers. Different cultural and operational issues in foreign countries could cause delays or unexpected problems with the patient enrollments or with the data obtained from those locations. If we experience significant delays in the progress of our clinical trials and in our plans to file NDAs or problems with the quality of data derived from various clinical sites, the prospects for approval of our products in general and on a timely basis could decrease.

**We have yet to demonstrate the full commercial viability of our delivery technology, and we cannot be certain that attainment of such a goal can be accomplished.**

Our bioerodible drug delivery technology is at an early stage of development. We may not be able to substantiate the capability of our drug delivery technology for a variety of reasons:

- selection of inappropriate therapeutic compound for delivery;

---

[Table of Contents](#)

- selection of inappropriate use or application for the particular product candidate;
- failure to receive regulatory approval on a timely basis or at all; or
- difficulties with manufacturing in commercial quantities at an acceptable cost.

Successful development of delivery technologies requires significant preclinical and clinical testing prior to regulatory approval, if any. Because of these scientific, regulatory and commercial hurdles, any program could be abandoned or otherwise fail, even after significant resources have been expended.

**If any products that we or our collaborators may develop do not attain adequate market acceptance by healthcare professionals and patients, our business prospects and results of operations will suffer.**

Even if a product candidate receives regulatory approval for commercial sale, the revenue received, or to be received, from the sale of the product may not be significant and will depend on many factors that are outside of our control. Factors that may affect revenue from our product candidates, if and when approved, include:

- perception of physicians and other members of the health care community of their safety and efficacy relative to that of competing products;
- cost-effectiveness;
- patient and physician satisfaction with these products;
- ability to manufacture commercial products successfully and on a timely basis;
- cost and availability of raw materials;
- market size for these products;
- reimbursement policies of government and third-party payors;
- unfavorable publicity concerning these products or similar drugs;
- the introduction, availability and acceptance of competing treatments, including those of our collaborators;
- adverse event information relating to these products;
- product labeling or product insert required by the FDA or regulatory authorities in other countries;
- the regulatory developments related to the manufacture or continued use of these products;
- extent and effectiveness of sales and marketing and distribution support for the products; and
- our collaborators' decisions as to the timing of product launches, pricing and discounting.

---

[Table of Contents](#)

Our product revenue will be adversely affected if, due to these or other factors, the products we or our collaborators are able to commercialize do not gain significant market acceptance.

**If our suppliers and contract manufacturers fail to complete pre-commercialization manufacturing development activities for APF530 on a timely basis or fail to comply with stringent regulatory requirements, we will face delays in our ability to obtain regulatory approval for, and to commercialize, APF530, and our costs will increase.**

We do not manufacture APF530 and do not currently plan to develop any capacity to do so. Instead, we have relied on third-parties to manufacture and perform important pre-commercialization manufacturing development activities for APF530. As part of the process for obtaining regulatory approval, we must demonstrate that the facilities, equipment and processes used to manufacture APF530 are capable of consistently producing a product that meets all applicable quality criteria, and that is comparable to the product that was used in our clinical trials. We must also provide the FDA with information regarding the validation of the manufacturing facilities, equipment and processes of our third-party suppliers and manufacturers, and data supporting the stability of APF530. If our third-party suppliers and manufacturers are not in compliance with current good manufacturing practice (cGMP) requirements, the approval of our marketing application may be delayed, existing product batches may be compromised, and we may experience delays in the availability of APF530 for commercial distribution.

For example, our Complete Response Letter from the FDA regarding our NDA submission for APF530 stated that the NDA could not be approved in its present form due to, among other issues, deficiencies observed during an inspection of the facilities used by our third-party suppliers and manufacturers to produce APF530. These third-party suppliers and manufacturers have submitted responses to the FDA to address such issues. If the FDA is not satisfied with these responses and any corrective actions taken by these third parties, or if the FDA determines that it is necessary to re-inspect our third-party suppliers' and manufacturers' facilities before agreeing that the inspectional observations have been adequately addressed, we may be required to complete additional manufacturing development activities or provide other information to the FDA, which could cause substantial delays in obtaining regulatory approval for APF530, increase our costs and have a material adverse effect on our business and financial condition.

**We depend on contract manufacturers and collaborators for manufacturing our products; if they do not perform as expected, our revenue and customer relations will suffer.**

We do not own or operate manufacturing facilities for the production of clinical or commercial quantities of any product. Our ability to develop and commercialize any products we may develop will depend in part on our ability to manufacture, or arrange for collaborators or other parties to manufacture, our products at a competitive cost, in accordance with regulatory requirements, and in sufficient quantities for clinical testing and eventual commercialization. We do not intend to develop or acquire facilities to manufacture any of our product candidates for clinical trials or commercial purposes in the foreseeable future. We rely on a small number of third-party manufacturers to produce our compounds and expect to continue to do so to meet the preclinical and clinical requirements of our potential products and for all of our commercial needs, some of which are our sole source suppliers at present. We have no long-term agreements with any of these third parties. We may not be able to extend these agreements at satisfactory terms, or at all, and we may not be able to find a replacement contract manufacturer at satisfactory terms or on a timely basis. Additionally, difficult economic conditions may cause operational and financial problems for our third party suppliers, resulting in their failure and disruption to our operations.

---

[Table of Contents](#)

Further, our contract manufacturers and our collaborators are required to comply with FDA requirements related to product testing, quality assurance, manufacturing and documentation. Our contract manufacturers, or our collaborators, may not be able to comply with the applicable FDA regulatory requirements. They may be required to pass an FDA pre-approval inspection for conformity with cGMPs before we can obtain approval to manufacture and will be subject to ongoing, periodic, unannounced inspection by the FDA and corresponding state agencies to ensure strict compliance with cGMP, and other applicable government regulations and corresponding foreign standards. If we and our contract manufacturers fail to achieve and maintain high manufacturing standards in compliance with cGMP regulations, we may experience manufacturing errors resulting in patient injury or death, product recalls or withdrawals, delays or interruptions of production or failures in product testing or delivery, delay or prevention of filing or approval of marketing applications for our products, cost overruns or other problems that could seriously harm our business. We are aware that one particular contract manufacturer has previously received Form 483 notices and a Warning Letter from the FDA and is working to address the deficiencies identified in these notices. The remediation efforts may not be adequate to address the deficiencies or the manufacturer may not stay in compliance with FDA requirements in the future. Not complying with FDA requirements could result in an enforcement or other action, prevent commercialization of our product candidates and impair our reputation and results of operations.

Any performance failure on the part of our contract manufacturers could delay clinical development or regulatory approval of product candidates or commercialization of our future products, depriving us of potential product revenue and resulting in additional losses. In addition, our dependence on a third party for manufacturing may adversely affect our future profit margins and limit our ability to commercialize products on a timely and competitive basis. Our ability to replace an existing manufacturer may be difficult because the number of potential manufacturers is limited, and the FDA must approve any replacement manufacturer before we can begin manufacturing APF530 or any of our other product candidates. Such approval would require new testing and compliance inspections. It may be difficult or impossible for us to identify and engage a replacement manufacturer on acceptable terms in a timely manner, or at all.

APF530 or any of our other product candidates may be in competition with other products for access to the facilities of third parties. Consequently, APF530 or any of our other product candidates may be subject to manufacturing delays if collaborators or outside contractors give other companies' products greater priority than our products. For this and other reasons, our collaborators or third-party service providers may not be able to manufacture APF530 or any of our other product candidates in a cost-effective or timely manner. If not manufactured in a timely manner, the clinical development of any of our product candidates or their submission for regulatory approval could be delayed, and our ability to deliver products to market on a timely basis could be impaired or precluded.

To date, APF530 and our product candidates have been manufactured in small quantities for preclinical studies and clinical trials. If in the future APF530 or any of our product candidates are approved for commercial sale, we will need to manufacture our products in larger quantities. Significant scale-up of manufacturing may require additional process development and validation studies, which the FDA must review and approve. The commercial success of our products, including APF530 in the near-term, will be dependent upon the ability of our contract manufacturers to produce a product in commercial quantities at competitive costs of manufacture. The ability to do so cannot be presumed. Significant additional development work is required prior to any commercial launch of a product. In the case of APF530, the high viscosity of the product creates particularly challenging factors relative to attainable production rates and cost of manufacture. If APF530 receives regulatory approval, we plan to scale-up manufacturing for APF530 in order to realize important economies of scale. These scale-up activities would take

---

[Table of Contents](#)

time to implement, require additional capital investment, process development and validation studies, and FDA approval. We cannot guarantee that we will be successful in achieving competitive manufacturing costs through such scale-up activities.

**If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any products we may develop, we may be unable to generate product revenue.**

We do not currently have a sales organization for the sales, marketing and distribution of pharmaceutical products. In order to commercialize any products, we must build our sales, marketing, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. We have not yet determined whether we will attempt to establish internal sales and marketing capabilities or enter into agreements with third parties to sell and market any products we may develop. We have no experience in developing, training or managing a marketing and sales force. The establishment and development of our own sales force to market any products we may develop will be expensive and time consuming and could delay any product launch, and we cannot be certain that we would be able to successfully develop this capacity. If we are unable to establish our sales and marketing capability or any other non-technical capabilities necessary to commercialize any product we may develop, we will need to contract with third parties to market and sell any products we may develop. If we are unable to establish adequate sales, marketing and distribution capabilities, whether independently or with third parties, we may not be able to generate product revenue and may not become profitable.

**If we fail to comply with continuing federal, state and foreign regulations, we could lose our approvals to market drugs, and our business would be seriously harmed.**

Following initial regulatory approval of any drugs we may develop, we will be subject to continuing regulatory review, including review of adverse drug experiences and clinical results that are reported after our drug products become commercially available. This would include results from any post-marketing tests or continued actions required as a condition of approval. The manufacturer and manufacturing facilities we use to make any of our drug candidates will be subject to periodic review and inspection by the FDA. If a previously unknown problem or problems with a product or a manufacturing and laboratory facility used by us is discovered, the FDA or foreign regulatory agency may impose restrictions on that product or on the manufacturing facility, including requiring us to withdraw the product from the market. Any changes to an approved product, including the way it is manufactured or promoted, often require FDA approval before the product, as modified, can be marketed. We and our contract manufacturers will be subject to ongoing FDA requirements for submission of safety and other post-market information. If we and our contract manufacturers fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters;
- impose civil or criminal penalties;
- suspend or withdraw our regulatory approval;
- suspend or terminate any of our ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications filed by us;
- impose restrictions on our operations;



---

[Table of Contents](#)

- close the facilities of our contract manufacturers; or
- seize or detain products or require a product recall.

Additionally, such regulatory review covers a company's activities in the promotion of its drugs, with significant potential penalties and restrictions for promotion of drugs for an unapproved use. Sales and marketing programs are under scrutiny for compliance with various mandated requirements, such as illegal promotions to healthcare professionals. We are also required to submit information on our open and completed clinical trials to public registries and databases; failure to comply with these requirements could expose us to negative publicity, fines and penalties that could harm our business.

**If we are unable to recruit and retain skilled employees, we may not be able to achieve our objectives.**

We depend on a small number of key management and technical personnel. Retaining our current employees and recruiting qualified scientific personnel to perform future research and development work will be critical to our success. While recent pharmaceutical and biotechnology industry layoffs have somewhat mitigated a usual shortage of skilled personnel in our industry, competition is always present for experienced scientists, and an inability to recruit or retain sufficient skilled personnel could result in delays to product development or approval, loss of sales and diversion of management resources. If we lose members of our senior management team, we may not be able to find suitable replacements and our business may be harmed as a result. Further proactive reductions in our workforce, such as occurred in November 2008 and May 2009, could create difficulties in our ability to perform the activities necessary to accomplish our operational and strategic goals.

**We face intense competition from other companies.**

APF530 is expected to face significant competition for the prevention of delayed CINV, principally from Eisai's Aloxi (palonosetron). In addition to Aloxi, APF530 will compete with entrenched generic forms of granisetron (formerly marketed by Roche as Kytril) and ondansetron (formerly marketed by GlaxoSmithKline as Zofran). Generic versions of Aloxi may become available after its scheduled patent expiration date, which was recently extended to 2024. We are also aware of several companies that have developed or are developing both generic and new formulations of granisetron, including transdermal formulations such as ProStrakan's Sancuso<sup>®</sup> (granisetron transdermal patch). APF112 is expected to face competition from two injectable controlled release bupivacaine products, Durect Corporation's Posidur<sup>™</sup> and Pacira Pharmaceutical's Exparel<sup>™</sup> DepoBupivacaine.

There are several companies that are developing new formulations of existing drugs using novel drug delivery technologies. Many of these companies have substantially greater financial, research and development, manufacturing, sales and marketing, distribution resources and experience than we do. The following are some of our major competitors among drug delivery system developers: Alkermes, Inc., Durect Corporation, and Pacira Pharmaceuticals, Inc.

Smaller or early stage companies and research institutions may also prove to be significant competitors, particularly through collaborative arrangements with large and established pharmaceutical companies. We will also face competition from these parties in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, and acquiring and in-licensing technologies and products complementary to our programs or potentially advantageous to our business. If any of our competitors succeed in obtaining approval from the FDA or other regulatory authorities for their products sooner than we do or for products that are more effective or less costly than ours, our commercial opportunity could be significantly reduced.

---

[Table of Contents](#)

Major technological changes can happen quickly in the biotechnology and pharmaceutical industries, and the development of technologically improved or different products or drug delivery technologies may make our product candidates or platform technologies obsolete or noncompetitive.

**Because we or our collaborators must obtain regulatory approval to market our products in the United States and foreign jurisdictions, we cannot predict whether or when we will be permitted to commercialize our products.**

Federal, state and local governments in the United States and governments in other countries have significant regulations in place that govern many of our activities. The preclinical testing and clinical trials of the products that we develop ourselves, or that our collaborators develop are subject to government regulation and may prevent us from creating commercially viable products from our discoveries. These regulations and their application may change making it more difficult or prohibitive to develop our products. In addition, the sale by us, or our collaborators, of any commercially viable product will be subject to government regulation from several standpoints, including the processes of:

- manufacturing;
- labeling;
- distributing;
- advertising and promoting; and
- selling and marketing.

**If we cannot establish pricing of our product candidates acceptable to the United States or foreign governments, insurance companies, managed care organizations and other payors, or arrange for favorable reimbursement policies, any product sales will be severely hindered.**

The continuing efforts of the United States and foreign governments, insurance companies, managed care organizations and other payors of health care costs to contain or reduce costs of health care may adversely affect our ability to generate adequate revenues and gross margins to make the products we develop commercially viable. Our ability to commercialize any product candidates successfully will depend in part on the extent to which governmental authorities, private health insurers and other organizations establish appropriate reimbursement levels for the cost of any products and related treatments.

In certain foreign markets, the pricing of prescription pharmaceuticals is subject to government control. In the United States, given recent federal and state government initiatives directed at lowering the total cost of health care, the U.S. Congress and state legislatures will likely continue to focus on health care reform, the cost of prescription pharmaceuticals and on the reform of the Medicare and Medicaid systems. The trend toward managed health care in the United States, which could significantly influence the purchase of health care services and products, as well as legislative proposals to reform health care, control pharmaceutical prices or reduce government insurance programs, may result in lower prices for our product candidates. While we cannot predict whether any legislative or regulatory proposals affecting our business will be adopted, the announcement or adoption of these proposals could have a material and adverse effect on our potential revenues and gross margins.

---

[Table of Contents](#)

**Our business strategy includes the entry into additional collaborative agreements. We may not be able to enter into additional collaborative agreements or may not be able to negotiate commercially acceptable terms for these agreements.**

Our current business strategy includes the entry into additional collaborative agreements for the development and commercialization of our delivery technologies. The negotiation and consummation of these types of agreements typically involve simultaneous discussions with multiple potential collaborators and require significant time and resources from our officers, business development, legal and research and development staff. In addition, in attracting the attention of pharmaceutical and biotechnology company collaborators, we compete with numerous other third parties with product opportunities as well as the collaborators' own internal product opportunities. We may not be able to consummate additional collaborative agreements, or we may not be able to negotiate commercially acceptable terms for these agreements. If we do not consummate additional collaborative agreements, we may have to consume money more rapidly on our product development efforts, continue to defer development activities or forego the exploitation of certain geographic territories, any of which could have a material adverse effect on our business.

**If we or our collaborators cannot arrange for adequate third-party reimbursement for our products, our future revenue will suffer.**

In both domestic and foreign markets, sales of our potential products will depend in substantial part on the availability of adequate reimbursement from third-party payors such as government health administration authorities, private health insurers and other organizations. Third-party payors often challenge the price and cost-effectiveness of medical products and services and such pressure may increase in the future. Significant uncertainty exists as to the adequate reimbursement status of newly approved health care products. Any products we are able to successfully develop may not be reimbursable by third-party payors. In addition, our products may not be considered cost-effective and adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize a profit. Legislation and regulations affecting the pricing of pharmaceuticals may change before our products are approved for marketing and any such changes could further limit reimbursement. Reimbursement policies utilized by our collaborators or ourselves may be challenged by regulatory entities, with resultant fines, negative publicity and the need to implement changes that reduce the utilization of our products. If any products we develop do not receive adequate reimbursement, our revenue will be severely limited.

**Our inability to obtain specialized materials could slow down our product development process.**

Some of the critical materials and components used in our products in development are sourced from a single supplier. An interruption in supply of a key material could significantly delay our research and development process or increase our expenses.

Specialized materials must often be manufactured for the first time for use in drug delivery technologies, or materials may be used in the technologies in a manner different from their customary commercial uses. The quality of materials can be critical to the performance of a drug delivery technology, so a reliable source of a consistent supply of materials is important. Materials or components needed for our drug delivery technologies may be difficult to obtain on commercially reasonable terms, particularly when relatively small quantities are required or if the materials traditionally have not been used in pharmaceutical products.

---

[Table of Contents](#)

If we are unable to adequately protect or enforce our intellectual property rights or secure rights to third-party patents, we may lose valuable assets, experience reduced market share or incur costly litigation to protect our rights or our third-party collaborators may choose to terminate their agreements with us.

Our success will depend in part on our ability to obtain patents and maintain trade secret protection, as well as successfully defending these patents against challenges, while operating without infringing the proprietary rights of others. We have filed a number of U.S. patent applications on inventions relating to the composition of a variety of polymers, specific products, product groups and processing technology. In addition to obtaining patents in a number of foreign countries, we have also filed U.S. and foreign patent applications on our polymer technology with the PCT, the European Patent Office, Australia, Canada, China, Hong Kong, Japan, South Korea, Singapore and Taiwan. At December 31, 2011, we had a total of 20 issued U.S. patents and an additional 54 issued (or registered) foreign patents. The patents on the bioerodible technologies expire between January 2016 and November 2023. Our existing patents may not cover future products, additional patents may not be issued, and current patents, or patents issued in the future, may not provide meaningful protection or prove to be of commercial benefit.

The patent positions of pharmaceutical companies, including ours, are uncertain and involve complex legal and factual questions. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued. Consequently, our patent applications, or those that are licensed to us, may not issue into patents, and any issued patents may not provide sufficient protection for our product candidates or provide sufficient protection to afford us a commercial advantage against competitive technologies or may be held invalid if challenged or circumvented. Patent applications in the United States are maintained in confidence for at least 18 months after their filing. Consequently, we cannot be certain that the patent applications we are pursuing will lead to the issuance of any patent or be free from infringement or other claims from other parties. Our competitors may also independently develop products similar to ours or design around or otherwise circumvent patents issued to us or licensed by us. In addition, the laws of some foreign countries may not protect our proprietary rights to the same extent as the U.S. law.

We are party to collaborative agreements. These agreements subject us to obligations which must be fulfilled and require us to manage complex relationships with third parties. If we are unable to meet our obligations or manage our relationships with our collaborators under these agreements or enter into additional collaboration agreements or if our existing collaborations are terminated or not extended on terms as beneficial as we anticipate, our revenue may decrease. Our third-party collaborators have entered into these agreements based on the exclusivity that our intellectual property rights confer on the products being developed. The loss or diminution of our intellectual property rights could result in a decision by our third-party collaborators to terminate their agreements with us. In addition, these agreements are generally complex and contain provisions that could give rise to legal disputes, including potential disputes concerning ownership of intellectual property and data under collaborations. Such disputes can lead to lengthy, expensive litigation or arbitration, requiring us to devote management time and resources to such dispute which we would otherwise spend on our business.

We also rely upon trade secrets, technical know-how and continuing technological innovation to develop and maintain our competitive position. We require our employees, consultants, advisors and collaborators to execute appropriate confidentiality and assignment-of-inventions agreements with us. These agreements typically provide that all materials and confidential information developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances, and that all inventions arising out of the

---

[Table of Contents](#)

individual's relationship with us shall be our exclusive property. These agreements may be breached, and in some instances, we may not have an appropriate remedy available for breach of the agreements. Furthermore, our competitors may independently develop substantially equivalent proprietary information and techniques, reverse engineer our information and techniques, or otherwise gain access to our proprietary technology. We may be unable to meaningfully protect our rights in trade secrets, technical know-how and other non-patented technology. We may have to resort to litigation to protect our intellectual property rights, or to determine their scope, validity or enforceability. In addition, interference proceedings declared by the U.S. Patent and Trademark Office may be necessary to determine the priority of inventions with respect to our patent applications. Enforcing or defending our proprietary rights is expensive, could cause diversion of our resources and may not prove successful. In addition, courts outside the United States may be less willing to protect trade secrets. Costly and time-consuming litigation could be necessary to seek to enforce and determine the scope of our proprietary rights. Any failure to enforce or protect our rights could cause us to lose the ability to exclude others from using our technology to develop or sell competing products.

**We may infringe on the intellectual property rights of others, and any litigation could force us to stop developing or selling potential products and could be costly, divert management attention and harm our business.**

We must be able to develop products without infringing the proprietary rights of other parties. Because the markets in which we operate involve established competitors with significant patent portfolios, including patents relating to the composition of a variety of polymers, specific products, product groups and processing technology, it could be difficult for us to use our technologies or develop products without infringing the proprietary rights of others. We may not be able to design around the patented technologies or inventions of others and we may not be able to obtain licenses to use patented technologies on acceptable terms, or at all. If we cannot operate without infringing the proprietary rights of others, we will not be able to develop or commercialize some or all of our product candidates, and consequently will not be able to earn product revenue.

If we are required to defend ourselves in a lawsuit, we could incur substantial costs and the lawsuit could divert management attention, regardless of the lawsuit's merit or outcome. These legal actions could seek damages and seek to enjoin testing, manufacturing and marketing of the accused product or process. In addition to potential liability for significant damages, we could be required to obtain a license to continue to manufacture or market the accused product or process and any license required under any such patent may not be made available to us on acceptable terms, if at all.

Periodically, we review publicly available information regarding the development efforts of others in order to determine whether these efforts may violate our proprietary rights. We may determine that litigation is necessary to enforce our proprietary rights against others. Such litigation could result in substantial expense, regardless of its outcome, and may not be resolved in our favor.

Furthermore, patents already issued to us or our pending patent applications may become subject to dispute, and any disputes could be resolved against us. In addition, because patent applications in the United States are currently maintained in secrecy for a period of time prior to issuance, and patent applications in certain other countries generally are not published until more than 18 months after they are first filed, and because publication of discoveries in scientific or patent literature often lags behind actual discoveries, we cannot be certain that we were the first creator of inventions covered by our pending patent applications or that we were the first to file patent applications on such inventions.

---

[Table of Contents](#)

**We may have on-going obligations related to previously discontinued operations, which could divert management attention and require financial resources to fulfill.**

We remain party to agreements related to the licensing and manufacturing of products from discontinued operations related to our topical pharmaceutical and cosmeceutical businesses. We no longer are active in these markets and the assets related to these businesses have been licensed or sold to third parties. We have out-licensed our rights to Carac and Retin-A Micro, and we have an agreement with an Amcol International (Amcol) subsidiary for the manufacture and supply of these products. We also have assigned all royalties related to these products to an affiliate of the Paul Royalty Fund. Under these agreements, we may be required to make payments or take certain actions to enable the continued marketing and sale of these products for the benefit of these third parties. As described in Note 10, Discontinued Operations, to the Financial Statements, Amcol is currently requesting payment of \$1.1 million as the Gross Profit Guaranty under our manufacturing agreement with them. We have requested documentation from Amcol to substantiate actual costs. Until we receive confirmation of these amounts, we have accrued the full amount Amcol represents it is currently owed. As there is no minimum amount of Gross Profit Guaranty due, no accrual for the guaranty is estimable for future years. Our agreement regarding the Gross Profit Guaranty potentially extends to July 1, 2013. As of the date of filing of this report, our dispute with Amcol over the Gross Profit Guaranty has been submitted to an independent accountant for resolution.

**We are exposed to risks and increased expenses when we no longer qualify as a smaller reporting company as a result of laws requiring filers to evaluate internal controls over financial reporting.**

Section 404 of the Sarbanes-Oxley Act of 2002 (Section 404) requires management to evaluate the effectiveness of our internal controls over financial reporting as of the end of each fiscal year and to include a management report assessing the effectiveness of our internal control over financing reporting in our annual report on Form 10-K for each fiscal year. Our independent auditors will be required to report on our internal control over financial reporting when we no longer qualify as a smaller reporting company. We and our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal controls over financial reporting in accordance with Section 404. We have implemented an ongoing program to perform the system and process evaluation we believe to be necessary to comply with these requirements. However, we cannot assure you that we will be successful in our efforts. We expect to incur increased expense and to devote additional management resources to Section 404 compliance when we no longer qualify as a smaller reporting company. Any failure to implement required new or improved controls, or difficulties encountered in the implementation or operation of these controls, could harm our operating results and cause us to fail to meet our financial reporting obligations, which could adversely affect our business and reduce our stock price.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. We cannot assure you that we or our independent registered public accounting firm will not identify a material weakness in our internal controls in the future, which would require management and our independent registered public accounting firm to evaluate our internal controls as ineffective. If our internal controls over financial reporting are not considered effective, we may experience a loss of public confidence, which could have an adverse effect on our business and on the price of our stock.

---

[Table of Contents](#)

**Legislative actions, potential new accounting pronouncements and higher insurance costs are likely to impact our future financial position or results of operations.**

Future changes in financial accounting standards may cause adverse, unexpected fluctuations in the timing of the recognition of revenue or expenses and may affect our financial position or results of operations. New pronouncements and varying interpretations of pronouncements have occurred with frequency and may occur in the future, and we may make changes in our accounting policies in the future. Compliance with changing regulation of corporate governance and public disclosure may result in additional expenses. Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, the Dodd-Frank Act, new Securities and Exchange Commission (SEC) regulations and the Public Company Accounting Oversight Board pronouncements, are creating uncertainty for companies such as ours and insurance, accounting and auditing costs are increasing as a result of this uncertainty and other factors. We are committed to maintaining high standards of corporate governance and public disclosure. As a result, we intend to invest all reasonably necessary resources to comply with evolving standards, and this investment may result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities.

**We could be exposed to significant product liability claims that could be time consuming and costly to defend, divert management attention and adversely impact our ability to obtain and maintain insurance coverage.**

The testing, manufacture, marketing and sale of our products involve an inherent risk that product liability claims will be asserted against us. Although we are insured against such risks up to an annual aggregate limit in connection with clinical trials and commercial sales of our products, our present product liability insurance may be inadequate and may not fully cover the costs of any claim or any ultimate damages we might be required to pay. Product liability claims or other claims related to our products, regardless of their outcome, could require us to spend significant time and money in litigation or to pay significant damages. Any successful product liability claim may prevent us from obtaining adequate product liability insurance in the future on commercially desirable or reasonable terms. In addition, product liability coverage may cease to be available in sufficient amounts or at an acceptable cost. An inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the commercialization of our products. A product liability claim could also significantly harm our reputation and delay market acceptance of our products.

**Our use of hazardous materials could subject us to liabilities, fines and sanctions.**

Our laboratory and clinical testing sometimes involve use of hazardous, radioactive or otherwise toxic materials. We are subject to federal, state and local laws and regulations governing how we use, manufacture, handle, store and dispose of these materials. Although we believe that our safety procedures for handling and disposing of such materials comply in all material respects with all federal, state and local regulations and standards, there is always the risk of accidental contamination or injury from these materials. In the event of an accident, we could be held liable for any damages that result and such liability could exceed our financial resources. If we fail to comply with these regulations and standards or with the conditions attached to our operating licenses, the licenses could be revoked, and we could be subjected to criminal sanctions and substantial financial liability or be required to suspend or modify our operations. Compliance with environmental and other laws may be expensive and current or future regulations may impair our development or commercialization efforts.

---

[Table of Contents](#)

**Earthquake damage to our facilities could delay our research and development efforts and adversely affect our business.**

Our research and development facility in Redwood City, California, is located in a seismic zone, and there is the possibility of an earthquake, which could be disruptive to our operations and result in delays in our research and development efforts. In the event of an earthquake, if our facilities or the equipment in our facilities are significantly damaged or destroyed, we may not be able to rebuild or relocate our facility or replace any damaged equipment in a timely manner and our business, financial condition and results of operations could be materially and adversely affected.

**Risks Related To Our Common Stock**

In April 2011, our common stock was delisted from the Nasdaq Capital Market for non-compliance with Nasdaq's \$1.00 per share minimum bid price continued listing requirement and is now quoted on the OTC Bulletin Board, thereby causing trading in our common stock to be limited by "penny stock" restrictions and our ability to raise additional capital to potentially be compromised.

With the delisting of our common stock, it comes within the definition of "penny stock" as defined in the Securities Exchange Act of 1934 and is covered by Rule 15g-9 of the Securities Exchange Act of 1934. That rule imposes additional sales practice requirements on broker-dealers who sell securities to persons other than established customers and accredited investors. For transactions covered by Rule 15g-9, the broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written agreement to the transaction prior to the sale. Consequently, Rule 15g-9 potentially affects the ability or willingness of broker-dealers to sell our securities and accordingly would also affect the ability of stockholders to sell their securities in the public market. These additional procedures could also limit our ability to raise additional capital in the future.

**The price of our common stock has been and may continue to be volatile.**

Our common stock has historically been volatile, with a trading price ranging from \$0.10 to \$3.14 over the past five years. The stock markets, in general, and the markets for drug delivery and pharmaceutical stocks, in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. In addition, the limited trading volume of our stock may contribute to its volatility.

Price declines in our common stock could result from general market and economic conditions and a variety of other factors, including:

- our ability to raise capital in the face of continuing cash depletion;
- non-approval of our product candidates or delays in the FDA review process, particularly with respect to APF530, for which we received a Complete Response Letter from the FDA in March 2010;
- adverse actions taken by regulatory agencies with respect to our product candidates, clinical trials, manufacturing processes or sales and marketing activities;



---

[Table of Contents](#)

- continuing losses and failure to achieve or maintain profitability;
- adverse results, lack of success or delays in our clinical trials of our product candidates, including APF530;
- delays in preclinical and clinical testing;
- failure to substantiate the capability of our drug delivery technology;
- failure to attain adequate market acceptance by healthcare professionals and patients;
- failure of our contract manufacturers and collaborators to perform their contractual obligations as expected;
- failure to comply with continuing federal, state and foreign regulations;
- market conditions relating to our segment of the industry or the securities markets in general;
- any lawsuit involving us or our product candidates;
- announcements concerning our competitors, or the biotechnology or pharmaceutical industries in general;
- changes in accounting principles; and
- loss of any of our key scientific or management personnel.

In the past, following periods of volatility in the market price of a particular company's securities, litigation has often been brought against that company. If litigation of this type is brought against us, it could be extremely expensive and divert management's attention and our company's resources.

**Our certificate of incorporation, our bylaws and Delaware law contain provisions that could discourage another company from acquiring us and may prevent attempts by our stockholders to replace or remove our current management.**

Provisions of Delaware law, our certificate of incorporation and our bylaws may discourage, delay or prevent a merger or acquisition that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace or remove our board of directors. These provisions include authorizing the issuance of "blank check" preferred stock without any need for action by stockholders.

In addition, Section 203 of Delaware General Corporation Law may discourage, delay or prevent a change in control of our company by prohibiting stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us, unless certain approvals are obtained.

---

[Table of Contents](#)

**Further concentration in stockholder ownership could influence strategic actions.**

Our directors, executive officers, principal stockholders and affiliated entities currently beneficially own or control a majority of our outstanding securities. In October 2009, Tang Capital Partners, LP and its affiliates increased their beneficial ownership in our common stock to 31%, and Baker Brothers Investments and its affiliates increased their beneficial ownership in our common stock to 22%. Kevin C. Tang, the Managing Director of Tang Capital Management, LLC, the general partner of Tang Capital Partners, LP, is also a member of our board. Tang Capital Partners and its affiliates' beneficial ownership in our common stock remained at approximately 31% following our July 2011 private placement financing, excluding potential further concentration underlying outstanding warrants and our convertible note facility.

Such a concentration of common stock ownership could significantly influence corporate actions on various strategic matters, including, for example, receptivity to collaborations and merger or sale overtures.

**Future sales of our common stock may cause our stock price to decline.**

Our principal stockholders and affiliated entities hold a substantial number of shares of our common stock that they are able to sell in the public market. In addition, they currently own outstanding warrants exercisable through July 1, 2016 for additional shares of our common stock. The exercise of these warrants or the sale by our current stockholders of a substantial number of shares, or the expectation that such exercises or sales may occur, could significantly reduce the market price of our common stock.

**Future utilization of net operating loss carryforwards may be impaired due to recent changes in ownership.**

As discussed in Note 12 to the Financial Statements, we believe our net operating losses and tax attributes may be subject to limitation under Section 382 of the Internal Revenue Code of 1986. As a result, our deferred tax assets, and related valuation allowance, have been reduced for the estimated impact of the net operating losses and credits that we currently estimate may expire unused. Utilization of our remaining net operating loss and research and development credit carryforwards may still be subject to substantial annual limitations due to ownership change limitations provided by the Internal Revenue Code and similar state provisions for ownership changes after December 31, 2011, including those that may come in conjunction with future equity financings or market trades by our stockholders.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

**ITEM 2. PROPERTIES**

We lease 26,067 square feet of laboratory, office and warehouse space in Redwood City, California under a lease expiring on November 30, 2016. The annual rent expense for the Redwood City facility is approximately \$700,000.

We believe our facilities are adequate and suitable for current and anticipated needs. We are currently evaluating our options for extending our current lease or leasing office and lab space in the proximity of our current offices and entering a new lease

---

[Table of Contents](#)

following the end of the current lease. However, we cannot be sure that we will be able to either extend our current lease or find suitable alternative space at a lease rate we can afford.

**ITEM 3. LEGAL PROCEEDINGS**

While we are not currently a party to any material pending legal proceedings, from time to time we are named as a party to lawsuits in the normal course of its business. Litigation, in general, and intellectual property litigation, in particular, can be expensive and disruptive to normal business operations. Moreover, the results of legal proceedings are difficult to predict.

**ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

---

[Table of Contents](#)

PART II

**ITEM 5. MARKET FOR REGISTRANT'S COMMON STOCK RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

Shares of our common stock trade on the OTC Bulletin Board under the symbol APPA.OB. Prior to December 20, 2011, our stock traded on the OTC Markets. Prior to May 31, 2011, our stock traded on the NASDAQ Capital Market, and prior to October 28, 2009, our stock traded on the NASDAQ Global Market. As of February 29, 2012, there were 128 holders of record of our common stock.

We have never paid cash dividends and do not anticipate paying cash dividends in the foreseeable future. The following table sets forth, for the fiscal periods indicated, the range of high and low sales prices for our common stock on the NASDAQ Capital Market prior to May 31, 2011, and on the OTC Markets and OTC Bulletin Board for subsequent periods.

<b>2011</b>	<b>High</b>	<b>Low</b>
First Quarter	\$0.59	\$0.22
Second Quarter	0.30	0.10
Third Quarter	0.37	0.21
Fourth Quarter	0.28	0.16
<b>2010</b>	<b>High</b>	<b>Low</b>
First Quarter	\$2.16	\$0.85
Second Quarter	1.17	0.60
Third Quarter	0.72	0.54
Fourth Quarter	0.88	0.43

For periods subsequent to May 31, 2011, the quotations reflect inter-dealer prices, without retailer mark-up, mark-down or commission and may not represent actual transactions.

On February 29, 2012, the closing sale price of our common stock was \$0.32 per share.

[Table of Contents](#)

**ITEM 6. SELECTED FINANCIAL DATA**

The following selected financial data should be read in conjunction with the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the financial statements and notes thereto, included in Item 8 of this Annual Report on Form 10-K. The financial data does not purport to indicate results of operations as of any future date or for any future period.

For the Years Ended December 31,  
(In thousands, except per share data)

	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
<b>STATEMENT OF OPERATIONS DATA</b>					
Revenue:					
Contract revenue	\$ 646	\$ 1,301	\$ 1,261	\$ 369	\$ 412
Operating expenses:					
Research and development	8,207	7,264	7,796	19,507	19,364
General and administrative	3,501	3,971	3,707	4,307	4,681
Operating loss	(11,062)	(9,934)	(10,242)	(23,445)	(23,633)
Gain on sale of interest in royalties	—	2,500	—	—	2,500
Interest and other income (expense), net	(373)	238	24	520	1,333
Loss from continuing operations before income taxes	(11,435)	(7,196)	(10,218)	(22,925)	(19,800)
Benefit (provision) for income taxes	—	—	122	—	(41)
Loss from continuing operations	(11,435)	(7,196)	(10,096)	(22,925)	(19,841)
Discontinued operations:					
Gain (loss) from discontinued operations <sup>(1)</sup>	(379)	(150)	68	(200)	(342)
Gain on disposition of discontinued operations, net of taxes <sup>(2)</sup>	—	—	—	—	20
Income (loss) from discontinued operations	(379)	(150)	68	(200)	(322)
Net loss	\$ (11,814)	\$ (7,346)	\$ (10,028)	\$ (23,125)	\$ (20,163)
Basic and diluted net loss per common share:					
Loss from continuing operations	\$ (0.10)	\$ (0.18)	\$ (0.31)	\$ (0.74)	\$ (1.02)
Net loss	\$ (0.10)	\$ (0.19)	\$ (0.31)	\$ (0.75)	\$ (1.04)
Weighted-average common shares outstanding used to calculate basic and diluted net loss per common share	120,263	39,671	32,625	30,811	19,358

<sup>(1)</sup> Loss from discontinued operations represents the loss attributable to our cosmeceutical and toiletries business that was sold to RP Scherer on July 25, 2000. See Note 10 to the Financial Statements.

<sup>(2)</sup> Gain on disposition of discontinued operations represents the gain attributable to our Analytical Standards division that was sold to GFS Chemicals on February 13, 2003.

December 31,	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>
<b>BALANCE SHEET DATA</b>					
Cash, cash equivalents and marketable securities	\$ 17,974	\$ 2,109	\$ 7,593	\$ 10,538	\$ 35,062
Working capital	14,547	941	6,426	7,629	29,589
Total assets	19,445	2,911	8,951	11,800	36,950
Long-term liabilities	—	35	268	1,015	1,269
Accumulated deficit	(160,239)	(148,425)	(141,079)	(131,051)	(107,926)
Stockholders’ equity	15,752	1,316	6,796	7,598	29,474

**ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

This Annual Report on Form 10-K contains "forward-looking statements" as defined by the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve risks and uncertainties including uncertainties associated with: the progress of our research, development and clinical programs, the possibility that the FDA will require us to take additional steps before resubmitting our NDA for APF530, which will require substantial time and expense on our part, and the timing of, and prospects for, regulatory approval and commercial introduction of APF530 and future product candidates; our ability to market, commercialize and achieve market acceptance for APF530 or other future product candidates; our ability to establish collaborations for our technology, APF530 and other future product candidates; our estimates for future performance; our estimates regarding our capital requirements and our needs for and ability to obtain additional financing; and other risks and uncertainties identified in our filings with the Securities and Exchange Commission. We caution investors that forward-looking statements reflect our analysis only on their stated date. We do not intend to update them except as required by law.

**Overview**

We are a specialty pharmaceutical company focused on developing pharmaceutical products using our proprietary Biochronomer polymer-based drug delivery technology. The Biochronomer technology consists of bioerodible polymers designed to release drugs over a defined period of time. Our primary focus is on our lead product candidate, APF530, which is being developed for the prevention of chemotherapy-induced nausea and vomiting (CINV). APF530 utilizes our Biochronomer technology and is a long-acting formulation of granisetron. In May 2009, we filed a New Drug Application (NDA) with the U.S. Food and Drug Administration (FDA) seeking approval for APF530. During 2008, we completed a pivotal Phase 3 clinical trial for APF530 which was the basis for the application. Since receiving the Complete Response Letter in March 2010, we have been working to address the issues raised by the FDA. We met with the FDA in February and March 2011 to clarify the work needed to resubmit the NDA. Based on our discussions with the FDA and our assessment of the work remaining, we expect to resubmit the APF530 NDA in mid-2012. We intend to seek a collaborative arrangement to commercialize APF530 or anticipate obtaining additional funding and resources that would be required to launch APF530 without a partner.

We previously submitted Investigational New Drug (IND) applications for two product candidates, APF112 and APF580. Since 2009, further development of these product candidates has been deferred in order to focus both managerial and financial resources on the development of APF530. We are currently evaluating applications of our Biochronomer delivery technology, including APF112 and APF580, to determine potential pipeline candidates following the possible approval of APF530.

**Critical Accounting Policies and Estimates**

Our accounting policies are more fully described in Note 2 of the Financial Statements included in Item 8 of this Annual Report on Form 10-K. The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires our management to make estimates and assumptions about future events that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ significantly from those estimates. We believe the following policies to be critical to understanding our financial condition, results of operations and expectations for 2012. These policies require management to make significant estimates, assumptions and judgments about matters that are inherently uncertain.

---

[Table of Contents](#)

• **Revenue Recognition**

Our revenue arrangements with multiple deliverables are divided into separate units of accounting if certain criteria are met, including whether the delivered item has stand-alone value to the customer and whether there is objective and reliable evidence of the fair value of the undelivered items. The consideration we receive is allocated among the separate units based on their respective fair values, and the applicable revenue recognition criteria are considered separately for each of the separate units. For revenue arrangements entered into after June 15, 2010, management's estimate of the selling price is considered when fair value is not determinable. Advance payments received in excess of amounts earned are classified as deferred revenue until earned. Milestones are recorded as revenue upon achievement of the milestone.

• **Contract Revenue**

We have licensing agreements that generally provide for a non-refundable license fee. The license agreements provide for us to earn future revenue through royalty payments. These non-refundable license fees are generally initially reported as deferred revenue and recognized as revenue over an appropriate period, depending on the license. Revenue recognized from deferred license fees is classified as Contract Revenue in our statements of operations.

Contract revenue also relates to research and development arrangements that generally provide for us to invoice research and development fees based on full-time equivalent hours for each project. Revenue from these arrangements is recognized as the related development services are rendered. This revenue approximates the costs incurred.

• **Clinical Trial Accruals**

Our expenses related to clinical trials are based on estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage clinical trials on our behalf. Since the invoicing related to these services does not always coincide with our financial statement close process, we must estimate the level of services performed and fees incurred in determining the accrued clinical trial costs. The financial terms of these agreements are subject to negotiation and vary from contract to contract, which may result in uneven payment flows. Payments under the contracts depend on factors such as the successful enrollment of patients or achievement of certain events or the completion of portions of the clinical trial or similar conditions. Expenses related to clinical trials generally are accrued based on the level of patient enrollment and services performed by the clinical research organization or related service provider according to the protocol. We monitor patient enrollment levels and related activity to the extent possible and adjust our estimates accordingly. Historically these estimates have been reasonably accurate and no material adjustments have had to be made.

• **Income Taxes**

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of certain tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes. As part of the process of preparing our financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. This process involves us estimating our current tax exposure under the most recent tax laws and assessing temporary differences resulting from differing treatment of items for tax and financial statement purposes.

---

[Table of Contents](#)

We assess the likelihood that we will be able to recover our deferred tax assets. We consider all available evidence, both positive and negative, including our historical levels of income and losses, expectations and risks associated with estimates of future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance. If we do not consider it more likely than not that we will recover our deferred tax assets, we will record a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. At December 31, 2011, we believed that the amount of our deferred income taxes would not be ultimately recovered. Accordingly, we recorded a full valuation allowance for deferred tax assets.

Additionally, we believe that our deferred tax assets may have been limited in accordance with a provision of the Internal Revenue Code of 1986, whereby net operating loss and tax credit carryforwards available for use in a given period are limited upon the occurrence of certain events, including a significant change in ownership interests. As a result, our deferred tax assets and related valuation allowance were reduced for the estimated impact of the net operating losses and credits that may expire unused (see Note 12 to the Financial Statements included in Item 8 of this Annual Report on Form 10-K).

Should there be a change in our ability to recover our deferred tax assets, we would recognize a benefit to our tax provision in the period in which we determine that it is more likely than not that we will recover our deferred tax assets.

• **Stock-Based Compensation**

We account for share-based payment arrangements in accordance with ASC 718, *Compensation – Stock Compensation and ASC 505-50, Equity – Equity Based Payments to Non-Employees*, which requires the recognition of compensation expense, using a fair-value based method, for all costs related to share-based payments including stock options, restricted stock awards and stock issued under the employee stock purchase plan. These standards require companies to estimate the fair value of share-based payment awards on the date of the grant using an option-pricing model (see Note 8 to the Financial Statements included in Item 8 of this Annual Report on Form 10-K).

**Results of Operations for the years ended December 31, 2011, 2010 and 2009**

The following sets forth the statement of operations data and percentage changes as compared to the prior years (dollar amounts are presented in thousands):

	For the Years Ended December 31,			\$ Change		% Change	
	2011	2010	2009	2011/2010	2010/2009	2011/2010	2010/2009
Total revenue	\$ 646	\$ 1,301	\$ 1,261	\$ (655)	\$ 40	(50%)	3%
Research and development	8,207	7,264	7,796	943	(532)	13%	(7%)
General and administrative	3,501	3,971	3,707	(470)	264	(12%)	7%
Other income (loss), net	—	240	(5)	(240)	245	(100%)	nm
Interest income (expense), net	(373)	(2)	29	(371)	(31)	nm	(107%)
Gain on sale of royalty interests	—	2,500	—	(2,500)	2,500	(100%)	nm
Gain (loss) from discontinued operations	(379)	(150)	68	(229)	(218)	153%	(321%)



---

[Table of Contents](#)

**Revenue**

Contract revenue decreased in 2011 by \$0.7 million, or 50%, compared to 2010. All of our contract revenue for the fiscal year 2011 was derived from an agreement with Merial that we entered into in September 2009 for a long-acting pain management product for companion animals. In May 2011, we received notice of termination from Merial, as they did not see the commercial potential of the product under development in the animal health market. The majority of our contract revenue for the fiscal year 2010 was derived from our agreement with Merial.

Contract revenue increased in 2010 by \$40,000, or 3%, compared to 2009. The majority of our contract revenue for the fiscal year 2010 was derived from an agreement with Merial that we entered into in September 2009. Contract revenue in 2009 included \$1.0 million of revenue recognized upon termination of our agreement with RHEI Pharmaceuticals, Inc. (RHEI).

**Research and Development**

Research and development expense in 2011 increased by \$0.9 million, or 13%, compared to 2010. Compared to the prior year, headcount-related costs, including stock compensation expense, and project spending for APF530 in 2011 were higher as we worked to address the issues raised by the FDA in the Complete Response Letter. Research and development expense for the year 2012 is expected to be higher as compared to 2011 due to project-related expenses and additional resources required for the NDA resubmission.

Research and development expense in 2010 decreased by \$0.5 million, or 7%, compared to 2009 primarily due to headcount reductions in May 2009 and the suspension of other research and development projects to conserve resources, which were partially offset by increased development, manufacturing and project-related expenses related to the NDA submission to the FDA.

The scope and magnitude of future research and development expense is difficult to predict given the number of studies that will need to be conducted for any of our potential products. In general, biopharmaceutical development involves a series of steps, beginning with identification of a product candidate and includes proof-of-concept in animals and Phase 1, 2 and 3 clinical studies in humans. Each step of this process is typically more expensive than the previous one, so success in development results in increasing expenditures.

We previously submitted IND applications for two product candidates, APF112 and APF580. Since 2009, further development of these product candidates has been deferred in order to focus both managerial and financial resources on the development of APF530. We are currently evaluating applications of our Biochronomer delivery technology, including APF112 and APF580, to determine potential pipeline candidates following the approval of APF530.

---

[Table of Contents](#)

The major components of research and development expenses were as follows (in thousands):

For the years December 31,	2011	2010	2009
Internal research and development costs	\$4,663	\$4,029	\$4,783
External development costs:			
APF530 (CINV product)	3,454	2,757	2,939
APF112 and APF 580 (pain products)	58	288	3
External general technology development costs	32	190	71
	<u>\$8,207</u>	<u>\$7,264</u>	<u>\$7,796</u>

Internal research and development costs consist of employee salaries and benefits, including stock-based compensation, laboratory supplies, depreciation and allocation of overhead. External general technology development costs include expenditures on polymer development and manufacturing, which are performed on our behalf by third parties.

**General and Administrative**

General and administrative expenses decreased in 2011 by \$0.5 million, or 12%, compared to 2010. The net decrease in the fiscal year 2011 was primarily due to compensation expense incurred in the prior year related to the resignation of our former chief executive officer, which was partially offset by higher professional fees and consultant costs. General and administrative expense for the year 2012 is expected to be higher as compared to 2011 due to increased support activities related to the NDA submission to the FDA.

General and administrative expenses increased in 2010 by \$0.3 million, or 7%, compared to 2009. The net increase in the fiscal year 2010 included compensation expense related to the resignation of our chief executive officer, which was partially offset by lower expense resulting from the cost containment measures associated with our headcount reductions and outside services.

General and administrative expenses consist of primarily salaries and related expenses, professional fees, directors' fees, investor relations costs, insurance expense and related overhead cost allocation.

**Other Income (Expense)**

Interest expense, net of \$373,000 for the year ended December 31, 2011 consists primarily of interest expense, debt issuance costs and amortization of debt discount related to the April 2011 convertible note financing.

The gain on sale of royalty interest of \$2.5 million represents a milestone payment we received in January 2010 from an affiliate of the Paul Royalty Fund. The payment represents a final milestone payment that became due to us in January 2010 under an agreement that we entered into effective October 1, 2005 to sell our royalty rights to Retin-A Micro® and Carac®.

Other income of \$0.2 million represents a non-taxable grant from the United States government under the Qualifying Therapeutics Discovery Project (QTDP) program. Since the QTDP grant is not considered an integral part of our ongoing operations and the research and development costs were expended in a prior year, we have reported the amount as Other Income in the Statement of Operations.

---

[Table of Contents](#)

***Discontinued Operations***

On July 25, 2000, we completed the sale of certain technology rights for our topical pharmaceutical and cosmeceutical product lines and associated assets, referred to as our cosmeceutical and toiletry business, to RP Scherer Corporation (RP Scherer), a subsidiary of Cardinal Health, Inc. We received \$25.0 million at the closing of the transaction.

Under the terms of the agreement with RP Scherer, we guaranteed a minimum gross profit percentage on RP Scherer's combined sales of products to Ortho Dermatologics (Ortho) and Dermik Laboratories, Inc. (Dermik) (Gross Profit Guaranty). In July 2011, Valeant Pharmaceuticals announced it was acquiring both Ortho and Dermik and these agreements have since been assigned to Valeant. The guaranty period initially commenced on July 1, 2000 and was to end on the earlier of July 1, 2010 or the end of two consecutive guaranty periods where the combined gross profit on sales to Ortho and Dermik equals or exceeds the guaranteed gross profit (Two Period Test). The Gross Profit Guaranty expense totaled \$0.9 million for the first seven guaranty years and in those years profits did not meet the Two Period Test. Effective March 2007, in conjunction with a sale of assets by RP Scherer's successor company to an Amcol International subsidiary (Amcol), we signed a new agreement with Amcol to provide continuity of product supply to Ortho and Dermik. This new agreement potentially extends the Gross Profit Guaranty period an additional two years to July 1, 2013, unless it is terminated earlier with the Two Period Test. Amcol has indicated that its costs differ from those it charged historically to the RP Scherer successor company to produce the products. We have not paid any Gross Profit Guaranty amount asserted by Amcol and have requested documentation from Amcol to substantiate actual costs. Until we receive confirmation of these amounts, we have accrued the full amount Amcol represents it is currently owed. As there is no minimum amount of Gross Profit Guaranty due, no accrual for the guaranty is estimable for future years. A liability of \$1.1 million related to the current amount due under the Gross Profit Guaranty is included in accrued disposition costs as of December 31, 2011, although we have not paid this amount to date due to our inability to substantiate the amounts claimed by Amcol. As of the date of filing of this report, our dispute with Amcol over the Gross Profit Guaranty has been submitted to an independent accountant for resolution.

Gain (loss) from discontinued operations represents primarily the loss attributable to the Gross Profit Guaranty associated with the sale of our cosmeceutical and toiletry business.

***Income Tax Benefit***

In 2009, we reported an income tax benefit of \$0.1 million related to a carryback of net operating loss under the Worker, Homeownership, and Business Assistance Act of 2009.

***Liquidity and Capital Resources***

We had cash and cash equivalents of \$18.0 million at December 31, 2011. Cash and cash equivalents increased by \$15.9 million at December 31, 2011, as compared to 2010, primarily due to \$24.1 million of net cash proceeds from our convertible note and equity financings, which were offset by \$8.2 million of cash used in operations and capital expenditures for the year ended December 31, 2011.

---

[Table of Contents](#)

Net cash used in continuing operating activities for the year ended December 31, 2011 was \$7.7 million, compared to net cash used of \$5.5 million for the year ended 2010. The \$2.2 million increase in cash used in continuing operating activities was primarily due to the receipt of a \$2.5 million milestone payment from an affiliate of the Paul Royalty Fund in the prior year period.

Net cash used in continuing operating activities for the year ended December 31, 2010 was \$5.5 million, compared to net cash used of \$11.0 million for the year ended 2009. The decrease in cash used in continuing operating activities for the year ended December 31, 2010, as compared to 2009, was primarily due to the \$2.7 million decrease in net loss for the fiscal year 2010, a \$0.7 million decrease from non-cash changes primarily related to the stock-based compensation expense and a \$2.2 million change in operating assets and liabilities.

Net cash provided by (used in) investing activities was (\$0.5 million), (\$0.1 million) and \$0.6 million for the years ended December 31, 2011, 2010 and 2009, respectively. The net cash used in investing activities in 2011 and 2010 was due to purchases of equipment. The decrease in net cash provided by investing activities in 2010 from 2009 was primarily due to maturities of marketable securities in 2009.

Our financing activities provided us with \$24.1 million, \$0.1 million and \$8.0 million for the years ended December 31, 2011, 2010 and 2009, respectively. The net cash provided by financing activities in 2011 was related to a convertible note financing in April 2011 and a private equity financing in July 2011. The net cash provided by financing activities in 2010 was solely related to proceeds from issuances of shares under the Employee Stock Purchase Plan and stock option exercises. The net cash provided by financing activities in 2009 was primarily associated with a private equity financing in October 2009.

Historically, we have financed our operations, including technology and product research and development, primarily through sales of our common stock and other securities, royalties received on sales of Retin-A Micro and Carac, the sale of our rights to royalties on sales of Retin-A Micro and Carac, income from collaborative research and development fees, proceeds received from the sales of our Analytical Standards division and our cosmeceutical and toiletry business and interest earned on short-term investments.

In March 2010, we received a Complete Response Letter for our APF530 NDA. Since receiving the Complete Response Letter, we have been working to address the issues raised by the FDA. We met with the FDA in February and March 2011 to clarify the work needed to resubmit the NDA. Based on our discussions with the FDA and our assessment of the work remaining, we expect to resubmit the APF530 NDA in mid-2012.

In April 2011, we entered into definitive agreements for a bridge loan, which was intended to fund the Company's operations until additional financing was secured. The initial funding from the bridge loan was approximately \$1.3 million, net of financing costs. In June 2011, we entered into definitive agreements for a private placement of units comprised of common stock and warrants, for which we received advance proceeds of \$20.3 million as of June 30, 2011. The financing closed in July 2011, at which time the remaining \$3.7 million was received. We believe the capital generated through these financings is sufficient to fund planned operations into 2013.

We anticipate pursuing either a collaborative arrangement to commercialize APF530 with a partner, which will provide the necessary financial resources and expertise to launch APF530, or anticipate obtaining additional funding and resources that

---

[Table of Contents](#)

would be required to launch APF530 without a partner. We do not currently have the financial resources to launch APF530. The amount of additional funding that we may require depends on various factors, including the results of the on-going regulatory review by the FDA of our APF530 NDA, our efforts to respond to the FDA's Complete Response Letter, our ability to establish a partnership with a pharmaceutical company for the commercialization of APF530, the time and costs related to manufacturing of APF530, if approved, and technological and market developments of drugs that may compete with APF530. There can be no assurance that APF530 will be approved and, if approved, that we will be successful in obtaining the additional necessary financial resources and expertise, with or without a partner, that will be required to launch APF530.

Our capital requirements going forward will depend on numerous factors including: the number and characteristics of product development programs we pursue and the pace of each program; the scope, rate of progress, results and costs of preclinical testing and clinical trials; the time, cost and outcome involved in seeking regulatory approvals; scientific progress in our research and development programs; the magnitude and scope of our research and development programs; our ability to establish and maintain strategic collaborations or partnerships for research, development, clinical testing; manufacturing and marketing of our product candidates; the cost and timing of establishing sales, marketing and distribution capabilities for a specialty sales force if we commercialize any products independently; the cost of establishing clinical and commercial supplies of our product candidates and any products that we may develop; and general market conditions.

We may not be able to raise sufficient additional capital when we need it or to raise capital on favorable terms. The sale of additional equity in the future may be dilutive to our stockholders. If we are unable to obtain adequate funds on reasonable terms, we may be required to curtail operations significantly or to obtain funds by entering into financing, supply or collaboration agreements on unattractive terms.

**Contractual Obligations**

Below is a summary of fixed payments related to certain contractual obligations (in thousands). This table excludes amounts already recorded on our balance sheet as current liabilities as of December 31, 2011.

	<b>Total</b>	<b>Less than 1 year</b>	<b>2 to 3 years</b>	<b>4 to 5 years</b>	<b>More than 5 years</b>
Other operating leases <sup>(1)</sup>	\$3,618	\$ 715	\$1,451	\$1,452	\$ —

<sup>(1)</sup> See Note 7 to the Financial Statements.

Under the terms of the agreement with RP Scherer, we guaranteed a minimum gross profit percentage on RP Scherer's combined sales of products to Ortho and Dermik. See description of Gross Profit Guaranty in "Discontinued Operations" above.

The holders of the convertible notes issued in May 2011 may require prepayment of the Notes at any time beginning on or after May 2, 2012 at the holders' option. See Note 6 to the Financial Statements.

---

[Table of Contents](#)

**Off-Balance-Sheet Arrangements**

As of December 31, 2011, we did not have any off-balance-sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K.

**Recent Accounting Pronouncements**

Recent accounting pronouncements are disclosed in Note 2 to the Financial Statements included in Item 8 of this Annual Report on Form 10-K.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK**

As a smaller reporting company, the registrant is not required to provide the disclosure set forth under this Item 7A.

---

[Table of Contents](#)

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

**Report of Independent Registered Public Accounting Firm**

The Board of Directors and Stockholders  
A.P. Pharma, Inc.

We have audited the accompanying balance sheets of A.P. Pharma, Inc. as of December 31, 2011 and 2010 and the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31. In connection with our audits of the financial statements, we have also audited the financial statement schedules listed in Item 15(a)2. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements and schedule. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements audited by us present fairly, in all material respects, the financial position of A.P. Pharma, Inc. at December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011, in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ OUM & Co. LLP

San Francisco, California  
March 23, 2012

[Table of Contents](#)

A.P. PHARMA, INC.  
BALANCE SHEETS  
(in thousands except par value and shares)

December 31,	2011	2010
<b>ASSETS</b>		
Current Assets:		
Cash and cash equivalents	\$ 17,974	\$ 2,109
Accounts receivable, net	—	110
Prepaid expenses and other current assets	266	282
Total current assets	18,240	2,501
Property and equipment, net	1,075	357
Other long-term assets	130	53
Total Assets	\$ 19,445	\$ 2,911
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current Liabilities:		
Accounts payable	\$ 1,010	\$ 159
Accrued expenses	1,498	461
Accrued disposition costs	1,082	703
Convertible notes payable to related parties, net of discount	103	—
Deferred revenue	—	237
Total current liabilities	3,693	1,560
Deferred revenue	—	35
Total Liabilities	3,693	1,595
Commitments and Contingencies (Note 7)		
Stockholders' Equity:		
Preferred stock, 2,500,000 shares authorized; none issued or outstanding at December 31, 2011 and 2010	—	—
Common stock, \$0.01 par value, 1,500,000,000 and 100,000,000 shares authorized; and 200,046,292 and 40,143,227 issued and outstanding at December 31, 2011 and 2010, respectively	2,002	401
Additional paid-in capital	173,989	149,340
Accumulated deficit	(160,239)	(148,425)
Total Stockholders' Equity	15,752	1,316
Total Liabilities and Stockholders' Equity	\$ 19,445	\$ 2,911

See accompanying Notes to Financial Statements.



[Table of Contents](#)

A.P. PHARMA, INC.  
STATEMENTS OF OPERATIONS  
(in thousands except per share amounts)

For the Years Ended December 31,	2011	2010	2009
<b>REVENUE</b>			
Contract revenue	\$ 646	\$ 1,301	\$ 1,261
<b>OPERATING EXPENSES</b>			
Research and development	8,207	7,264	7,796
General and administrative	3,501	3,971	3,707
Total operating expenses	11,708	11,235	11,503
Operating loss	(11,062)	(9,934)	(10,242)
<b>OTHER INCOME (EXPENSES)</b>			
Gain on sale of royalty interest	—	2,500	—
Other income (loss), net	—	240	(5)
Interest income (expense), net	(373)	(2)	29
Total other income (expenses)	(373)	2,738	24
Loss from continuing operations before income taxes	(11,435)	(7,196)	(10,218)
Income tax benefit	—	—	122
Net loss from continuing operations	(11,435)	(7,196)	(10,096)
Gain (loss) from discontinued operations	(379)	(150)	68
Net loss	\$ (11,814)	\$ (7,346)	\$ (10,028)
Basic and diluted net loss per share:			
Loss from continuing operations	\$ (0.10)	\$ (0.18)	\$ (0.31)
Net loss	\$ (0.10)	\$ (0.19)	\$ (0.31)
Weighted-average common shares used to compute basic and diluted net loss per share	120,263	39,671	32,625

See accompanying Notes to Financial Statements.

[Table of Contents](#)

A.P. PHARMA, INC.  
STATEMENTS OF STOCKHOLDERS' EQUITY  
(in thousands)

For the Years Ended December 31, 2010, 2009 and 2008	<u>Common Stock</u>		Addi- tional Paid- in Capital	Accu- mulated Deficit	Accu- mulated Other Compre- hensive Income (Loss)	Stock- holders' Equity
	Shares	Amount				
<b>BALANCE, DECEMBER 31, 2008</b>	30,941	\$ 309	\$ 138,383	\$ (131,051)	\$ (43)	\$ 7,598
Comprehensive loss						
Net loss	—	—	—	(10,028)	—	(10,028)
Net unrealized gain on marketable securities	—	—	—	—	43	43
Comprehensive loss						(9,985)
Common stock and warrants issued in private placement, net of issuance costs	7,955	80	7,871	—	—	7,951
Fair value of stock-based compensation for restricted stock awards issued to directors	332	4	371	—	—	375
Common stock issued upon exercise of stock options	28	—	20	—	—	20
Common stock issued to employees under ESPP	99	1	41	—	—	42
Stock issued in lieu of bonus	40	—	36	—	—	36
Stock-based compensation expense related to stock options and ESPP	—	—	759	—	—	759
<b>BALANCE, DECEMBER 31, 2009</b>	<b>39,395</b>	<b>394</b>	<b>147,481</b>	<b>(141,079)</b>	<b>—</b>	<b>6,796</b>
Comprehensive loss						
Net loss	—	—	—	(7,346)	—	(7,346)
Comprehensive loss						(7,346)
Common stock and warrants issued in private placement, net of issuance costs	—	—	40	—	—	40
Fair value of stock-based compensation for restricted stock awards issued to directors	661	7	378	—	—	385
Common stock issued upon exercise of stock options	38	—	47	—	—	47
Common stock issued to employees under ESPP	49	—	30	—	—	30
Stock-based compensation expense related to stock options and ESPP	—	—	1,364	—	—	1,364
<b>BALANCE, DECEMBER 31, 2010</b>	<b>40,143</b>	<b>401</b>	<b>149,340</b>	<b>(148,425)</b>	<b>—</b>	<b>1,316</b>
Comprehensive loss						
Net loss	—	—	—	(11,814)	—	(11,814)
Comprehensive loss						(11,814)
Common stock and warrants issued in private placement, net of issuance costs	160,000	1,600	21,172	—	—	22,772
Conversion benefit included in convertible notes issued	—	—	1,573	—	—	1,573
Fair value of stock-based compensation for restricted stock awards issued/(cancelled) to directors	(175)	—	98	—	—	98
Common stock issued to employees under ESPP	78	1	15	—	—	16
Stock-based compensation expense related to stock options and ESPP	—	—	1,761	—	—	1,761
Fair value of warrants issued to non-employee	—	—	30	—	—	30
<b>BALANCE, DECEMBER 31, 2011</b>	<b>200,046</b>	<b>\$ 2,002</b>	<b>\$ 173,989</b>	<b>\$ (160,239)</b>	<b>\$ —</b>	<b>\$ 15,752</b>

See accompanying Notes to Financial Statements

[Table of Contents](#)

A.P. PHARMA, INC.  
STATEMENTS OF CASH FLOWS  
(in thousands)

For the Years Ended December 31,	2011	2010	2009
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net loss	\$(11,814)	\$(7,346)	\$(10,028)
Adjustments to reconcile net loss to net cash used in operating activities:			
Loss (gain) from discontinued operations	379	150	(68)
Depreciation and amortization	179	227	356
Amortization of debt discount	103	—	—
Stock-based compensation	1,890	1,749	1,137
Stock issued in lieu of bonus	—	—	36
Loss on retirement of fixed assets	—	4	17
Changes in operating assets and liabilities:			
Accounts receivable	110	61	(139)
Prepaid expenses and other current assets	16	267	(303)
Other long-term assets	(77)	75	(25)
Accounts payable	467	(3)	(182)
Accrued expenses	1,298	(579)	(1,160)
Deferred revenue	(272)	(88)	(640)
Net cash used in continuing operating activities	(7,721)	(5,483)	(10,999)
Net cash provided by discontinued operations	—	—	—
Net cash used in operating activities	(7,721)	(5,483)	(10,999)
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchases of property and equipment	(513)	(78)	(2)
Maturities of marketable securities	—	—	614
Net cash provided by (used in) investing activities	(513)	(78)	612
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Proceeds from sale of units of common stock and warrants, net of issuance costs	22,772	—	7,951
Proceeds from convertible note financing, net of issuance costs	1,312	—	—
Proceeds from the exercise of stock options	—	47	20
Proceeds from the issuance of shares under the Employee Stock Purchase Plan	15	30	42
Net cash provided by financing activities	24,099	77	8,013
Net increase (decrease) in cash and cash equivalents	15,865	(5,484)	(2,374)
Cash and cash equivalents, beginning of period	2,109	7,593	9,967
Cash and cash equivalents, end of period	\$ 17,974	\$ 2,109	\$ 7,593
Supplemental Cash Flow Data:			
Cash paid for interest	\$ 2	\$ 4	\$ 4

See accompanying Notes to Financial Statements.

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**NOTE 1 BUSINESS**

A.P. Pharma is a specialty pharmaceutical company focused on developing pharmaceutical products using our proprietary Biochronomer polymer-based drug delivery technology. The Biochronomer technology consists of bioerodible polymers designed to release drugs over a defined period of time. Our primary focus is on our lead product candidate, APF530, which is being developed for the prevention of chemotherapy-induced nausea and vomiting (CINV). APF530 utilizes our Biochronomer technology and is a long-acting formulation of granisetron. In May 2009, we filed a New Drug Application (NDA) with the U.S. Food and Drug Administration (FDA) seeking approval for APF530. During 2008, we completed a pivotal Phase 3 clinical trial for APF530 which was the basis for the application. Since receiving the Complete Response Letter in March 2010, we have been working to address the issues raised by the FDA. We met with the FDA in February and March 2011 to clarify the work needed to resubmit the NDA. Based on our discussions with the FDA and our assessment of the work remaining, we expect to resubmit the APF530 NDA in mid-2012. We intend to seek a collaborative arrangement to commercialize APF530 or anticipate obtaining additional funding and resources that would be required to launch APF530 without a partner.

We previously submitted Investigational New Drug (IND) applications for two product candidates, APF112 and APF580. Since 2009, further development of these product candidates has been deferred in order to focus both managerial and financial resources on the development of APF530. We are currently evaluating applications of our Biochronomer delivery technology, including APF112 and APF580, to determine potential pipeline candidates following the possible approval of APF530.

**NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Presentation and Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Estimates were made relating to useful lives of fixed assets, valuation allowances, impairment of assets, accruals for research and development expenses and stock-based expenses. Actual results could differ materially from those estimates.

We have evaluated subsequent events through the date the audited financial statements were issued and determined that there were no subsequent events that required disclosure in the financial statements.

**Liquidity**

We have incurred significant operating losses and negative cash flows from operations and have an accumulated deficit of \$160.2 million as of December 31, 2011. At December 31, 2011, we had cash and cash equivalents of \$18.0 million. During 2011, we entered into two financing agreements which have provided capital to fund operations. In April 2011, we entered into definitive agreements for a convertible note financing, which served as a bridge loan to fund the Company's operations until additional financing was secured. The initial capital funding from the bridge loan was approximately \$1.3 million, net of financing costs. The bridge loan investors have the right through May 2, 2013 to purchase an additional \$3.0 million aggregate principal amount of Notes. In June 2011, we entered into definitive agreements for a private placement of units of common stock and

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

warrants. The financing, which closed in July 2011, provided the Company with approximately \$22.8 million of proceeds, net of issuance costs. The Company believes the capital generated through these financings is sufficient to fund its planned operations into 2013.

Our capital requirements going forward will depend on numerous factors including the number and characteristics of product development programs we pursue and the pace of each program; the scope, rate of progress, results and costs of preclinical testing and clinical trials; the time, cost and outcome involved in seeking regulatory approvals; scientific progress in our research and development programs; the magnitude and scope of our research and development programs; our ability to establish and maintain strategic collaborations or partnerships for research, development and clinical testing; manufacturing and marketing of our product candidates; the cost and timing of establishing sales, marketing and distribution capabilities for a specialty sales force if we commercialize any products independently; the cost of establishing clinical and commercial supplies of our product candidates and any products that we may develop; and general market conditions.

**Cash Equivalents**

We consider all highly liquid investments with a maturity from the date of purchase of less than three months to be cash equivalents. We have classified all our investments in certain debt securities as "available-for-sale." As of December 31, 2011 and 2010, our available-for-sale securities consisted of money market funds primarily containing U.S. government-backed or collateralized overnight securities with original maturities of ninety days or less. The carrying value of our money market funds is included in cash equivalents and approximates their fair value. The Company's bank accounts have been placed under a control agreement in accordance with the April 2011 convertible note financing (see Note 6).

**Property and Equipment**

Property and equipment is stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets as follows: equipment and machinery, three to five years; furniture and fixtures, five years; and leasehold improvements, over the shorter of the respective lease terms or the respective useful lives of the leasehold improvements.

**Long-Lived Assets**

As circumstances dictate, we evaluate whether changes have occurred that would require us to consider whether long-lived assets have been impaired. Recoverability of assets to be held and used is determined by comparing the undiscounted net cash flows of long-lived assets to their respective carrying values. If such assets are considered to be impaired, the amount of impairment to be recognized is measured by comparing the projected discounted cash flows using an appropriate discount rate to the asset's carrying value.

**Stock-Based Compensation**

We account for share-based payment arrangements in accordance with ASC 718, *Compensation – Stock Compensation* and ASC 505-50, *Equity – Equity Based Payments to Non-Employees*, which requires the recognition of compensation expense, using a fair-value based method, for all costs related to share-based payments including stock options, restricted stock awards

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

and stock issued under the employee stock purchase plan. These standards require companies to estimate the fair value of share-based payment awards on the date of the grant using an option-pricing model. See Note 8 for further discussion of our stock-based compensation plans.

**Warrants Issued in Connection with Equity Financings**

We generally account for warrants issued in connection with equity financings as a component of equity, unless there is a deemed possibility that we may have to settle warrants in cash.

**Revenue Recognition**

Our revenue arrangements with multiple deliverables are divided into separate units of accounting if certain criteria are met, including whether the delivered item has stand-alone value to the customer and whether there is objective and reliable evidence of the fair value of the undelivered items. The consideration we receive is allocated among the separate units based on their respective fair values, and the applicable revenue recognition criteria are considered separately for each of the separate units. For revenue arrangements entered into after June 15, 2010, management's estimate of the selling price is considered when fair value is not determinable. Advance payments received in excess of amounts earned are classified as deferred revenue until earned. Milestone payments are recorded as revenue upon achievement of the milestone.

We record grant income as revenue if the grant is considered an integral part of our ongoing operations. In November 2010, we received a \$244,000 non-taxable grant from the United States government under the Qualifying Therapeutics Discovery Project (QTDP) program for the APF530 project. Since the QTDP grant is not considered an integral part of our ongoing operations and the research and development costs were expended in a prior year, we have reported the amount as Other Income in the accompanying statements of operations.

**Contract Revenue**

We have licensing agreements that generally provide for a non-refundable license fee. The license agreements provide for us to earn future revenue through royalty payments. These non-refundable license fees are generally initially reported as deferred revenue and recognized as revenue over an appropriate period, depending on the license. Revenue recognized from deferred license fees is classified as Contract Revenue in the accompanying statements of operations.

Contract revenue relates to research and development arrangements that generally provide for us to invoice research and development fees based on full-time equivalent hours for each project. Revenue from these arrangements is recognized as the related development services are rendered. This revenue approximates the costs incurred.

**Clinical Trial Accruals**

Our expenses related to clinical trials are based on estimates of the services received and efforts expended pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage clinical trials on our behalf. Since the invoicing related to these services does not always coincide with our financial statement close process, we must estimate the level of services performed and fees incurred in determining the accrued clinical trial costs. The financial

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

terms of these agreements are subject to negotiation and vary from contract to contract, which may result in uneven payment flows. Payments under the contracts depend on factors such as the successful enrollment of patients or achievement of certain events or the completion of portions of the clinical trial or similar conditions. Expenses related to clinical trials generally are accrued based on the level of patient enrollment and services performed by the clinical research organization or related service provider according to the protocol. We monitor patient enrollment levels and related activity to the extent possible and adjust our estimates accordingly. Historically these estimates have been reasonably accurate and no material adjustments have had to be made.

**Research and Development**

Research and development consists of costs incurred for company-sponsored and collaborative research and development expenses. These costs consist primarily of employee salaries and other personnel-related expenses, facility-related expenses, laboratory consumables, polymer development manufacturing, clinical and pre-clinical related services performed by clinical research organizations, research institutions and other outside service providers.

Research and development expenses under collaborative agreements approximate the revenue recognized, excluding milestone and up-front payments received under such arrangements.

**Net Income (Loss) Per Share**

Basic income (loss) per share is estimated based on the weighted-average number of common shares outstanding. Diluted income (loss) per share is calculated using the weighted-average number of common shares outstanding and other dilutive securities. Dilutive securities are not included in the computation of diluted net loss per share if the inclusion of these potentially dilutive securities is anti-dilutive (see Note 9).

**Concentrations of Credit Risk**

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash equivalents. We invest excess cash in a variety of high-grade short-term, interest-bearing securities. This diversification of risk is consistent with our policy to ensure safety of principal and maintain liquidity.

**Segment and Geographic Information**

Our operations are confined to a single business segment, the design and commercialization of polymer technologies for pharmaceutical and other applications. Substantially all of our revenues are derived from customers within the United States.

**Comprehensive Income (Loss)**

ASC 220, *Comprehensive Income*, requires that an entity's change in equity or net assets during a period from transactions and other events from non-owner sources be reported. We report unrealized gains or losses on our available-for-sale securities as other comprehensive income (loss). Total other comprehensive income (loss) has been disclosed on the statement of stockholders' equity.

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**Recent Accounting Pronouncements**

In June 2011, the Financial Accounting Standards Board (FASB) issued ASU 2011-05, *Comprehensive Income (Topic 220): Presentation of Comprehensive Income*. ASU 2011-05 eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders' equity and, instead, requires separate statements of comprehensive income. The amendment is effective for fiscal years and interim periods within those years, beginning after December 15, 2011. In October 2011, the FASB decided that the specific requirement to present items that are reclassified from other comprehensive income to net income alongside their respective components of net income and other comprehensive income will be deferred. In December 2011, the FASB issued ASU 2011-12, *Comprehensive Income (Topic 220): Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05*. Those requirements will be effective for public entities for fiscal years and interim periods within those years beginning after December 15, 2011. We do not expect the adoption of ASU 2011-05 to impact our financial position and results of operations.

**NOTE 3 FAIR VALUE MEASUREMENTS**

We follow the provisions of ASC 820-10, *Fair Value Measurements and Disclosures*, which defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles and requires certain disclosures about fair value measurements. Broadly, the ASC 820-10 framework clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability.

As a basis for considering such assumptions, ASC 820-10 establishes a three tier value hierarchy which prioritizes the inputs used in measuring fair value as follows: Level 1) observable inputs such as quoted prices in active markets; Level 2) inputs other than the quoted prices in active markets that are observable either directly or indirectly; and Level 3) unobservable inputs in which there is little or no market data, which require us to develop our own assumptions. The hierarchy requires us to use observable market data, when available, and to minimize the use of unobservable inputs when determining fair value.

On a recurring basis, we measure our available-for-sale securities at fair value. We used quoted prices in active markets (Level 1) to measure our cash equivalents at fair value on a recurring basis in our balance sheets at December 31, 2011 and 2010. Cash equivalents consist of highly rated money market funds with maturities of ninety days or less and purchased daily at par value with specified yield rates. Due to the high ratings and short-term nature of these funds, we consider the values of all cash equivalents as Level 1 inputs.

The carrying amounts reported in the balance sheets for accounts receivable, accounts payable and accrued expenses approximate fair value because of the short-term nature of these items.



---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**NOTE 4 PROPERTY AND EQUIPMENT**

Property and equipment consist of the following (in thousands):

December 31,	2011	2010
Leasehold improvements	\$ 1,338	\$ 1,338
Furniture and equipment	3,302	3,178
Construction-in-progress	718	—
Total property and equipment	5,358	4,516
Accumulated depreciation	(4,283)	(4,159)
Property and equipment, net	\$ 1,075	\$ 357

Depreciation expense amounted to \$179,000, \$227,000 and \$356,000 for the years ended December 31, 2011, 2010 and 2009, respectively. At December 31, 2011, construction-in-progress relates to equipment purchases.

**NOTE 5 ACCRUED EXPENSES**

Accrued expenses consist of the following (in thousands):

December 31,	2011	2010
Project costs	\$ 555	\$271
Accrued compensation	555	113
Other	388	77
Total	\$1,498	\$461

**NOTE 6 CONVERTIBLE NOTES TO RELATED PARTIES**

In April 2011, we entered into a Securities Purchase Agreement (Purchase Agreement) with certain institutional investors (Purchasers), including a fund affiliated with Kevin Tang, who is on our Board of Directors, for a private placement of up to \$4.5 million in Senior Secured Convertible Notes due 2021 (Notes). Pursuant to the Purchase Agreement, the Company may issue up to \$4.5 million aggregate principal amount of Notes, which are convertible into shares of the Company's common stock at a rate of 25,000 shares for every \$1,000 of principal and accrued interest due under the Notes (Conversion Shares). The initial funding from the bridge loan was approximately \$1.3 million, net of financing costs. The Purchasers may also purchase up to an additional \$3.0 million aggregate principal amount of Notes from time to time, with such right expiring upon the second anniversary of the initial closing date. The holders of the Notes may require prepayment of the Notes at any time beginning on or after May 2, 2012 at the holders' option.

The Notes are secured by substantially all of the assets of the Company, including placing the Company's bank accounts under a control agreement. The Notes initially bore interest at 20% per annum, payable quarterly in cash or in additional principal amount of Notes at the election of the Purchasers. In June 2011, the interest rate was lowered to 6% per annum effective July 1, 2011 in the Amended Secured Convertible Note Agreement.

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

There is no right to convert the Notes to the extent that after giving effect to such conversion, the holder would beneficially own in excess of 9.99% of the Company's outstanding common stock after the conversion. Each holder of the Notes can increase or decrease this beneficial ownership conversion limit by written notice to the Company, which will not be effective until 61 days after delivery of the notice.

The Company is in compliance with all debt-related covenants at December 31, 2011. Upon the occurrence of an event of default, holders of the Notes have the right to require the Company to redeem all or a portion of their Notes.

Pursuant to the Purchase Agreement, the Company agreed to file a registration statement registering for resale the Conversion Shares. In May 2011, the Company filed a registration statement on Form S-1 registering these shares for resale; the registration statement was declared effective on July 29, 2011.

Concurrent with the approval of the offer and sale of the Notes, the Board of Directors approved the termination of the Company's Preferred Shares Rights Agreement (Rights Agreement), effective immediately prior to the initial closing date. Under the Rights Agreement, preferred stock purchase rights were distributed to stockholders of record as of January 2, 2007 and to each person who acquires the company stock thereafter. The rights were exercisable only upon the acquisition, or the acquisition of the right to acquire, by a person or group of affiliated or associated persons, of 20% or more (34% for Tang Capital Partners, LP and 30% for Baker Brothers Investments) of the outstanding shares of the company's common stock. These rights were terminated as a result of the termination of the Rights Agreement. The Rights Agreement had not been triggered as of that date.

The Notes contain an embedded conversion feature which was in-the-money on the issuance date. Based on an effective fixed conversion price of \$0.04 per share, the total conversion benefit at issuance exceeded the loan proceeds. Therefore, a full debt discount was recorded in an amount equal to the face value of the Notes on the issuance date and the Company began amortizing the resultant debt discount over the 10-year term of the Notes. During fiscal year 2011, accrued interest of approximately \$73,000 was paid-in-kind and rolled into the Note principal balance, which resulted in an additional debt discount of approximately \$73,000. For the year ended December 31, 2011, interest expense relating to the stated rate was approximately \$97,000, and interest expense relating to the amortization of the debt discount was approximately \$103,000.

As of December 31, 2011, the carrying value of the Notes was approximately \$103,000, which is comprised of the \$1,573,000 Note principal less debt discount of \$1,470,000. Accrued interest on the principal balance was approximately \$24,000 at December 31, 2011.

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**NOTE 7 COMMITMENTS AND CONTINGENCIES**

Our lease for office, warehouse and laboratory space expires in 2016. We also lease certain office equipment under operating lease arrangements, which expire in 2013. Our future minimum lease payments under these non-cancelable operating leases for facilities and equipment are as follows (in thousands):

For the Years Ended December 31,	Minimum Payments
2012	\$ 715
2013	716
2014	735
2015	747
2016	705
Total	<u>\$ 3,618</u>

Total rental expense for facilities and equipment was \$591,000, \$555,000 and \$568,000 for the years ended December 31, 2011, 2010 and 2009, respectively.

As part of the sale of our cosmeceutical and toiletry business to RP Scherer Corporation in July 2000, we guaranteed a minimum gross profit percentage on RP Scherer's sales of products to Ortho Dermatologics (Ortho) and Dermik Laboratories, Inc. (Dermik) (see Note 10).

As permitted under Delaware law and in accordance with our bylaws, we indemnify our officers and directors for certain events or occurrences while the officer or director is or was serving at our request in such capacity. The term of the indemnification period is for the officer's or director's lifetime. The maximum amount of potential future indemnification is unlimited; however, we have a director or officer insurance policy that limits our exposure and may enable us to recover a portion of any future payments. We believe the fair value of these indemnification agreements is minimal. Accordingly, we have not recorded any liabilities for these agreements as of December 31, 2011.

In the normal course of business, we provide indemnifications of varying scope under our agreements with other companies, typically our clinical research organizations, investigators, clinical sites, suppliers and others. Pursuant to these agreements, we generally indemnify, hold harmless, and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified parties in connection with use or testing of our products or product candidates or with any U.S. patent or any copyright or other intellectual property infringement claims by any third party with respect to our products. The term of these indemnification agreements is generally perpetual. The potential future payments we could be required to make under these indemnification agreements is unlimited. Historically, costs related to these indemnification provisions have been immaterial. We also maintain various liability insurance policies that limit our exposure. As a result, we believe the fair value of these indemnification agreements is minimal. Accordingly, we have not recorded any liabilities for these agreements as of December 31, 2011.

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**NOTE 8 STOCKHOLDERS' EQUITY**

**Amendments to Articles of Incorporation**

In June 2011, we amended our certificate of incorporation to increase the number of shares of authorized common stock to 1,500,000,000, par value \$0.01 per share. Prior to the amendment, the number of shares of authorized common stock was 100,000,000, par value \$0.01 per share. The certificate of amendment was approved by a majority of our stockholders on June 29, 2011.

**Private Placements**

In October 2009, in a private placement, we sold 7,954,543 shares of our common stock at \$0.88 per share and warrants to purchase 3,977,270 shares of our common stock, exercisable through January 7, 2015, at \$0.88 per share (Private Placement). The purchasers paid \$0.125 per underlying share for the warrants. Additionally, the purchasers had the right to purchase up to an additional 5,165,286 shares at \$0.97 per share prior to May 14, 2010 and paid \$0.125 per underlying share for the right to purchase such additional shares. Total proceeds were approximately \$7.9 million, after deducting costs associated with the issuance. We were required to prepare and file Form S-3 registration statements, as permissible under SEC rules and regulations, beginning within 30 days of October 22, 2009, with the SEC for the purpose of registering for resale of the securities sold in this Private Placement. We filed a Form S-3 covering 7,532,617 shares on November 6, 2009, which was declared effective by the SEC on November 17, 2009. However, if we fail to keep any registration statements continuously effective, we may be obligated to pay to the holders of the shares and warrants liquidated damages in the amount of 1% per month of the purchase price for the shares and warrants, up to a maximum cap of 8% of such purchase price. In addition, in connection with the closing of the Private Placement, Baker Brothers Investments was granted the right to designate a representative to our board of directors. In February 2010, Stephen R. Davis was appointed to our board of directors as the Baker Brothers Investments designee. Mr. Davis resigned effective February 23, 2011.

On May 14, 2010, the right of the investors to purchase up to an additional 5,165,286 shares of our common stock at \$0.97 per share under the Private Placement expired unexercised. Additionally, the right granted to Baker Brothers Investments to designate an additional representative to our board of directors should they exercise their right to purchase designated additional shares of our common stock under the terms of the securities purchase agreements relating to the Private Placement also expired on May 14, 2010. On June 30, 2010, we filed a Form S-3 covering the remaining 421,926 shares of our common stock related to the October 2009 Private Placement and the 3,977,270 shares of our common stock underlying the warrants, which was declared effective by the SEC on July 8, 2010.

In June 2011, we entered into a Securities Purchase Agreement with certain purchasers (Securities Purchase Agreement), pursuant to which we agreed to sell for an aggregate price of \$24.0 million, 160,000,006 shares of our common stock (Shares) and warrants to purchase 80,000,005 shares of our common stock (Warrants) with an exercise price of \$0.18 per share (2011 Private Placement). The 2011 Private Placement closed on July 1, 2011. For each Share purchased, the investors received one Warrant to purchase 0.5 shares of common stock (together, a Unit), at a purchase price of \$0.15 per Unit. The Warrants became exercisable on July 1, 2011, the date of issuance, and expire on the fifth anniversary of that date. The Warrants may be exercised for cash only or, if a registration statement is not then effective and available for the resale of the shares of common stock issuable upon exercise of the Warrants, by surrender of such Warrant, or a portion of such Warrant, by way

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

of cashless exercise. There is no right to exercise the Warrants to the extent that after giving effect to such exercise the holder would beneficially own in excess of 9.99% of the outstanding shares of common stock following such exercise (or such other limit as may be designated by any particular purchaser). Each holder of the Warrants can amend or waive the foregoing limitation by written notice to us, with such waiver taking effect only upon the expiration of a 61-day notice period.

Under the terms of the Securities Purchase Agreement, on July 29, 2011, we filed a registration statement with the SEC to register for resale the Shares and the shares of common stock issuable upon the exercise of the Warrants (collectively, the Registrable Securities). The registration statement was declared effective on August 4, 2011. If we fail to keep the registration statement continuously effective for a designated time (with limited exceptions), we may be obligated to pay to the holders of the Registrable Securities liquidated damages in an amount equal to 1.0% per month of such holder's pro rata interest in the total purchase price of the 2011 Private Placement.

We received advance proceeds of approximately \$20.3 million as of June 30, 2011. The remaining \$3.7 million was received in July 2011 when the financing closed. Total proceeds are reported net of issuance costs of approximately \$1.2 million as of December 31, 2011. The Shares and Warrants were recorded as equity at their relative fair values on the issuance date.

**Shareholders' Rights Plan**

On December 18, 2006, we entered into a Preferred Shares Rights Agreement (the Rights Agreement). As part of this agreement, preferred stock purchase rights (the rights) were distributed to stockholders of record as of January 2, 2007 and to each person who acquired the company stock thereafter. The rights were exercisable only upon the acquisition, or the acquisition of the right to acquire, by a person or group of affiliated or associated persons, of 20% or more of the outstanding shares of the company's common stock. In connection with the Private Placement in October 2009, we amended the Rights Agreement to permit Tang Capital Partners and Baker Brothers Investments, both purchasers under the Private Placement, to each beneficially own up to 34% and 30%, respectively, of our outstanding common stock. We had initially reserved 200,000 shares of preferred stock pursuant to the exercise of these rights, which would expire on December 31, 2016.

Concurrent with the approval of the offer and sale of the Convertible Notes in April 2011 (see Note 6), the Board of Directors approved the termination of the Rights Agreement effective immediately prior to the initial closing date. The rights were terminated as a result of the termination of the Rights Agreement. The Rights Agreement had not been triggered as of that date.

**Stock-Based Compensation Plans**

We have two types of stock-based compensation plans, which consist of an employee stock purchase plan and three stock option plans.

In 1997, our stockholders approved our 1997 Employee Stock Purchase Plan (the Purchase Plan). In December 2007, May 2009 and June 2011, our stockholders authorized increases in the number of shares reserved for issuance under the Purchase Plan by 100,000, 200,000 and 500,000 shares, respectively, for a total of 1,000,000 shares reserved at December 31, 2011. Under the terms of the Purchase Plan, employees can elect to have up to a maximum of 10% of their base earnings withheld to purchase our common stock. The purchase price of the stock is 85% of the lower of the closing prices for our common stock on: (i) the first trading day in the enrollment period, as defined in the Purchase Plan, in which the purchase is made, or (ii) the

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

purchase date. The length of the enrollment period may not exceed a maximum of six months. Our compensation committee modified the Purchase Plan such that beginning in May 2008, the length of all offering periods was decreased from 24 months to six months. Enrollment dates are the first business day of May and November and the first enrollment date was April 30, 1997. Approximately 40% of eligible employees participated in the Purchase Plan in 2010. Under the Purchase Plan, we issued 77,982, 48,921 and 99,294 shares in 2011, 2010 and 2009, respectively. The weighted-average fair value per share of purchase rights granted during 2011, 2010 and 2009 was \$0.20, \$0.30 and \$0.30, respectively. The weighted-average exercise price per share of the purchase rights exercised during 2011, 2010 and 2009 was \$0.20, \$0.61 and \$0.42, respectively. We had 531,176, 109,158 and 158,079 shares reserved for issuance under the Purchase Plan at December 31, 2011, 2010 and 2009, respectively.

We currently have three stock option plans from which we can grant options and restricted stock awards to employees, officers, directors and consultants. In December 2007, the stockholders approved our 2007 Equity Incentive Plan (the 2007 Plan). In May 2010 and June 2011, our stockholders approved amendments to our 2007 Equity Incentive Plan to increase the maximum number of shares of common stock available for grant by 2,000,000 and 90,000,000 shares of common stock, respectively, resulting in an aggregate of 95,000,000 shares of common stock authorized for issuance pursuant to awards granted under our 2007 Equity Incentive Plan. We also grant stock options and restricted stock awards under the 2002 Stock Incentive Plan (the 2002 Plan) and the Non-Qualified Stock Plan (the NQ Plan). We are authorized to issue up to 425,000 shares under the 2002 Plan, 100,000 of which were approved by stockholders in May 2006, and 2,062,500 shares under the NQ Plan, a plan that has not undergone stockholder approval and can only be utilized to grant stock options and restricted stock awards as inducements to attract new employees, to which 1,000,000 shares were added by the Board of Directors in September 2007, and an additional 1,000,000 shares were added in July 2008. The options to purchase our common stock are granted with an exercise price which equals fair market value of the underlying common stock on the grant dates and expire no later than ten years from the date of grant. The options are exercisable in accordance with vesting schedules that generally provide for them to be fully vested and exercisable four years after the date of grant. Any shares that are issuable upon exercise of options granted that expire or become unexercisable for any reason without having been exercised in full are available for future grant and issuance under the same stock option plan.

As discussed in Note 1, we adopted ASC 718-20 on January 1, 2006. Accordingly, we record stock-based compensation expense based on the grant date or purchase date fair value of stock options and purchase rights issued to employees in conjunction with our stock option plans or the Purchase Plan. We also record compensation expense for warrants and stock options issued to non-employees and restricted stock awards to employees and directors.

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

The fair value of each employee and director grant of options to purchase common stock and purchase rights under the Purchase Plan is estimated on the date of the grant using the Black-Scholes option-pricing model assuming no dividends and the following weighted-average assumptions:

	2011	2010	2009
Expected term (years):			
Stock options	5.00	6.00	6.00
Employee Stock Purchase Plan	.50	.50	.50
Risk-free interest rate:			
Stock options	1.6%	2.6%	1.8%
Employee Stock Purchase Plan	0.8%	0.2%	0.5%
Volatility:			
Stock options	106%	164%	205%
Employee Stock Purchase Plan	142%	92%	129%

The expected term is based on historical data. The expected term for the Purchase Plan is based on the weighted-average purchase period of the Purchase Plan. The expected volatility is based on our historical stock prices, and the estimated forfeiture rate of the options is based on historical data.

The Black-Scholes option valuation model requires the input of highly subjective assumptions, including the expected life of the award and stock price volatility. The assumptions listed above represent management's best estimates, but these estimates involve inherent uncertainties and the application of management judgment. As a result, if other assumptions had been used, our recorded stock-based compensation expense could have been materially different.

Stock-based compensation expense recorded for awards granted under the stock option plans and the Purchase Plan, net of estimated forfeitures, was as follows (in thousands, except per share amounts):

For the Years Ended December 31,	2011	2010	2009
Research and development	\$ 819	\$ 398	\$ 260
General and administrative	1,071	1,351	877
Total	\$1,890	\$1,749	\$1,137
Impact on basic and diluted net loss per common share	\$ 0.02	\$ 0.04	\$ 0.03

In 2010, we recorded additional stock-based compensation expense as a result of accelerated vesting of stock options in connection with the resignation of our former chief executive officer. No tax benefit was recognized related to stock-based compensation expense since we have incurred operating losses and we have established a full valuation allowance to offset all the potential tax benefits associated with our deferred tax assets.

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

The following table summarizes option activity for the years ended December 31, 2011, 2010 and 2009:

	2011				2010		2009	
	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value as of December 31, 2011	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
Outstanding at beginning of year	3,217,240	\$ 1.49			3,092,417	\$ 1.91	2,701,073	\$ 2.38
Granted	48,070,000	0.26			1,087,700	1.45	991,500	0.67
Exercised	—	—			(37,786)	1.24	(27,651)	0.71
Expired or Forfeited	(1,180,953)	1.63			(925,091)	2.85	(572,505)	2.02
Outstanding at end of year	50,106,287	0.31	9.42	\$ 14,000	3,217,240	1.49	3,092,417	1.91
Options exercisable at year end	6,740,497	0.53	8.92	\$ —	1,316,567	1.72	1,316,567	3.11
Options vested or expected to vest	49,434,997	0.31	9.42	\$ 13,715				
Shares available for future grant at year end	44,261,608				2,039,549		1,959,758	
Weighted-average fair value of stock options granted during the year		\$ 0.21				\$ 1.39		\$ 0.67

As of December 31, 2011, there was approximately \$9.5 million of total unrecognized compensation expense related to unvested stock options. This expense is expected to be recognized over a weighted-average period of 3.45 years. Cash received from option exercises for the years ended December 31, 2011, 2010 and 2009 was \$0, \$47,000 and \$20,000, respectively. The total intrinsic value of options exercised in the year ended December 31, 2011, 2010 and 2009 was \$0, \$5,000, and \$7,000, respectively.



[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

The following table summarizes information about stock options outstanding at December 31, 2011:

Range of Exercise Prices	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
	Number Outstanding	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Number Exercisable	Weighted-Average Exercise Price
\$0.19 - \$0.19	350,000	9.99	\$ 0.19	—	\$ —
\$0.26 - \$0.26	47,720,000	9.52	0.26	5,345,839	0.26
\$0.60 - \$6.20	1,989,848	7.10	1.27	1,348,219	1.38
\$6.40 - \$6.40	18,876	3.95	6.40	18,876	6.40
\$6.52 - \$6.52	5,813	3.03	6.52	5,813	6.52
\$6.96 - \$6.96	2,500	4.42	6.96	2,500	6.96
\$7.00 - \$7.00	5,000	1.67	7.00	5,000	7.00
\$9.36 - \$9.36	2,500	0.39	9.36	2,500	9.36
\$9.80 - \$9.80	9,250	2.04	9.80	9,250	9.80
\$11.756 - \$11.756	2,500	2.40	11.76	2,500	11.76
\$0.19 - \$11.756	50,106,287	9.42	\$ 0.31	6,740,497	\$ 0.53

As of December 31, 2011, there were no unvested restricted stock awards granted to employees and directors. The compensation cost that has been expensed in the statements of operations for the restricted stock awards issued to employees and directors and stock issued in lieu of fees was \$98,000, \$385,000 and \$375,000 for 2011, 2010 and 2009, respectively.

The following table summarizes unvested restricted stock awards activity for the year ended December 31, 2011:

	Shares	Weighted-Average Grant Date Fair Value
Outstanding at beginning of year	318,758	\$ 0.85
Awarded	—	
Released	(143,835)	\$ 0.73
Forfeited	(174,923)	\$ 0.94
Outstanding at end of year	—	\$ 0.00

In November 2009, our Board of Directors extended the vesting period for certain restricted stock awards granted in May 2009 from December 31, 2009 to January 2, 2010. The modification of the restricted stock awards did not result in additional compensation expense.

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

The following table summarizes information about the Company's warrants outstanding at December 31, 2011:

	<b>Number of Shares Exercisable</b>	<b>Exercise Price</b>	<b>Expiration Date</b>
Issued to PIPE investors in October 2009	3,977,270	\$ 0.88	1/7/2015
Issued to PIPE investors in July 2011	80,000,005	\$ 0.18	7/1/2016
Other	150,000	\$ 0.19	8/10/2014
Total warrants outstanding at December 31, 2011	<u>84,127,275</u>	\$ 0.21*	

\* Average exercise price

**Common Stock Reserved for Future Issuance**

As of December 31, 2011, the Company had reserved shares of common stock for future issuance as follows:

	<b>No. of Shares</b>
Issuance upon exercise of outstanding stock options	50,106,287
Issuance of future grants under stock option plans	44,261,608
Issuance of future grants under employee stock purchase plan	531,176
Issuance of common stock related to convertible notes*	200,359,458
Issuance upon exercise of warrants	<u>84,127,275</u>
Total	<u>379,385,804</u>

\* Assumes additional \$3.0 million principal amount of notes purchased as of January 1, 2012 and all interest payments are paid-in-kind.

**NOTE 9 NET LOSS PER SHARE**

The following options, unvested restricted stock awards and warrants were outstanding as of December 31, 2011, 2010 and 2009, but were not included in the computation of diluted net loss per share since the inclusion of these potentially dilutive securities would have been anti-dilutive for the periods presented (in thousands):

For the Years Ended December 31,	<b>2011</b>	<b>2010</b>	<b>2009</b>
Number of options outstanding	50,106	3,217	3,092
Number of unvested restricted stock awards outstanding	—	319	140
Number of warrants outstanding	84,127	3,977	3,977
Common stock related to convertible notes outstanding	39,331	—	—

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

**NOTE 10 DISCONTINUED OPERATIONS**

**Cosmeceutical and Toiletry Business**

On July 25, 2000, we completed the sale of certain technology rights for our cosmeceutical and toiletry business to RP Scherer Corporation (RP Scherer), a subsidiary of Cardinal Health, Inc.

Under the terms of the agreement with RP Scherer, we guaranteed a minimum gross profit percentage on RP Scherer's combined sales of products to Ortho and Dermik (Gross Profit Guaranty). In July 2011, Valeant Pharmaceuticals announced it was acquiring both Ortho and Dermik. The guaranty period initially commenced on July 1, 2000 and was to end on the earlier of July 1, 2010 or the end of two consecutive guaranty periods where the combined gross profit on sales to Ortho and Dermik equals or exceeds the guaranteed gross profit (Two Period Test). The Gross Profit Guaranty expense totaled \$944,000 for the first seven guaranty years and in those years profits did not meet the Two Period Test. Effective March 2007, in conjunction with a sale of assets by RP Scherer's successor company to an Amcol International subsidiary (Amcol), a new agreement was signed between us and Amcol to provide continuity of product supply to Ortho and Dermik. This new agreement potentially extends the Gross Profit Guaranty period an additional two years to July 1, 2013, unless it is terminated earlier with the Two Period Test. Amcol has indicated that its costs differ from those it charged historically to the RP Scherer successor company to produce the products. We have requested documentation from Amcol to substantiate actual costs. Until we receive confirmation of these amounts, we have accrued the full amount Amcol represents it is currently owed. As there is no minimum amount of Gross Profit Guaranty due, no accrual for the guaranty is estimable for future years. A liability of \$1.1 million related to the current amount due under the Gross Profit Guaranty is recorded in accrued disposition costs as of December 31, 2011, although we have not paid this amount to date due to our inability to substantiate the amounts claims by Amcol. As of the date of filing of this report, our dispute with Amcol over the Gross Profit Guaranty has been submitted to an independent accountant for resolution.

We completed the sale of certain technology rights for our topical pharmaceutical and cosmeceutical product lines and other assets (cosmeceutical and toiletry business) in July 2000.

The cosmeceutical and toiletry business is reported as discontinued operations for all periods presented in the accompanying Statements of Operations. Income (loss) from discontinued operations represents primarily the gain (loss) attributable to changes in estimates of our cosmeceutical and toiletry business that was sold to RP Scherer on July 25, 2000, as follows (in thousands):

For the years ended December 31,	<u>2011</u>	<u>2010</u>	<u>2009</u>
<b>Cosmeceutical and Toiletry Business:</b>			
Change in estimates for guarantees	\$(379)	\$(150)	\$ 68

There was no revenue relating to discontinued operations for the years ended December 31, 2011, 2010 and 2009.

Basic and diluted income (loss) per common share from discontinued operations was \$0 for the years ended December 31, 2011, 2010 and 2009.

---

[Table of Contents](#)NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

As of December 31, 2011 and 2010, accrued disposition cost of \$1.1 million and \$0.7 million, respectively, represents accruals for gross profit guarantees related to discontinued operations.

**NOTE 11 DEFINED CONTRIBUTION PLAN**

We have a defined contribution plan (401k) covering substantially all of our employees. In the past three calendar years, we made matching cash contributions equal to 50% of each participant's contribution during the plan year up to a maximum amount equal to the lesser of 3% of each participant's annual compensation or \$7,350 for the years 2011, 2010 and 2009, and such amounts were recorded as expense in the corresponding years. We may also contribute additional discretionary amounts to the defined contribution plan as we may determine. For the years ended December 31, 2011, 2010 and 2009, we contributed to the plan approximately \$46,000, \$51,000 and \$76,000, respectively. No discretionary contributions have been made to the plan since its inception.

**NOTE 12 INCOME TAXES**

We had an income tax benefit of \$122,000 in 2009 from the carryback of the net operating loss under the Worker, Homeownership, and Business Assistance Act of 2009, which among other things suspended the 90% limitation on utilization of net operating loss for alternative minimum tax purposes. There is no provision for 2011 and 2010 because we have incurred operating losses.

Deferred income taxes reflect the net tax effects of net operating loss and tax credit carryovers and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of our deferred tax assets are as follows (in thousands):

December 31,	2011	2010
<b>Deferred Tax Assets:</b>		
Net operating loss carryforwards	\$ 6,700	\$ 22,800
Research credits	2,100	3,200
Stock compensation expense	600	900
Other	900	700
Total deferred tax assets	10,300	27,600
Valuation allowance	(10,300)	(27,600)
Net deferred tax assets	\$ —	\$ —

Realization of our deferred tax assets is dependent upon our future taxable income, if any, the timing and amount of which are uncertain. Accordingly, our deferred tax assets have been fully offset by a valuation allowance. The valuation allowance decreased by \$17.3 million during 2011 and increased by \$0.7 million and \$5.8 million during 2010 and 2009, respectively.

As of December 31, 2011, we had federal and California net operating loss carryforwards of \$17.1 million and \$15.8 million, respectively, and federal and California research and development tax credit carryforwards of \$0.1 million and \$3.0 million, respectively. Of the carryforwards, federal and California net operating loss carryforwards of \$12.4 million and \$10.9 million,

---

[Table of Contents](#)NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

respectively, are subject to annual limitations and will be available from 2012 through 2031, as a result of federal ownership change limitations. The federal and state net operating losses and the federal research and development credit carryforwards expire at various dates beginning in the years 2012 through 2031, if not utilized. The state research credits have no expiration date.

Federal and state laws limit the use of net operating loss and tax credit carryforwards in certain situations where changes occur in the stock ownership of a company. We conducted an analysis of our stock ownership under Internal Revenue Code Section 382 and have reported our deferred tax assets related to net operating loss and research credit carryforwards after recognizing change of control limitations in 2007 and 2011. The limitation of our federal and state carryforwards associated with previous net operating loss and research credit carryforwards, and the associated reduction in our deferred tax assets, was offset by a reduction in our valuation allowance. Utilization of our remaining net operating loss and research and development credit carryforwards may still be subject to substantial annual limitations due to ownership change limitations after December 31, 2011. Such an annual limitation could result in the expiration of the net operating loss and research and development credit carryforwards available as of December 31, 2011 before utilization.

The provision for income taxes differs from the amount computed by applying the U.S. federal statutory tax rate (34% in 2011, 2010 and 2009) to income taxes as follows (in thousands):

December 31,	2011	2010	2009
Tax benefit computed at 34%	\$(4,017)	\$(2,498)	\$(3,450)
Stock compensation expense	148	173	79
Other	70	84	1
AMT credit	—	—	(122)
NOL not benefitted	3,799	2,241	3,370
Tax Provision (Benefit)	\$ —	\$ —	\$ (122)

We follow the provisions of ASC 740-10-50, *Accounting for Uncertainty in Income Tax Provisions*. A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows (in thousands):

December 31,	2011	2010	2009
Unrecognized tax benefit:			
At the beginning of the period	\$ 120	\$ 120	\$ 120
Gross increases – tax positions in the current period	—	—	—
Gross decreases – tax positions in the current period	—	—	—
At the end of the period	\$ 120	\$ 120	\$ 120

The unrecognized tax benefit, if recognized in full, would result in adjustments to deferred taxes and the related valuation allowance. We do not currently anticipate any significant changes to the unrecognized tax benefits in 2012. Our policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of tax expense. To date, we have not used the unrecognized tax benefits to reduce any of our past tax obligations. As a result, we had no accrual for the payment of

---

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

interest and penalties related to the unrecognized tax benefits. As of December 31, 2011, our tax returns were subject to future examination in the U.S. federal and state tax jurisdictions for the tax years 1996 through 2011, due to net operating losses and research credits that are being carried forward.

**NOTE 13 SIGNIFICANT AGREEMENTS**

**Merial Limited**

In September 2009, we entered into a world-wide license and development agreement with Merial Limited (Merial), a world leading animal health company, for a long acting pain management product for companion animals. Under the terms of the new agreement, we received a nonrefundable upfront license fee and would receive development funding and potential future milestone payments and royalties following commercialization.

Under the license and development agreement, we were obligated to perform reimbursable development services and provide any improvements related to the licensed technology during the six-year development period. We recognized the upfront license fee ratably over the development period, and recognized revenue from the development services when the services were rendered. Any milestone payments would be recognized when receipt of the payments is probable.

In May 2011, we received notice of termination from Merial due to their concerns about the commercial potential of the product under development in the animal health market. We recognized \$0.6 million, \$1.3 million and \$0.2 million in revenue related to development services to Merial for the years ended 2011, 2010 and 2009, respectively. The remaining balance of deferred revenue related to the upfront license fee of \$0.1 million was recognized as revenue in the quarter ended June 30, 2011, upon termination of the licensing agreement by Merial.

**Paul Royalty Fund**

On January 18, 2006, we sold our rights to royalties on sales of Retin-A Micro<sup>®</sup> and Carac<sup>®</sup>, effective October 1, 2005, to an affiliate of the Paul Royalty Fund for \$30.0 million. Proceeds of \$25.0 million were received upon the closing of the transaction and used primarily to fund the Phase 3 pivotal trial of APF530, our drug candidate for the prevention of both acute and delayed CINV. Subsequent \$2.5 million payments were received in both 2007 and January 2010 upon the achievement of certain milestones.

**RHEI Pharmaceuticals, Inc.**

On October 1, 2006, we entered into an agreement with RHEI Pharmaceuticals, Inc. (RHEI) in which we granted them an exclusive license to develop and market APF530 in Greater China. We received a license fee upon the signing of the contract, which was recorded as deferred revenue on the balance sheet, and were due additional milestone payments upon the achievement of certain regulatory events.

Following the announcement of acceptance for filing of an NDA for our APF530 product candidate by the FDA on July 20, 2009, RHEI became contractually obligated to pay us a milestone payment. RHEI did not make such milestone payment in the time required under the terms of our agreement, and we provided RHEI with notice of its cure period. RHEI remained in default

[Table of Contents](#)

NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2011, 2010 AND 2009

of this payment and, as a result, we elected to terminate the agreement for cause on September 29, 2009. No material termination penalties applied to us for the termination of the agreement.

Revenue of \$1.0 million, previously deferred in conjunction with the RHEI agreement, was recognized in 2009 as a result of the termination and is included in contract revenue.

**NOTE 14 QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)**

The following table presents summarized unaudited results of operations for each of our quarters in the years ended December 31, 2011 and 2010.

**Quarterly Results of Operations**  
(in thousands, except per share data)  
(unaudited)

	<b>First Quarter</b>	<b>Second Quarter</b>	<b>Third Quarter</b>	<b>Fourth Quarter</b>
Year Ended December 31, 2011				
Total revenue	\$ 395	\$ 251	\$ —	\$ —
Operating expenses	1,710	1,791	4,089	4,118
Interest and other, net	(1)	(263)	(62)	(47)
Loss from continuing operations	(1,316)	(1,803)	(4,151)	(4,165)
Discontinued operations	(103)	(129)	(51)	(96)
Net loss	(1,419)	(1,932)	(4,202)	(4,261)
Basic and diluted net loss per share:				
Loss from continuing operations	\$ (0.03)	\$ (0.05)	\$ (0.02)	\$ (0.02)
Net loss	(0.04)	(0.05)	(0.02)	(0.02)
Year Ended December 31, 2010				
Total revenue	\$ 241	\$ 530	\$ 351	\$ 179
Operating expenses	3,112	4,225	1,986	1,912
Interest and other, net	2,500	—	(1)	239
Loss from continuing operations	(371)	(3,695)	(1,636)	(1,494)
Discontinued operations	(124)	112	(36)	(102)
Net loss	(495)	(3,583)	(1,672)	(1,596)
Basic and diluted net loss per share:				
Loss from continuing operations	\$ (0.01)	\$ (0.09)	\$ (0.04)	\$ (0.04)
Net loss	(0.01)	(0.09)	(0.04)	(0.04)

---

[Table of Contents](#)

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

**ITEM 9A. CONTROLS AND PROCEDURES**

**Evaluation of Disclosure Controls and Procedures**

Based on an evaluation as of the end of the period covered by this report, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective as of the end of the period covered by this report to ensure that information that we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms.

Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives, and our Chief Executive Officer and Chief Financial Officer have concluded that these controls and procedures are effective at the “reasonable assurance” level. We believe that a control system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the control system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

**Management’s Report on Internal Control Over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective internal controls can provide only reasonable assurances with respect to financial statement preparation. Further, because of changes in conditions, the effectiveness of internal control may vary over time.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2011. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission in *Internal Control — Integrated Framework*. Based on our assessment using the COSO criteria, management concluded that, as of December 31, 2011, our internal control over financial reporting is effective.

This annual report provides only management’s report. As a smaller reporting company, we are not required to provide an attestation report by our independent registered public accounting firm regarding internal control over financial reporting.



---

[Table of Contents](#)

**Changes in Internal Controls Over Financial Reporting**

There were no changes in our internal controls over financial reporting that occurred during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**ITEM 9B. OTHER INFORMATION**

None.

---

[Table of Contents](#)

PART III

**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

We have incorporated by reference the information set forth under the captions "Election of Directors," "Executive Officers," "Corporate Governance" and "Section 16(a) Beneficial Ownership Reporting Compliance" of our Proxy Statement (the "Proxy Statement") for the 2012 annual meeting of stockholders.

**Code of Ethics**

We have adopted a Code of Ethics that applies to all of our directors, officers and employees. The Code of Ethics is posted on our website at <http://www.appharma.com> under the caption "Investor Relations/ Corporate Governance." If we make any substantive amendments to the code of ethics or grant any waiver, including implicit waiver, from a provision of the code of ethics to our principal executive officer, principal financial officer or principal accounting officer, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K that will be publicly filed.

**ITEM 11. EXECUTIVE COMPENSATION**

We have incorporated by reference the information set forth under the captions "Executive Compensation" and "Director Compensation" of the Proxy Statement.

**ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

We have incorporated by reference the information set forth under the captions "Common Stock Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" of the Proxy Statement.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE**

We have incorporated by reference the information set forth under the captions "Related Party Transactions" and "Corporate Governance" of the Proxy Statement.

**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

We have incorporated by reference the information set forth under the captions "Report of the Audit Committee," "Ratification of Independent Registered Public Accountants" and "Auditors Fees and Services" of the Proxy Statement.

---

[Table of Contents](#)

PART IV

**ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

(a) 1. Financial Statements

The financial statements and supplementary data set forth in Part II of the Annual Report on Form 10-K are included herein.

2. Financial Statement Schedules

Schedule II Valuation Accounts

All other schedules have been omitted because the information is not required or is not so material as to require submission of the schedule, or because the information is included in the financial statements or the notes thereto.

3. Exhibits

See Exhibit Index beginning on page 85.

**SIGNATURES**

Pursuant to the requirement of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**A.P. PHARMA, INC.**

By: /s/ John B. Whelan  
John B. Whelan  
Chief Executive Officer  
Date: March 26, 2012

**POWER OF ATTORNEY**

KNOW ALL PERSONS BY THESE PRESENT, that each person whose signature appears below constitutes and appoints John B. Whelan with the power of substitution, for him in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons in the capacities and on the dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ John B. Whelan</u> John B. Whelan	President, Chief Executive Officer and Chief Financial Officer, Director (Principal Executive, Financial and Accounting Officer)	March 26, 2012
<u>/s/ Paul Goddard</u> Paul Goddard	Chairman of the Board of Directors	March 26, 2012
<u>/s/ Kevin C. Tang</u> Kevin C. Tang	Director	March 26, 2012
<u>/s/ Gregory Turnbull</u> Gregory Turnbull	Director	March 26, 2012

---

[Table of Contents](#)

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS (in thousands)

	<b>Beginning Balance</b>	<b>Additions Charged to Cost and Expense</b>	<b>Deductions, Write-Offs and Recoveries</b>	<b>Ending Balance</b>
<b>DECEMBER 31, 2011</b>				
Note receivable, allowance for doubtful note	\$ —	\$ —	\$ —	\$ —
<b>DECEMBER 31, 2010</b>				
Note receivable, allowance for doubtful note	\$ —	\$ —	\$ —	\$ —
<b>DECEMBER 31, 2009</b>				
Note receivable, allowance for doubtful note	\$ 394	\$ —	\$ (394)	\$ —

---

[Table of Contents](#)

EXHIBIT INDEX

**FORM 10-K ANNUAL REPORT**

- 2.1 – Asset Purchase Agreement between Registrant and RP Scherer South, Inc. dated June 21, 2000. <sup>(1)</sup>
- 3-A – Certificate of Amendment of Certificate of Incorporation. <sup>(2)</sup>
- 3-B – Bylaws. <sup>(3)</sup>
- 3-C – Certificate of Designation. <sup>(4)</sup>
- 3-D – Certificate of Amendment of Certificate of Incorporation. <sup>(5)</sup>
- 4-A – Common Stock Certificate. <sup>(6)</sup>
- 10-A – Registrant’s 1997 Employee Stock Purchase Plan, as amended to date. <sup>(7)</sup> \*
- 10-B – Lease Agreement between Registrant and Metropolitan Life Insurance Company for lease of Registrant’s executive offices in Redwood City dated as of November 17, 1997. <sup>(8)</sup>
- 10-C – Registrant’s 2002 Equity Incentive Plan dated June 13, 2002. <sup>(9)</sup> \*
- 10-D – Royalty Interest Agreement between Registrant and Paul Royalty Fund dated January 18, 2006. <sup>(10)</sup>
- 10-E – Management Retention Agreement between the Registrant and Dr. John Barr dated as of November 8, 2007. <sup>(11)</sup> \*
- 10-F – Form of Amended and Restated 2007 Equity Incentive Plan. <sup>(12)</sup> \*
- 10-G – Form of 2007 Equity Incentive Plan Stock Option Agreement. <sup>(13)</sup> \*
- 10-H – Form of 2007 Equity Incentive Plan Restricted Stock Unit Agreement. <sup>(14)</sup> \*
- 10-I – Agreement with Johnson & Johnson dated April 14, 1992. <sup>(15)</sup>
- 10-J – Form of 2007 Equity Incentive Plan Restricted Stock Award Agreement. <sup>(16)</sup> \*
- 10-K – Form of 2002 Equity Incentive Plan Stock Option Agreement. <sup>(16)</sup> \*
- 10-L – Form of 2002 Equity Incentive Plan Restricted Stock Agreement. <sup>(16)</sup> \*
- 10-M – Amendment to the Registrant’s Non-Qualified Plan. <sup>(17)</sup> \*
- 10-N – Form of Indemnification Agreement. <sup>(16)</sup> \*
- 10-O – Registrant’s Non-Qualified Plan dated June 13, 2002. <sup>(18)</sup> \*
- 10-P – Amendment to Management Retention Agreement between the Registrant and Dr. John Barr dated December 23, 2008. <sup>(19)</sup> \*
- 10-Q – Employment Letter Agreement with John B. Whelan, Chief Financial Officer dated as of February 9, 2008. <sup>(19)</sup> \*
- 10-R – Development and License Agreement dated as of September 11, 2009, between the Registrant and Merial Limited. <sup>(20)</sup>
- 10-S – Securities Purchase Agreement, dated as of October 19, 2009, by and among the Registrant and the purchasers listed therein. <sup>(21)</sup>
- 10-T – Registration Rights Agreement, dated as of October 22, 2009, by and among the Registrant and the purchasers listed therein. <sup>(22)</sup>
- 10-U – Form of Warrant to Purchase Shares of Common Stock. <sup>(23)</sup>
- 10-V – Securities Purchase Agreement, dated as of April 24, 2011, by and among the Company and the purchasers listed therein. <sup>(24)</sup>
- 10-W – Form of Senior Secured Convertible Note due 2021. <sup>(25)</sup>
- 10-X – Security Agreement, dated as of April 24, 2011, by and between the Company and Tang Capital Partners, LP, as Agent for the Purchasers. <sup>(26)</sup>
- 10-Y – Second Amendment to Lease, effective as of April 1, 2011, by and between the Company and Metropolitan Life Insurance Company. <sup>(27)</sup>
- 10-Z – Management Retention Agreement, dated as of April 25, 2011, by and between the Company and John B. Whelan. <sup>(28)</sup> \*

---

[Table of Contents](#)

10-AA – Management Retention Agreement, dated as of April 25, 2011, by and between the Company and Michael A. Adam. <sup>(29)</sup> \*

10-AB – Securities Purchase Agreement, dated June 29, 2011, by and between A.P. Pharma, Inc. and the purchasers listed on Schedule I thereto.<sup>(30)</sup>

10-AC – Amendment to Senior Secured Convertible Note Due 2021, dated, June 29, 2011, by and between A.P. Pharma, Inc. and the purchasers named in the Securities Purchase Agreement, dated April 24, 2011, by and among A.P. Pharma, Inc. and the purchasers listed therein.<sup>(31)</sup>

10-AD – Third Amendment to Lease, effective as of July 28, 2011, by and between the Company and Metropolitan Life Insurance Company.<sup>(32)</sup>

23.1 – Consent of Independent Registered Public Accounting Firm.

31.1 – Certification of Chief Executive Officer pursuant to Rules 13A-15(e) Promulgated under the Securities Exchange Act of 1934 as amended.

31.2 – Certification of Chief Financial Officer pursuant to Rules 13A-15(e) Promulgated under the Securities Exchange Act of 1934 as amended.

32 – Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101.INS† – XBRL Instance Document

101.SCH† – XBRL Taxonomy Extension Schema Document

101.CAL† – XBRL Taxonomy Extension Calculation Linkbase Document

101.DEF† – XBRL Extension Definition

101.LAB† – XBRL Taxonomy Extension Label Linkbase Document

101.PRE† – XBRL Taxonomy Extension Presentation Linkbase Document

<sup>(1)</sup> Filed as an Exhibit with corresponding Exhibit No. to Registrant's Form 8-K filed August 9, 2000 (file No. 000-16109), and incorporated herein by reference.

<sup>(2)</sup> Filed as Exhibit 3.1 to Registrant's Form 8-K filed June 29, 2011, and incorporated herein by reference.

<sup>(3)</sup> Filed as an Exhibit with corresponding Exhibit No. to Registrant's Registration Statement on Form S-1 (Registration No. 33-15429) and incorporated herein by reference.

<sup>(4)</sup> Filed as Exhibit 3.C to Registrant's Form 8-K filed December 19, 2006, and incorporated herein by reference.

<sup>(5)</sup> Filed as Exhibit 3.1 to Registrant's Form 8-K filed June 30, 2011, and incorporated herein by reference.

<sup>(6)</sup> Filed as Exhibit 4.1 to Registrant's Registration Statement on Form S-3 (Registration No. 333-162968) filed November 6, 2009, and incorporated herein by reference.

<sup>(7)</sup> Filed as Exhibit B to Registrant's Definitive Proxy on Schedule 14A filed June 3, 2011 and incorporated herein by reference.

<sup>(8)</sup> Filed as an Exhibit with corresponding Exhibit No. to Registrant's Annual Report on Form 10-K for the year ended December 31, 1997, and incorporated herein by reference.

<sup>(9)</sup> Filed as Exhibit No. 99.1 to Registrant's Registration Statement on Form S-8 (Registration No. 333-90428), and incorporated herein by reference.

<sup>(10)</sup> Filed as Exhibit 10-Y to Registrant's Form 10-Q filed May 15, 2006, and incorporated herein by reference.

<sup>(11)</sup> Filed as Exhibit 10.15 to the Registrant's Form 10-Q filed November 14, 2007 and incorporated herein by reference.

---

[Table of Contents](#)

- (12) Filed as Exhibit A to Registrant's Definitive Proxy on Schedule 14A filed June 3, 2011 and incorporated herein by reference.
- (13) Filed as Exhibit no. 4.3 to Registrant's Registration Statement on Form S-8 (Registration No 333-148660) and incorporated herein by reference.
- (14) Filed as Exhibit No 4.4 to Registrant's Registration Statement on Form S-8 (Registration No. 333-148660), and incorporated herein by reference.
- (15) Filed as an Exhibit with corresponding Exhibit No. to Registrant's Annual Report on Form 10-K for the year ended December 31, 1992, and incorporated herein by reference.
- (16) Filed as an Exhibit with corresponding Exhibit No. to Registrant's Annual Report on Form 10-K for the year ended December 31, 2007, and incorporated herein by reference.
- (17) Filed as Exhibit 10.16 to the Registrant's Form 10-Q dated November 14, 2007 and incorporated herein by reference.
- (18) Filed as Exhibit No. 99.2 to Registrant's Registration Statement on Form S-8 (Registration No. 333-90428), and incorporated herein by reference.
- (19) Filed as an Exhibit with corresponding Exhibit No. to Registrant's Annual Report on Form 10-K filed March 30, 2009, and incorporated herein by reference.
- (20) Filed as Exhibit 10.1 to the Registrant's Form 10-Q filed November 16, 2009 and incorporated herein by reference.
- (21) Filed as Exhibit 10.1 to the Registrant's Form 8-K filed on October 22, 2009 and incorporated herein by reference.
- (22) Filed as Exhibit 10.2 to the Registrant's Form 8-K filed on October 22, 2009 and incorporated herein by reference.
- (23) Filed as Exhibit 10.3 to the Registrant's Form 8-K filed on October 22, 2009 and incorporated herein by reference.
- (24) Filed as Exhibit 10.1 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (25) Filed as Exhibit 10.2 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (26) Filed as Exhibit 10.3 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (27) Filed as Exhibit 10.4 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (28) Filed as Exhibit 10.5 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (29) Filed as Exhibit 10.6 to the Registrant's Form 8-K filed on April 28, 2011 and incorporated herein by reference.
- (30) Filed as Exhibit 10.1 to the Registrant's Form 8-K filed on June 30, 2011 and incorporated herein by reference.
- (31) Filed as Exhibit 10.2 to the Registrant's Form 8-K filed on June 30, 2011 and incorporated herein by reference.
- (32) Filed as Exhibit 10.1 to the Registrant's Form 8-K filed on August 3, 2011 and incorporated herein by reference.

\* Management contract or compensatory plans.

† XBRL information is furnished and not filed or a part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Exchange Act of 1933, as amended, is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.



**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statement on Form S-3 (Nos. 333-162968 and 333-167890) and the Registration Statements on Form S-8 (Nos. 333-06841, 333-35151, 333-60585, 333-90428, 333-118546, 333-127574, 333-137954, 333-148660, 333-152862, 333-162610, 333-167515, 333-176365 and 333-176366) of our report dated March 23, 2012 with respect to the financial statements and schedule of A.P. Pharma, Inc. included in this Annual Report on Form 10-K for the year ended December 31, 2011.

/s/ OUM & CO. LLP

San Francisco, California  
March 23, 2012

**CERTIFICATIONS**

I, John B. Whelan, certify that:

1. I have reviewed this annual report on Form 10-K of A.P. Pharma, Inc. (the "registrant") ;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my supervision to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 26, 2012

/s/ John B. Whelan

John B. Whelan  
Chief Executive Officer

**CERTIFICATIONS**

I, John B. Whelan, certify that:

1. I have reviewed this annual report on Form 10-K of A.P. Pharma, Inc. (the "registrant") ;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under my supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under my supervision to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 26, 2012

/s/ John B. Whelan

John B. Whelan  
Chief Financial Officer

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED  
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of A.P. Pharma, Inc. (the "Company") on Form 10-K for the year ending December 31, 2011 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John B. Whelan, Acting Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ John B. Whelan

John B. Whelan  
Chief Executive Officer  
March 26, 2012

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED  
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of A.P. Pharma, Inc. (the "Company") on Form 10-K for the year ending December 31, 2011 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John B. Whelan, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ John B. Whelan

John B. Whelan  
Chief Financial Officer  
March 26, 2012

