PROCESSED
MAY 2 4 2007
THOMSON
FINANCIAL

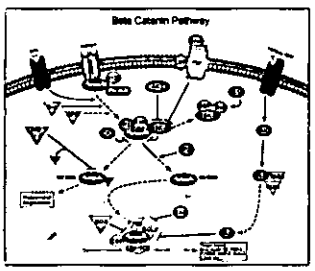
# Conquering Cancer with Novel Therapeutics

2006 Annual Report

| Lead Candidate | IND | Phase I | Phase II |
|---|---|---|---|
| [redacted] | | | |
| [redacted] | | | |
| [redacted] | | | |
| [redacted] | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

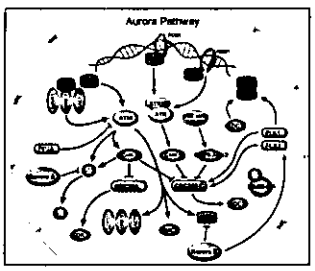
## Beta-catenin Pathway Inhibitor

Several proteins within the Beta-catenin pathway play key roles in the initiation and progression of cancer. It has been estimated that the Beta-catenin pathway is abnormally activated in more than 85% of colon cancers. Using AvalonRx® we have identified structurally distinct chemical compounds that appear to affect the Beta-catenin pathway. We have initiated lead optimization around one of the active compound families identified in this program and plan to nominate a lead candidate by the middle of 2007.



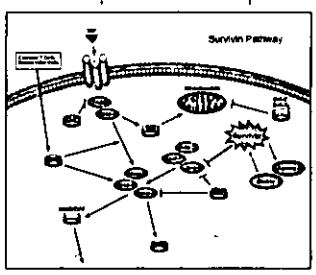

## Aurora Pathway Inhibitor

The Aurora pathway contains several key regulators of cell division which are over-expressed in many human cancers, including colon and breast cancers, and leukemia. Inhibition of the Aurora pathway is known to slow the uncontrolled cell growth that characterizes cancer. Application of AvalonRx® has enabled us to identify structurally distinct compounds that appear to affect the Aurora pathway by interacting through a novel target. We are currently pursuing lead optimization for one of the active compound families and plan to nominate a lead candidate in the second half of 2007.



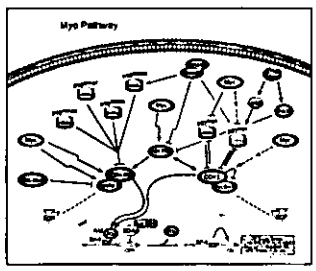

## Survivin Pathway Inhibitor

The Survivin protein is part of an important and intractable cancer pathway. It is recognized as a critical but elusive target for cancer therapeutics, because of its lack of enzymatic function. The pathway is critical for cancer cell functions including cell death, cell growth, and drug and radiation resistance. The Survivin protein is over-expressed in multiple tumor types including breast, lung, prostate, pancreatic and colon. Additionally, Survivin, while broadly expressed in most tumor types, is undetectable in most normal adult cells. We are currently in the compound selection phase.




## MYC Pathway Inhibitor

The MYC oncoprotein is one of the most important but intractable cancer targets. MYC is one of the most frequently deregulated proteins in human cancer and is associated with many types of aggressive tumors. MYC has been known for years to be central to cancer cell proliferation and survival, but it has not been amenable to conventional approaches used in drug discovery. A drug targeting MYC action would be potentially very useful in the treatment of a variety of human cancers. We are currently in the compound selection phase.



# Avalon Pharmaceuticals Pipeline and Partnerships

| Product/Program | AvalonRx® Screen Setup | AvalonRx® Screen | Compound Selection and Optimization |
|---|---|---|---|
| AVN944 IMPDH Pathway Inhibitor hematological malignancies | | | |
| AVN944 IMPDH Pathway Inhibitor solid malignancies | | | |
| Beta-catenin Pathway | | | |
| Aurora Pathway | | | |
| Survivin Pathway | | | |
| MYC Pathway | | | |
| MedImmune | | | |
| Novartis | | | |
| Merck | | | |
| Medarex | | | |

# At a glance

Avalon Pharmaceuticals is a fully integrated drug discovery and development company with a pipeline of truly novel potential first-in-class therapeutics. 2006 Research and Development highlights include:

Initiated a Phase I trial for AVN944 (a novel IMPDH inhibitor) in advanced hematological cancers, both lymphoma and leukemia. Year-end interim results showed AVN944 was well tolerated, exhibited dose-dependent pharmacokinetics, and stabilized disease in several of the study patients.

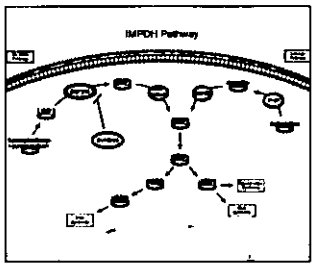
Advanced our Beta-catenin inhibitor preclinical program. We are currently optimizing a novel family of compounds, which reduce Beta-catenin levels in vitro, and have filed patent applications on these compounds.

Advanced our Aurora pathway inhibitor preclinical program. We are currently optimizing a family of compounds with novel activity on the Aurora pathway, and have filed patent applications on these compounds.

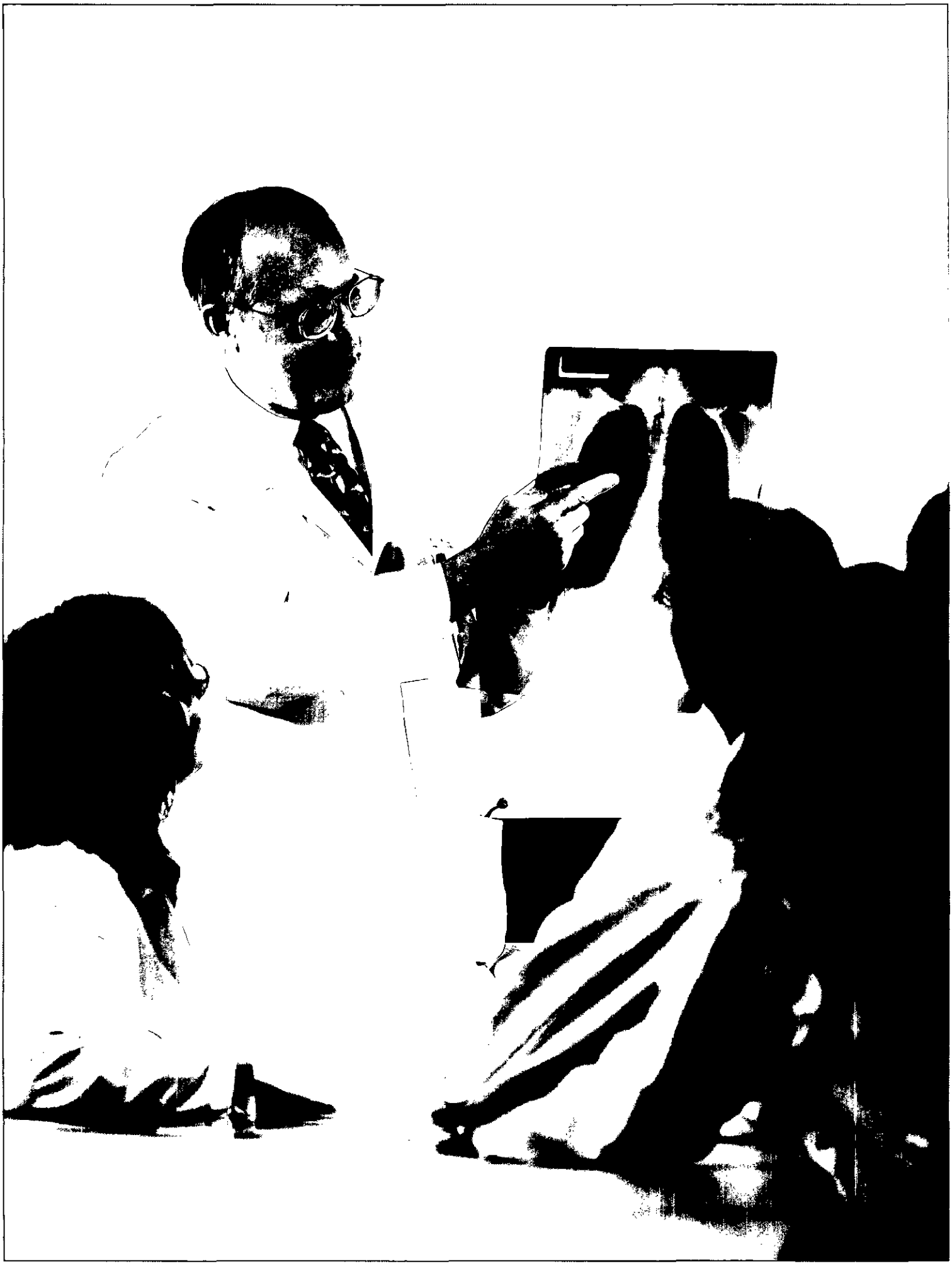
Initiated drug discovery programs for the MYC and Survivin pathways. Both are important and have been considered "undruggable" cancer pathways.

## AVN944 IMPDH Inhibitor

AVN944 is an oral small molecule inhibitor of Inosine Monosphospate Dehydrogenase (IMPDH). IMPDH is over-expressed in many cancer types. Pre-clinical studies showed that AVN944 is a highly specific inhibitor of IMPDH, suppresses pools of GTP, and in cultured cells has a selective growth inhibition effect on cancer cells vs. normal cells. AVN944 is currently in late Phase I studies in hematological malignancies and we plan on entering Phase II studies in both solid and hematological tumors in 2007.




Avalon Pharmaceuticals is a biopharmaceutical company focused on the discovery, development and commercialization of potential first-in-class cancer therapeutics. Our lead product candidate, AVN944, is in Phase I clinical development for the treatment of cancer. We also have preclinical programs to develop inhibitors of the Beta-catenin and Aurora pathways, discovery programs for Survivin and MYC pathway inhibitors, and partnerships with Merck, MedImmune, Medarex, and Novartis. We use AvalonRx®, our proprietary platform technology based upon large-scale gene expression analysis, to discover and develop therapeutics focused on pathways that have historically been characterized as "undruggable."



# Dear Stockholders,

Since January 2006, Avalon has continued to deliver on our vision of becoming a top tier biopharmaceutical company by advancing and expanding our pipeline of drug candidates, delivering on current partnerships and entering into new ones, approximately doubling our revenues and market capital, completing two rounds of equity financing and expanding our world-class management team.

Our internal focus is conquering cancer with novel therapeutics. Cancer causes untold suffering and death around the globe and new cases are expected to rise dramatically in major markets as the baby boomer generation ages. During the past year, Avalon achieved several development milestones for our product pipeline and AvalonRx® continues to position us as a bold innovative company.

**Pipeline:** AVN944, our novel lead product targeting Inosine Monophophospate Dehydrogenase (IMPDH), is progressing well in a large Phase I clinical trial for the treatment of hematological malignancies. This will lead to the initiation of as many as three Phase II trials during 2007—for both hematological malignancies and solid tumors. We are also using AvalonRx® in an unprecedented clinical trial design for the identification of biomarkers that may help stratify responsive patient populations in order to accelerate clinical development of AVN944. Our other product development programs have the potential to produce first-in-class drugs by taking advantage of the unique ability of AvalonRx® to address interesting, but previously "undruggable" cancer targets. Our pipeline programs include inhibitors of the Beta-catenin, Aurora, MYC and Survivin pathways—all of which contain promising, well validated, but previously undruggable cancer targets.

**Partners:** Using AvalonRx® to produce novel therapeutics and enhance product development in partnership with other companies also remains a key part of our strategy. Partnered programs provide validation for the technology,

Avalon continued to deliver on our vision of becoming a top tier biopharmaceutical company by advancing and expanding our pipeline of drug candidates.

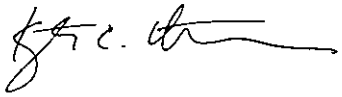
near term financial support, and long-term value creation through revenue-generating milestone payments, and royalties as our partners bring products to market. For example, our new partnership with Merck aims to identify inhibitors of an important, but previously "undruggable" cancer target.

**Plan:** Avalon owns full commercialization rights to all of our internal product development programs. As these programs mature during the next few years, we will keep some products solely for internal development and expand the potential of others through partnering. In select cases, we will also likely sign additional partnerships based on the use of AvalonRx®. We believe this strategy will expand our product pipeline and the value of Avalon for stockholders.

**People:** One of the keys to all successful companies is the people. We continue to add to an already strong team and I thank our dedicated and talented staff for their unwavering commitment and clear focus.

I also thank you, our stockholders, for your support and shared vision as Avalon continues to develop a pipeline of novel product opportunities.

Sincerely,



Kenneth C. Carter, Ph.D.
**President and CEO**

# AvalonRx®

AvalonRx®, our proprietary suite of technologies, facilitates discovery and expedites development of novel therapeutics through the use of a large-scale gene expression analysis. AvalonRx® can revolutionize the drug discovery process by expanding the range of therapeutic targets for drug intervention, including targets and pathways frequently considered "undruggable." AvalonRx® also allows us to make informed decisions about which compounds to advance into clinical trials, based on novel comparisons of compound activity across thousands of genes during lead selection and optimization. Lastly, AvalonRx® can expedite drug development and commercialization through the identification of biomarkers which can stratify patients or provide early indicators of response.

AVALONRX®

AvalonRx® starts with the selection of highly specific sets of disease biomarkers (screen signature) in key disease pathways to monitor effects of pathway modulation by chemical compounds. Libraries of compounds are screened against this screen signature and molecules that elicit desirable response profiles are rapidly identified. This enables the evaluation of compounds against many different targets, both known and unknown, in parallel within a single assay. Our novel transcriptional assay technology is supported by state-of-the-art robotics and computational analysis.

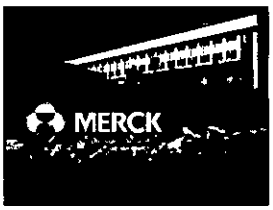
Avalon's unique Transcriptional Structure-Activity Relationship (TSAR) approach provides a rapid way to analyze candidate drugs at the lead optimization stage. In the TSAR process, transcriptional effects guide compound optimization, and compounds are ranked according to multidimensional gene expression, potency and selectivity of transcriptional effects. This accelerates the SAR process with a rich additional source of molecular interaction data and allows for selection of "on-target" and against "off-target" modulation of gene expression.

Characterization of drug activity by gene expression analysis is a robust way of identifying biomarkers. These markers should enable us to assess the response of a patient to the drug early in clinical testing. These compound-responsive genes in patients can help stratify patient populations and increase the chance of showing significant clinical benefit for product approval.

We recently identified a set of AVN944 biomarkers that correlated with activity in patient samples from a Phase I trial. This information will prove invaluable in designing and conducting the Phase II clinical trials to enrich for patients more likely to respond to the drug.

# Partnerships

**Avalon Pharmaceuticals has discovered and is developing a pipeline of potential first-in-class cancer therapeutics utilizing its proprietary AvalonRx® platform. Additionally the AvalonRx® platform has led to the following drug discovery, development and commercialization agreements with some of the premier pharmaceutical and biotech companies.**

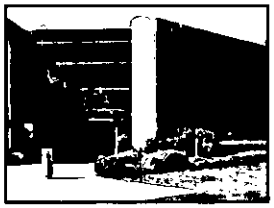



**Merck** In March 2007, we entered into a drug discovery, development and commercialization agreement with Merck & Co., Inc., to identify and develop inhibitors against a selected target in the area of oncology. Using our AvalonRx® platform we will screen a select set of compounds from Merck's proprietary compound library and identify hits against this target, which is generally regarded as "undruggable." We are responsible for the selection of compound families and optimization of those compounds to a preclinical candidate selection stage. Merck is responsible for the clinical development, regulatory approval and commercialization of any resulting product candidates.

**MedImmune** In June 2005, we entered into a drug discovery, development and commercialization agreement with MedImmune, Inc. for the discovery of small molecule therapeutics in the area of inflammatory diseases. We are using AvalonRx® to identify lead compounds. MedImmune is responsible for preclinical and clinical testing of any resulting product candidates, as well as all future development, sales and marketing activities.

MEDAREX

**Medarex** In October 2003, we entered into drug discovery, development and commercialization collaboration with Medarex for human antibodies against Avalon cancer targets. Using AvalonRx®, we have identified key cancer targets based on the amplification of DNA and over-expression of RNA in certain cancer cells. Medarex is using its UltiMAb Human Antibody Development System® to generate antibodies to the identified disease targets. We intend to jointly develop and commercialize these antibodies for therapeutic intervention.



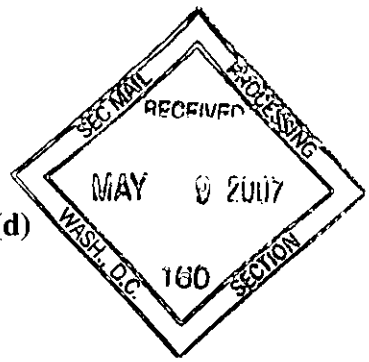
**ChemDiv** In July 2006, we entered into a drug discovery, development and commercialization agreement with ChemDiv, Inc. for small molecule oncology therapeutics. We will use AvalonRx® to discover new active compounds in screens against selected targets and target pathways, which have historically been considered "undruggable." ChemDiv will provide its Discovery outSource™ services platform, as well as medicinal and synthetic chemistry for the development of new active compounds.

**Novartis** In September 2005, we entered into an agreement with Novartis for the discovery of small molecule therapeutics targeted against a pathway selected by Novartis. Avalon will use AvalonRx®, its drug discovery and development platform to screen, identify and characterize compounds from Novartis' chemical library. Novartis is responsible for lead optimization, preclinical and clinical testing of any resulting product candidates, as well as all future development and sales and marketing activities. In January 2007, the initial agreement term was extended from 18 months to 30 months.


# Form 10-K

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

# Form 10-K




☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.**

**For the fiscal year ended December 31, 2006**

**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: 001-32629**

# AVALON PHARMACEUTICALS, INC.

*(Exact name of Registrant as specified in its charter)*

| **Delaware** | **52-2209310** |
|---|---|
| *(State or other jurisdiction of incorporation or organization)* | *(I.R.S. Employer Identification No.)* |
| **20358 Seneca Meadows Parkway, Germantown, Maryland** | **20876** |
| *(Address of principal executive offices)* | *(Zip Code)* |

**Registrant's telephone number, including area code: (301) 556-9900**

**Securities registered pursuant to Section 12 (b) of the Act: Common Stock, par value $0.01 per share**

**Securities registered pursuant to Section 12 (g) of the Act: None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities 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 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" n Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☑

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

The aggregate market value of our common stock held by non-affiliates was $34.2 million based on the last sale price of our common stock as reported by the NASDAQ Global Market on June 30, 2006.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the most recent practicable date.

| Class | Outstanding on March 15, 2007 |
|---|---|
| Common Stock, par value $0.01 per share | 13,144,171 shares |

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's Definitive Proxy Statement to be filed with the Commission pursuant to Regulation 14A in connection with the registrant's 2007 Annual Meeting of Stockholders, subsequent to the date hereof, are incorporated by reference into Part III of this Report. Such Definitive Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the conclusion of the registrant's fiscal year ended December 31, 2006.

## TABLE OF CONTENTS



When used in this Annual Report on Form 10-K, except where the context otherwise requires, the terms "we," "us," "our," "Avalon," "Avalon Pharmaceuticals," and "the Company" refer to Avalon Pharmaceuticals, Inc.

**Cautionary Advice Regarding Forward-Looking Statements**

Statements contained in this Form 10-K which are not historical facts may be forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act"). We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 21E of the Exchange Act. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date this Form 10-K is filed with the Securities and Exchange Commission ("SEC").

The forward-looking statements are based on our beliefs, assumptions and expectations of our future performance, taking into account all information currently available to us. These beliefs, assumptions and expectations can change as a result of many possible events or factors, not all of which are known to us or are within our control. If a change occurs, our business, financial condition and results of operations may vary materially from those expressed in our forward-looking statements. These statements (none of which is intended as a guarantee of performance) are subject to certain risks and uncertainties which could cause our actual future results, achievements or transactions to differ materially from those projected or anticipated. Some of the important factors that could cause our actual results, performance or financial condition to differ materially from expectations are:

- risks relating to the early stage of product candidates under development;
- risks relating to our ability to secure and maintain relationships with collaborators;
- uncertainties with, and unexpected results and related analyses relating to clinical trials of our product candidates;
- the timing and content of future U.S. Food and Drug Administration regulatory actions;
- dependence on efforts of third parties;
- dependence on intellectual property;
- risks that we may lack the financial resources and access to capital to fund our operations; and
- risks relating to the commercialization, if any, of our product candidates (such as marketing, regulatory, patent, product liability, supply, competition and other risks).

Further information on the factors and risks that could affect our business, financial conditions and results of operations, are contained below in Item 1A. "Risk Factors."

## PART I

### ITEM 1. *BUSINESS*

#### Overview

We are a biopharmaceutical company focused on the discovery and development of potential first-in-class cancer therapeutics. Our lead product candidate, AVN944, is in Phase I clinical development for the treatment of cancer. We also have preclinical programs to develop inhibitors of the Beta (β)-catenin and Aurora pathways, discovery programs for Survivin and Myc pathway inhibitors, and partnerships with Merck, MedImmune, Medarex, and Novartis. We use AvalonRx®, our proprietary platform technology based upon the use of large-scale gene expression analysis, to discover and develop therapeutics focused on pathways that have historically been characterized as "undruggable". We were established in 1999 and completed our initial public offering in 2005. We are headquartered in Germantown, Maryland.

AVN944 is a small molecule therapeutic being developed for the treatment of hematologic and solid tumor cancers. AVN944 inhibits inosine monophosphate dehydrogenase (IMPDH), an enzyme that is overexpressed in many cancers and is critical for DNA synthesis, RNA synthesis, and cellular signaling. To date, preclinical and clinical analyses of AVN944 have demonstrated inhibition of IMPDH, a favorable safety profile, and signs of biologic activity resulting in several patients exhibiting stable disease. We intend to initiate Phase II clinical testing of AVN944 during 2007.

We have two advanced preclinical development programs. One is designed to identify compounds that impact the β-catenin pathway, which is activated in many cancers, including 85% of colon cancers. The β-catenin pathway has traditionally been difficult to target therapeutically. The other program targets the Aurora pathway, which plays a critical role in the uncontrolled growth of cancer cells.

Our preclinical product discovery programs are focused on identifying inhibitors of important "undruggable" targets and pathways in cancer. We currently have a program targeting the Survivin pathway, which is overexpressed in most cancers and prevents cancer cell death, and a program targeting MYC, which is one of the most frequently deregulated proteins in human cancer and is critical for tumor cell survival.

Our proprietary platform technology, AvalonRx®, is designed to facilitate discovery and expedite development of novel therapeutics through the use of a comprehensive and innovative suite of technologies based upon large-scale gene expression analysis. This platform facilitates drug discovery by expanding the range of therapeutic targets for drug intervention, including targets and pathways frequently considered undruggable when using conventional approaches. AvalonRx® also allows us to make informed decisions about which compounds to advance towards clinical trials, based on comprehensive comparisons of compound activity across thousands of genes during lead selection and optimization. Further, AvalonRx® may expedite drug development and commercialization through identification of biomarkers that can stratify patients or provide early indicators of response.

## Our Drug Discovery and Development Programs

Our total research and development expenses for the years ended December 31, 2006, 2005 and 2004 were $13.3 million, $15.8 million, and $10.7 million, respectively. The following table sets forth our drug discovery and development programs:

| Program | Status | Planned 2007 Activities | Commercial Rights |
|---|---|---|---|
| IMPDH Inhibitor (AVN944) | U.S. Phase I ongoing | Phase II hematologic cancer studies; Phase II solid tumor study | Avalon |
| β-catenin Pathway Inhibitors | Lead optimization | Optimize and select a candidate for preclinical development | Avalon |
| Aurora Pathway Inhibitors | Lead optimization | Optimize and select a candidate for preclinical development | Avalon |
| Survivin Pathway Inhibitors | Lead Identification | Select compound series for optimization | Avalon |
| Myc Pathway Inhibitors | Lead Identification | Select compound series for optimization | Avalon |
| Therapeutic Antibodies | Novel target identified | Identify active antibodies | Avalon/Medarex |

### *AVN944 Program*

AVN944 is an oral, small molecule drug being developed for the treatment of hematologic and solid cancers. In February 2005, we licensed AVN944 from Vertex Pharmaceuticals Incorporated. We subsequently filed an Investigational New Drug application ("IND") in September 2005 with the Food and Drug Administration ("FDA") and initiated U.S. Phase I clinical trials of AVN944 in cancer patients in January 2006 for the treatment of hematologic cancers (leukemia and lymphoma). Leukemia and lymphoma afflict approximately 700,000 people and lead to over 54,000 deaths, or nearly 10% of all cancer deaths, in the United States each year. This Phase I trial is evaluating the maximum tolerated dose (MTD), the safety, the pharmacokinetic and pharmacodynamic profile and efficacy of AVN944. It is focused on patients with hematologic cancers that have failed prior therapies, or for whom there is no recommended treatment, and includes analysis of a number of biomarkers that correlate with IMPDH inhibition.

In 2006, an interim analysis of the Phase I trial showed encouraging results in patients. Importantly, a significant number of patients experienced stable disease after one cycle of therapy with AVN944. Two patients with multiple myeloma were on study with stable disease for 12 months. Additionally, several leukemia patients have received three or more cycles of the drug. We believe that these data, combined with a thorough analysis of pharmacodynamic markers using AvalonRx®, demonstrate clear mechanism-based biologic activity of the drug in patients. We intend to initiate Phase II clinical testing of AVN944 during 2007.

### β-*Catenin Program*

For more than 10 years, cancer researchers have known that proteins within the β-catenin pathway play key roles in the initiation and progression of cancer. It has been estimated that the β-catenin pathway is abnormally activated in more than 85% of colon tumors. Colon cancer is the fourth most common type of cancer, causing approximately 105,000 new cancer cases and over 56,000 deaths each year in the United States. Despite intense interest and significant research effort by the pharmaceutical industry, no drugs have been developed that affect the β-catenin pathway. This is due to inherent difficulties of traditional discovery approaches which may be overcome by AvalonRx®. We developed a gene expression signature that tracks decreased β-catenin activity and used it to identify structurally different compounds from our chemical library. We are currently conducting lead optimization efforts around one chemical family from this program. We have synthesized compounds in this family that kill human cancer cells in vitro, cause a cell cycle arrest that is characteristic of inhibition of the β-catenin pathway, and cause a dose dependent decrease in β-catenin protein levels. Studies with these compounds in animal models have shown good pharmacological properties, bioavailability, and modulation of pharmacodynamic markers in tumor xenograft studies. Our current plans are to complete optimization of this compound family and select a compound for preclinical development in 2007. To date, we are not aware of any specific inhibitors of the β-catenin pathway that are on the market or in clinical development.

*Aurora Pathway Program*

The Aurora pathway is a key regulator of cell division and survival and is overexpressed in many human cancers. Inhibition of the Aurora pathway is known to slow the uncontrolled cell growth that characterizes cancer. Application of AvalonRx® has enabled us to identify structurally distinct compounds that appear to modulate a novel node in the Aurora pathway. We are currently conducting lead optimization efforts around one chemical family from this program. These compounds appear to work through a mechanism different than the multiple clinical-stage compounds that directly inhibit Aurora kinases. We have synthesized compounds from this family that are able to potently kill human cancer cells, *in vitro* and cause cellular effects characteristic of pathway inhibition. Studies with these compounds in animal models have shown good pharmacological properties, bioavailability, and modulation of pharmacodynamic markers in tumor xenograft studies. Our current plans are to complete optimization of this compound family and select a compound for preclinical development during 2007.

*Survivin Program*

The Survivin pathway is recognized as a critical but elusive pathway for intervention by cancer therapeutics. The Survivin pathway intersects cellular networks critical for cancer cell function; including cell death, cell growth, and drug and radiation resistance. The Survivin gene is broadly expressed in multiple tumor types (including breast, lung, prostate, pancreatic and colon), but is undetectable in most normal adult cells. Drugs targeted against the Survivin protein have been difficult to develop because of its lack of enzymatic function. We developed and conducted a high throughput screen to identify compounds that affect the Survivin pathway and are currently characterizing compounds from this screen. We plan to select a compound family for lead optimization during 2007.

*Myc Program*

We have recently initiated a drug discovery program targeting the Myc oncoprotein, one of the most important and previously undruggable cancer targets. Myc is one of the most frequently deregulated proteins in human cancer, and is associated with many types of aggressive tumors carrying a poor prognosis. We have developed and conducted a high throughput screen to identify compounds that affect the Myc pathway and plan to select a compound family for lead optimization during 2007.

*Therapeutic Antibodies*

In addition to our small molecule efforts, we have used AvalonRx® as a basis for establishing a partnership related to antibody drug candidates. Under a development agreement with Medarex, Inc., we have identified a novel extracellular protein that is strongly associated with cancer. We are working with our collaboration partner to generate therapeutic antibodies and may pursue *in vivo* proof of concept in animal models. After completion of these studies by Medarex, a biologics drug development program in this area, jointly resourced with Medarex, could commence.

**Our Technologies**

AvalonRx® is a proprietary platform that uses polymerase chain reaction (PCR), microarray technology, robotics and bioinformatics to enable fast, fully-automated, large-scale analysis of gene expression and its application to the discovery and development of drugs. We believe AvalonRx® has key advantages compared to conventional technologies.

First, unlike conventional drug discovery technologies that use isolated proteins as screening targets, AvalonRx® screens for drug candidates based on how they change the expression of gene biomarkers in living cells. A cell-based screening system may identify drug candidates that can not be effectively identified using conventional protein-based screening methods, and may allow the identification of multiple drug candidates with different activities from a single screen.

Second, AvalonRx® provides extensive information on the potential strengths and weaknesses of drug candidates. We have developed expertise in the use of this information, which we believe can lead to a deeper

understanding of a drug candidate's mechanism of action, faster and improved decision-making regarding which compound should be advanced into the next stage of development, and a more accurate prediction of a drug candidate's safety and efficacy profile.

Third, we believe AvalonRx® can identify gene expression signatures that may be used as biomarkers of how a drug could behave in the human body, and for identification of which patients might be appropriate candidates for treatment. These gene expression signatures and biomarkers can be valuable in guiding drug candidate selection, clinical trial design and in drug commercialization. For example, we currently use such biomarkers in our AVN944 development program.

For these reasons, we believe AvalonRx® has the potential to discover drugs that conventional technologies are inherently unable to find and to move lead compounds and drug candidates through the development process with greater success.

We use AvalonRx® in an integrated systematic process for *de novo* discovery for ourselves and our partners. For example, in March 2007 we entered into a collaboration with Merck & Co., Inc. to discover, develop and commercialize inhibitors against a target in the area of oncology, and in September 2005 we entered into a drug discovery collaboration with Novartis. Additionally, we use individual components of AvalonRx® to improve existing discovery and development efforts in collaborations with others or to advance our programs, as in the case of AVN944.

## Our Strategy

Our objective is to be a leading biopharmaceutical company focused on the discovery, development and commercialization of drug candidates for the treatment of cancer and other diseases. The key elements of our business strategy are as follows:

- *Advance the development of AVN944, our clinical stage, pan cancer candidate.* We began conducting a U.S. Phase I trial for AVN944 in hematologic cancer patients in January 2006. We plan to initiate Phase II clinical trials in solid tumors and hematologic malignancies during 2007. During the clinical development of AVN944 and the development of all of our subsequent drug candidates, we intend to leverage AvalonRx® to accelerate decision-making by: (1) selecting biomarkers of responsive cancers, (2) identifying responsive patient populations for improved clinical trial design and outcome, and (3) determining appropriate drug combinations more quickly than with conventional methods.

- *Advance our internal anti-cancer therapeutic programs.* We plan to advance the development of our lead candidates in both the β-catenin and the Aurora pathway programs to select and optimize pre-clinical candidates for both programs and to advance those candidates to clinical trials. We also plan to advance the Survivin pathway and the Myc pathway programs from the screening stage to the lead optimization stage and to identify lead candidates for both programs. We will continue to utilize AvalonRx® to discover and develop new therapeutic candidates against proprietary Avalon cancer targets and well-known cancer pathways proven to be difficult for conventional technologies to address.

- *Continue to deliver value for our partners and create new valuable partnerships.* We have formed collaborations with Merck & Co., Inc., MedImmune, Inc., Novartis Institutes for Biomedical Research, Inc., Medarex, Inc. and ChemDiv, Inc. We will continue to deliver value to our partners by using AvalonRx® to discover and develop compounds together with our partners. We may form new partnerships involving some of our cancer pipeline programs that would: (1) enhance clinical development and maximize the potential therapeutic use and commercialization of AVN944; (2) enhance the development and maximize the potential therapeutic use and commercialization of our β-catenin, Aurora pathway, Myc and Survivin pathway programs; (3) discover, develop and commercialize novel drug candidates for other undruggable targets. Additionally, we may form new partnerships utilizing AvalonRx® as it has very broad applications across many therapeutic fields.

It is our intent to receive upfront payments for access to our technology, research and development funding, additional fees for the achievement of development milestones, and royalties on sales of products developed in collaboration with other companies.

**Collaborative Relationships**

***Merck & Co., Inc.***

In March 2007, we entered into a drug discovery, development and commercialization agreement with Merck & Co., Inc., to identify and develop inhibitors against a selected target in the area of oncology.

Under the terms of the agreement, we will use our AvalonRx® platform to screen a select set of compounds from Merck's proprietary compound library and identify hits against this target, which is generally regarded as "intractable" based on the difficulty in identifying inhibitors of this target. We are responsible for the selection of compound families and optimization of those compounds to a preclinical candidate selection stage. Merck is responsible for the clinical development, regulatory approval and commercialization of any resulting product candidates. Under the agreement, we will receive milestone payments based on meeting a number of discovery, development and commercial milestones for multiple indications. If we achieve all of the milestones under the agreement, we will receive in excess of $200 million in milestone payments. We will also receive royalties on net sales of products marketed in the collaboration. The agreement does not provide for any minimum guaranteed payments to us by Merck.

The term of the agreement expires upon the expiration of all royalty obligations under the agreement. The agreement may be terminated earlier by Merck upon 60 days advanced written notice and in certain circumstances subject to the payment of specified fees by Merck. Additionally, in certain circumstances, we have the right to obtain licenses from Merck to continue the development and commercialization of potential product candidates derived from the research program. The agreement may also be terminated either by us or by Merck upon a material, uncured breach by the other party of the terms of the agreement, following the expiration of a 90 day cure period.

This collaboration allows us to combine our unique approach of targeting otherwise intractable cancer pathways with Merck's strong drug discovery and development capabilities, and has the potential to lead to the identification of first-in-class drug candidates against this target.

***MedImmune***

In June 2005, we entered into a collaboration and license agreement with MedImmune, Inc. for the discovery of small molecule therapeutic compounds in the area of inflammatory disease. Under the terms of the agreement, we are using AvalonRx® to identify lead compounds. MedImmune is responsible for preclinical and clinical testing of any resulting product candidates, as well as all future development, sales and marketing activities.

We received an upfront technology access fee payment and MedImmune is funding all research and development activities at Avalon and MedImmune for the purpose of the collaboration. We may receive up to $16 million in milestone payments from MedImmune related to the discovery, development and commercialization of compounds resulting from this collaboration. We may also receive royalties on net sales of any products discovered in the collaboration.

Additionally, MedImmune has the option to initiate two additional small molecule drug discovery collaborations with us under similar terms.

The term of the agreement expires on the earlier of (i) 50 years from the date of the agreement or, (ii) such time as MedImmune's obligation to pay royalties expires. The agreement also expires if, after the research is completed, MedImmune does not select a clinical candidate. The license agreement may be terminated sooner by either us or MedImmune upon, among other events, a material, uncured breach by the other party or by MedImmune for reason other than our material breach, upon 90 days notice.

*Medarex*

In October 2003, we entered into a collaboration with Medarex, Inc. to jointly research, develop and commercialize human antibodies against Avalon cancer targets. Using AvalonRx®, we have identified what we believe are key cancer targets based on the amplification of DNA and over expression of RNA in certain cancer cells. Medarex plans to use its UltiMAb Human Antibody Development System to generate antibodies to the identified disease targets. We intend to develop jointly with Medarex these antibodies for therapeutic intervention. Under the agreement, each party is obligated to use commercially reasonable efforts to conduct their respective research activities in accordance with jointly developed project plans and budgets for the research, development, manufacture and commercialization of human antibodies resulting from this collaboration. The agreement generally provides that all costs associated with the research, development, manufacturing and commercialization of any such antibodies are to be shared equally between Avalon and Medarex and that any operating profits or losses with respect to commercial products derived from the collaboration are to be similarly shared equally between the two parties. The agreement further provides that either party may voluntarily opt-out of its research, development and commercialization obligations. Upon the exercise of such opt-out right, the non-terminating party has the option to unilaterally continue research, development, manufacture and commercialization activities with respect to these antibodies.

*ChemDiv, Inc.*

In July 2006, we entered into a collaboration agreement with ChemDiv, Inc. for the discovery and development of small molecule oncology therapeutics. Avalon and ChemDiv will share in the costs of development and the value of any lead candidate resulting from their joint research efforts. Additional terms of the agreement provide Avalon with the right to select 200,000 compounds from the ChemDiv library for use in all of Avalon's discovery programs. We will use our proprietary AvalonRx® platform to discover new active compounds in screens against selected targets and target pathways. ChemDiv will provide us with access to its Discovery outSource™ services platform, including one of the world's largest commercially available chemical library, as well as medicinal and synthetic chemistry for the discovery and development of new active compounds.

The term of the agreement expires 60 years from the effective date. The collaboration may be terminated sooner upon mutual written agreement of both parties.

*Novartis*

In September 2005, we entered into an agreement with Novartis Institutes for Biomedical Research, Inc. for the discovery of small molecule therapeutic compounds targeted against a pathway selected by Novartis. Under the terms of the agreement we are using AvalonRx® to identify and characterize compounds from Novartis' chemical library. Novartis is responsible for lead optimization, preclinical and clinical testing of any resulting product candidates, as well as all future development and sales and marketing activities.

We received an upfront technology access fee and Novartis is funding all research activities at Avalon for the purpose of the collaboration. We may receive milestone payments from Novartis based on the achievement of the following milestones: (1) identification of a validated hit compound and (2) identification of a lead compound.

In January 2007 the initial agreement term was amended from 18 months to 30 months from the date of inception. The agreement may be terminated sooner by either us or Novartis upon a material, uncured breach by the other party upon 60 days notice. In February 2007, following Avalon's successful validation of an AvalonRx® based screen for monitoring disruption of the selected pathway, the parties have agreed to initiate the primary screen against a large subset of Novartis' compound library. Under the terms of the agreement, the initiation of the screening phase triggered a $500,000 payment to Avalon for research support.

*Other Collaborations*

We have a funded collaboration with the University of Louisville to identify biomarkers in diabetes. We have sole rights to any inventions for which we or our employees are sole inventors, and we have joint rights to any inventions created jointly by us with university employees. Furthermore, we are under no current obligation to provide royalty or milestone payments under this collaboration. Our rights to intellectual property arising from this collaboration are subject to certain rights of the United States government, as defined in federal regulations.

We have additional collaborations with, or licenses from, various academic or private research institutes through which we have access to various materials, such as samples of disease tissue, cell lines, RNA and DNA samples, or cytogenetic preparations. The materials from these collaborations are used in our drug and target discovery programs. In these relationships, we have sole rights to any inventions that we may derive for the use of materials, and we are under no obligation to provide any royalty or milestone payments.

**Patents, Licenses and Proprietary Rights**

We generally seek patent protection for our product candidates in the United States and abroad and protect our technologies through patents and trade secrets.

*Vertex license*

In February 2005, we entered into a license agreement with Vertex Pharmaceuticals for the development and commercialization of AVN944 in oncology indications. Under the terms of the license, we hold exclusive rights to develop and commercialize AVN944 worldwide for the treatment or prevention of cancer. In consideration for this license, we paid Vertex a total of $5 million in upfront license fees. In addition, we have agreed to pay Vertex milestone payments based on the achievement of the following milestones: (1) initiation of the first human clinical trial, the results of which are designed to demonstrate the safety and efficacy of AVN944 on a sufficient number of patients to support regulatory approval of the drug in any country (generally a Phase III clinical trial); (2) first filing of a new drug application for AVN944 in any country; and (3) first regulatory approval of AVN944 in any country. Assuming we achieve each of these milestones in both hematologic and solid tumor indications, we will pay Vertex up to $68 million in milestone payments. Upon commercialization, we will pay Vertex royalties on product sales.

If we fail to obtain regulatory approval and initiate sales and marketing efforts in any other countries within a year after there are commercial sales in all of the following countries: the United States, the United Kingdom, France, Germany, Italy, Spain and Japan, Vertex has the right to market and sell AVN944 drug product on our behalf in any such other countries.

The term of the agreement expires with respect to a particular country upon the later to occur of: (1) the expiration of the last Vertex patent in such country containing a valid patent claim covering AVN944 for use in the treatment or prevention of cancer; or (2) if there is no such valid patent claim under a Vertex patent, 10 years from the earlier of the date regulatory approval is received in that country for sale of AVN944 in a drug product or the first commercial sale of AVN944 in a drug product in that country. In all events, the term of the agreement expires on February 14, 2055. Upon the expiration of the term of the agreement, either as to a particular country or in full, we are entitled to receive a fully paid up license to any of Vertex's proprietary material and information relating to the development, utilization, manufacture or use of AVN944 or any drug product derived therefrom.

The license agreement may be terminated sooner by either us or Vertex upon, among other events, a material breach by the other party of the terms of the license agreement (subject to prior notice and an opportunity to cure) or by Vertex upon our failure to achieve key development and commercialization milestones by specified dates. Upon termination of the license agreement (other than because of a material breach by Vertex), all licensed rights to AVN944 revert to Vertex.

*Patent rights; licenses*

Our licensors and we have patents and continue to seek patent protection for technologies that relate to our product candidates, as well as technologies that may prove useful for future product candidates. As of December 31, 2006, we held or had licenses to 79 issued, allowed or pending patents worldwide, of which 4 are issued or allowed in the U.S. These patents and patent applications pertain to compounds, gene targets and methods and processes of discovering future product candidates.

We anticipate that we will continue to seek to improve existing technologies and to develop new technologies and, when possible, secure patent protection for such improvements and new technologies.

The patent position of biotechnology firms generally is highly uncertain and involves complex legal and factual questions. Our success will depend, in part, on whether we can:

- obtain patents to protect our own products;
- obtain licenses to use the technologies of third parties, which may be protected by patents;
- protect our trade secrets and know-how; and
- operate without infringing the intellectual property and proprietary rights of others.

*Trade secrets*

It is our policy to require our employees, consultants, contractors, manufacturers, collaborators and other advisors to execute confidentiality agreements upon the commencement of employment, consulting or collaborative relationships with us. We also require signed confidentiality agreements from any entity that is to receive confidential data. With respect to employees, consultants and contractors, the agreements generally provide that all inventions made by the individual while rendering services to us shall be assigned to us as our property.

**Competition**

The pharmaceutical and biotechnology industries are very competitive and characterized by rapid and continuous technological innovation. We believe that there are a significant number of potential drugs in preclinical studies and clinical trials to treat cancer that may result in effective, commercially successful treatments for the same cancers that we target.

We face competition from many pharmaceutical and biotechnology companies. We are aware that most large pharmaceutical companies have small molecule development programs in the field of cancer. We compete with a number of biotechnology companies, such as Amgen, Inc., Ariad Pharmaceuticals, Inc., ArQule, Inc., Array Biopharma, Inc., Millennium Pharmaceuticals, Inc., Onyx Pharmaceuticals, Inc, OSI Pharmaceuticals, Inc., Oxigene, Inc., and Telik, Inc. that are developing small molecule therapeutics as treatments for cancer. We are aware of other companies that are developing IMPDH inhibitors as potential therapeutics for diseases other than cancer.

Some of our competitors have a broader range of capabilities and have greater access to financial, technical, scientific, business development, recruiting and other resources than we do. Their access to greater resources may allow them to develop processes or technologies that would render our technologies obsolete or uneconomical, or drug candidates that are more effective, safer or less costly than drug candidates we develop or for which they obtain FDA approval more rapidly than we do. We anticipate that we will face increased competition in the future as new companies enter the market and advanced technologies become available.

**Manufacturing and Supply**

We currently use third party manufacturers who employ the FDA's current Good Manufacturing Practices, or cGMP, for production of our product candidates for future clinical trials. We have a research and development

facility in Germantown, MD and have established laboratories and staff to support the non-cGMP production and process development of more advanced manufacturing processes and product characterization methods for our product candidates.

We currently have only one supplier for certain of our manufacturing components, including components necessary for AVN944. Currently, we procure raw materials, for the production of AVN944 from a limited number of suppliers. We have plans in place to develop multiple suppliers for all critical supplies before the time we would put any of our product candidates into commercial production.

**Marketing and Sales**

We continue to explore opportunities for corporate alliances and partners to help develop and ultimately commercialize our product candidates. Our strategy is to enter into collaborative arrangements with pharmaceutical and other companies for some or all aspects of development, manufacturing, marketing, and sales of our products that will require broad marketing capabilities and overseas marketing. These collaborators are generally expected to be responsible for funding or reimbursing all or a portion of the development costs, including the costs of clinical testing necessary to obtain regulatory clearances and for commercial scale manufacturing, in exchange for rights to market specific products in particular geographic territories. We hold exclusive rights to develop and commercialize AVN944 worldwide for the treatment or prevention of cancer.

**Government Regulation**

Government authorities in the United States at the federal, state, and local levels extensively regulate, among other things, the research, development, testing, manufacture, labeling, promotion, advertising, distribution, sampling, marketing, and import and export of pharmaceutical products, biologics, and medical devices. Our drug candidates are subject to regulatory approval by the FDA prior to commercialization. Various federal, state, and local statutes and regulations also govern testing, manufacturing, safety, labeling, storage, and record-keeping related to such products and their marketing. We will also be required to obtain regulatory approval from comparable agencies in foreign countries before commercial marketing in those countries. Before a drug candidate is approved by the FDA for commercial marketing, rigorous preclinical and human clinical testing is conducted to test the safety and effectiveness of the product.

***Pharmaceutical Product Regulation***

In the United States, the FDA regulates drugs under the Federal Food, Drug and Cosmetic Act, or FDCA, and implementing regulations that are adopted under the FDCA. If we fail to comply with the applicable requirements under these laws and regulations at any time during the product development process, approval process, or after approval, we may become subject to administrative or judicial sanctions. These sanctions could include the FDA's refusal to approve pending applications, withdrawals of approvals, clinical holds, warning letters, product recalls, product seizures, total or partial suspension of our operations, injunctions, fines, civil penalties or criminal prosecution. Any agency enforcement action could have a material adverse effect on us.

Under the United States regulatory scheme, the development process for new pharmaceutical products can be divided into two distinct phases:

- *Preclinical Phase.* The preclinical phase involves the discovery, characterization, product formulation and animal testing necessary to prepare an IND for submission to the FDA. The IND must be accepted by the FDA before the drug can be tested in humans. The review period for an IND submission is 30 days, after which, if no comments are made by the FDA, the product candidate can be studied in Phase I clinical trials. Certain preclinical tests must be conducted in compliance with the FDA's good laboratory practice regulations and the United States Department of Agriculture's Animal Welfare Act.
- *Clinical Phase.* The clinical phase of development follows a successful IND submission and involves the activities necessary to demonstrate the safety, tolerability, efficacy, and dosage of the drug in humans, as well as the ability to produce the drug in accordance with cGMP requirements. Clinical trials are conducted under

protocols detailing, among other things, the objectives of the study and the parameters to be used in assessing the safety and the efficacy of the drug. Each protocol must be submitted to the FDA as part of the IND prior to beginning the trial. Each trial must be reviewed, approved, and conducted under the auspices of an Institutional Review Board, or IRB, and each trial, with limited exceptions, must include the patient's informed consent. Typically, clinical evaluation involves the following time-consuming and costly three-phase sequential process:

*Phase I.* In Phase I clinical trials, a small number of volunteers are tested with the drug to determine the drug's safety and tolerability and includes biological analyses to determine the availability and metabolism of the active ingredient following administration.

*Phase II.* Phase II clinical trials involve administering the drug to individuals who suffer from the target disease or condition to determine the drug's potential efficacy and ideal dose. These clinical trials are typically well controlled, closely monitored, and conducted in a relatively small number of patients, usually involving no more than several hundred subjects.

*Phase III.* Phase III clinical trials are performed after preliminary evidence suggesting effectiveness of a drug has been obtained and safety, tolerability, and an ideal dosing regimen have been established. Phase III clinical trials are intended to gather additional information about the effectiveness and safety that is needed to evaluate the overall benefit-risk relationship of the drug and to complete the information needed to provide adequate instructions for the use of the drug. Phase III trials usually include from several hundred to several thousand subjects.

Throughout the clinical phase, samples of the product made in different batches are tested for stability to establish shelf life constraints. In addition, large-scale production protocols and written standard operating procedures for each aspect of commercial manufacture and testing must be developed. These trials require scale up for manufacture of increasingly larger batches of bulk chemical. These batches require validation analysis to confirm the consistent composition of the product.

Phase I, II, and III testing may not be completed successfully within any specified time period, if at all. The FDA closely monitors the progress of each of the three phases of clinical trials that are conducted under an IND and may, at its discretion, reevaluate, alter, suspend (place on "clinical hold"), or terminate the testing based upon the data accumulated to that point and the agency's assessment of the risk/benefit ratio to the patient. The FDA may suspend or terminate clinical trials at any time for various reasons, including a finding that the subjects or patients are being exposed to an unacceptable health risk. The FDA can also request additional clinical trials be conducted as a condition to product approval. Additionally, new government requirements may be established that could delay or prevent regulatory approval of products under development. Furthermore, IRBs, which are independent entities constituted to protect human subjects at the institutions in which clinical trials are being conducted, have the authority to suspend clinical trials at their respective institutions at any time for a variety of reasons, including safety issues.

***New Drug Application***

After the successful completion of Phase III clinical trials, the sponsor of the new drug submits a New Drug Application, or NDA, to the FDA requesting approval to market the product for one or more indications. An NDA is a comprehensive, multi-volume application that includes, among other things, the results of all preclinical studies and clinical trials, information about the drug's composition, and the sponsor's plans for producing, packaging, and labeling the drug. Under the Pediatric Research Equity Act of 2003, an application also is required to include an assessment, generally based on clinical study data, on the safety and efficacy of drugs for all relevant pediatric populations before the NDA is submitted. The statute provides for waivers or deferrals in certain situations. In most cases, the NDA must be accompanied by a substantial user fee. In return, the FDA assigns a goal of 10 months from acceptance of the application to return of a first "complete response," in which the FDA may approve the product or request additional information.

The submission of the application is no guarantee that the FDA will find it complete and accept it for filing. The FDA reviews all NDAs submitted before it accepts them for filing. It may refuse to file the application and request

additional information rather than accept the application for filing, in which case, the application must be resubmitted with the supplemental information. After the application is deemed filed by the FDA, agency staff reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use. The FDA has substantial discretion in the approval process and may disagree with an applicant's interpretation of the data submitted in its NDA. As part of this review, the FDA may refer the application to an appropriate advisory committee, typically a panel of physicians, for review, evaluation, and an approval recommendation. The FDA is not bound by the opinion of the advisory committee. Drugs that successfully complete NDA review may be marketed in the United States, subject to all conditions imposed by the FDA.

Prior to granting approval, the FDA generally conducts an inspection of the facilities, including outsourced facilities, that will be involved in the manufacture, production, packaging, testing, and control of the drug candidate for cGMP compliance. The FDA will not approve the application unless cGMP compliance is satisfactory. If the FDA determines that the marketing application, manufacturing process, or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and will often request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the marketing application does not satisfy the regulatory criteria for approval and refuse to approve the application by issuing a "not approvable" letter.

The length of the FDA's review ranges from a few months, for some drugs related to life-threatening circumstances, to many years.

***Post Approval Phase***

If the FDA approves the NDA, the pharmaceutical product becomes available for physicians to prescribe in the United States. After approval, the NDA holder is still subject to continuing regulation by the FDA, including record keeping requirements, submitting periodic reports to the FDA, reporting of any adverse experiences with the product, and complying with drug sampling and distribution requirements. In addition, the NDA holder is required to maintain and provide updated safety and efficacy information to the FDA. The NDA holder is also required to comply with requirements concerning advertising and promotional labeling, including prohibitions against promoting any non-FDA approved or "off-label" indications of products. Failure to comply with those requirements could result in significant enforcement action by the FDA, including warning letters, orders to pull the promotional materials, and substantial fines. Also, quality control and manufacturing procedures must continue to conform to cGMP after approval.

Drug manufacturers and their subcontractors are required to register their facilities and products manufactured annually with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA to assess compliance with cGMP regulations. Facilities may also be subject to inspections by other federal, foreign, state or local agencies. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

In addition, following FDA approval of a product, discovery of problems with a product or the failure to comply with requirements may result in restrictions on a product, manufacturer, or holder of an approved marketing application, including withdrawal or recall of the product from the market or other voluntary or FDA-initiated action that could delay further marketing. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications. Also, the FDA may require post-market testing and surveillance to monitor the product's safety or efficacy, including additional clinical studies, known as Phase IV trials, to evaluate long-term effects.

***Hatch-Waxman Act***

Approved products would also be subject to the provisions of the Drug Price Competition and Patent Term Restoration Act of 1984 (known as the "Hatch-Waxman Act"). Under the Hatch-Waxman Act, newly approved drug products and changes to the conditions of use of approved products may benefit from periods of non-patent marketing exclusivity. During this period (ranging from up to five years for "new chemical entities" to up to three years for "new use" approval of an existing drug), the FDA may not approve generic versions of the drug product.

The Hatch-Waxman Act also provides for the restoration of up to five years of the patent term lost during product development and FDA review of an application.

The Hatch-Waxman Act also provides a legal pathway for approving generic versions of the innovator's drug product once the marketing exclusivity period has ended and all relevant patents have expired (or have been successfully challenged and defeated). Thus, the marketing exclusivity of the innovator product will run through the remaining life of its patent(s) and any additional non-patent marketing exclusivity, unless the marketing exclusivity is shortened by a successful patent challenge.

***Pediatric Exclusivity***

The FDA Modernization Act of 1997 included a pediatric exclusivity provision that was reauthorized by the Best Pharmaceuticals for Children Act of 2002. Pediatric exclusivity provides an incentive to pioneer drug manufacturers for conducting research into the safety and effectiveness of their products in children. Manufacturers are eligible for pediatric exclusivity when they conduct and submit the results of pediatric studies requested by the FDA. When granted, pediatric exclusivity provides an additional six months of marketing exclusivity or patent protection in the United States. The current pediatric exclusivity provision is scheduled to expire on October 1, 2007, and there can be no guarantee that it will be reauthorized.

***Orphan Drug Designation and Exclusivity***

Some jurisdictions, including the United States and the European Union, designate drugs intended for relatively small patient populations as "orphan drugs." The FDA, for example, grants orphan drug designation to drugs intended to treat rare diseases or conditions that affect fewer than 200,000 individuals in the United States or drugs for which there is no reasonable expectation that the cost of developing and making the drugs available in the United States will be recovered. In the United States, orphan drug designation must be requested before submitting an application for approval of the product.

Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. If a product which has an orphan drug designation subsequently receives the first FDA approval for the indication for which it has such designation, the product is entitled to seven years of marketing exclusivity. During this time, the FDA may not approve another drug application to market the "same drug" for the same indication. The only exception is where the second product is shown to be "clinically superior" to the product with orphan drug exclusivity, as that phrase if defined by the FDA, and if there is an inadequate supply.

***Foreign Regulation***

Whether or not we obtain FDA approval for a product, we must obtain product approval 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. Although governed by the applicable country, clinical trials conducted outside of the United States typically are administered under a three-phase sequential process similar to that discussed above for pharmaceutical products in the United States.

In Europe, this process now includes obtaining regulatory authorization, similar to pursuit of IRB approval, to begin clinical studies. The AVN944 dose-escalation study in the United Kingdom was not conducted under a United States IND. At the time, studies in healthy volunteers in the United Kingdom did not require regulatory approval and could commence after a favorable opinion from a private ethics committee. As of May 2004, pursuant to the EU Clinical Trials Directive, all U.K. clinical trials in humans require submission and approval of a Clinical Trial Application by regulatory licensing authorities and a favorable ethics committee opinion.

***Other Regulations***

We are subject to other regulations, including regulations under the Occupational Safety and Health Act, regulations promulgated by the United States Department of Agriculture, and regulations under other federal, state and local laws. We ourselves are not directly regulated by the privacy regulations promulgated under the Heath

Insurance Portability and Accountability Act of 1996, or HIPAA. However, we could face substantial criminal penalties if we knowingly receive individually identifiable health information from a healthcare provider that has not satisfied the privacy regulation's disclosure standards. Most healthcare providers, including research institutions from whom we or our third party contractors obtain patient information are subject to these privacy regulations. In addition, certain state privacy laws and genetic testing laws may apply directly to our operations and/or those of our partners and may impose restrictions on the use and dissemination of individuals' health information. Moreover, patients about whom we or our partners obtain information, as well as the providers who share this information with us, may have contractual rights that limit our ability to use and disclose the information. Claims that we have violated individuals' privacy rights or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

Other various federal, state and local laws and regulations relating to the use, manufacture, storage, handling and disposal of hazardous materials and waste products may also apply. These environmental laws generally impose liability regardless of the negligence or fault of a party and may expose us to liability for the conduct of, or conditions caused by, others. We have not incurred, and do not expect to incur, material costs to comply with these laws and regulations.

### Employees

As of December 31, 2006, we had 56 full-time employees, 18 of whom hold M.D. or Ph.D. degrees and 28 of whom hold other advanced degrees. Of our total workforce, 39 are engaged primarily in research and development activities and 17 are engaged primarily in business development, finance, marketing and administration functions. None of our employees is represented by a labor union or covered by a collective bargaining agreement, and we consider our employee relations to be good.

### Organization; Principal Executive Offices

We were incorporated in Delaware in 1999. Our principal executive offices are located at 20358 Seneca Meadows Parkway, Germantown, Maryland 20876 and our telephone number at that location is (301) 556-9900.

### Available Information

For more information about us, visit our web site at www.avalonrx.com. Our electronic filings with the SEC (including our annual report on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and any amendments to these reports) are available free of charge through our web site as soon as reasonably practicable after we electronically file with or furnish them to the SEC.

## ITEM 1A. *RISK FACTORS*

### Risks Related to Our Business

***Because we have a limited operating history, there is a limited amount of information about us upon which you can evaluate our business and prospects.***

Our operations began in January 2000, and we have only a limited operating history upon which you can evaluate our business and prospects. In addition, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical area. For example, to execute our business plan, we will need to successfully:

- advance AVN944 through the development process;
- demonstrate the advantages and reliability of our proprietary drug discovery and development technology, AvalonRx®;
- build and maintain a strong intellectual property portfolio;

- develop and maintain successful strategic relationships; and
- manage costs associated with our research and product development plans, conducting clinical trials, obtaining regulatory approvals and delivering pharmaceutical products to the market.

If we are unsuccessful in accomplishing these objectives, we may not be able to develop drug candidates, raise capital, expand our business or continue our operations.

***We will need substantial additional funding, which may not be available to us on acceptable terms, or at all.***

We will continue to expend substantial resources for research and development, including costs associated with developing our technology and conducting preclinical testing and clinical trials. During 2005 we completed an initial public offering of our common stock resulting in $25.1 million in net proceeds to us. During 2006, we completed a private placement of our common stock raising an additional $7.3 million. Subsequent to December 31, 2006, we completed a private placement of our common stock raising an additional $10.0 million. Nevertheless, we will need to raise substantial additional capital to continue to fund our operations, including to:

- fund clinical trials and seek regulatory approvals;
- pursue the development of additional product candidates;
- maintain and expand our research and development activities;
- access manufacturing and commercialization capabilities;
- implement additional internal systems and infrastructure;
- maintain, defend and expand the scope of our intellectual property portfolio; and
- hire additional personnel.

Our future capital requirements will depend on a number of factors, including:

- the size and complexity of research and development programs;
- our ability to attract and retain partners;
- the scope and results of preclinical testing and clinical trials;
- continued scientific progress in our research and development programs;
- the time and expense involved in seeking regulatory approvals;
- competing technological and market developments;
- acquisition, licensing and protection of intellectual property rights; and
- the cost of establishing manufacturing capabilities and conducting commercialization activities.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through public or private equity offerings, debt financings or strategic collaborations. We do not know whether additional funding will be available on acceptable terms, or at all. If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of, or eliminate one or more of our clinical trials or research and development programs. In addition, we may have to partner one or more of our drug candidate programs at an earlier stage of development, which would lower the economic value of those programs to our Company.

***We have a history of losses, we expect to continue to incur losses for the foreseeable future, and we may never achieve or sustain profitability.***

We have experienced significant operating losses since our inception. We do not currently have any products that have been approved for marketing, and we continue to incur research and development and general and administrative expenses related to our operations. We had net losses of $17.1 million for the year ended

December 31, 2006. We expect our annual operating losses to continue over the next several years. Our losses, among other things, have caused and will continue to cause our and working capital stockholders' equity to decrease. To date, we have derived all of our revenue in connection with collaborations. We do not anticipate that we will generate revenue from the sale of products for the foreseeable future. To become and remain profitable, we must succeed in developing and commercializing novel drugs with significant market potential. This will require us to succeed in a range of challenging activities, including conducting clinical trials, obtaining regulatory approvals, entering into appropriate collaborations, and manufacturing, marketing and selling commercial products. We may never succeed in these activities, and may never generate revenues sufficient to achieve profitability. If we do achieve profitability, we may not be able to sustain it. If we fail to earn profits, or if we cannot sustain profitability, the market price of our common stock is likely to decline. In addition, we may be unable to raise capital, expand our business, diversify our product offerings or continue our operations.

***We have no products approved for commercial sale and do not expect to have any products approved for commercial sale for the next several years; our lead drug candidate, AVN944, is at an early stage of development, and we may not successfully develop it or any other future drug candidate into a commercial product.***

The drug discovery and development process is highly uncertain, and we have not developed, and may never develop, a drug candidate that ultimately leads to a commercial product. AVN944 is in the early stages of development, and we do not have any drugs approved for commercial sale. AVN944 may prove unsuccessful in clinical trials, may prove to be too costly to develop into a commercially viable product or may fail to receive regulatory approval for marketing. At any time, we may decide to discontinue the development of AVN944 or any other future drug candidate or not to commercialize a candidate.

***The drug discovery methods we employ through AvalonRx® are new and unproven and may not lead to the development of commercially viable drugs.***

The drug discovery methods we employ through AvalonRx® that are based upon gene expression analysis are new and, in several ways, unproven. For instance, our drug discovery technology profiles the effects of compounds on thousands of genes in a cell rather than an isolated target, a process that is novel and unproven in its usefulness to develop commercially viable drugs. There is limited scientific understanding generally relating to the regulation of gene expression and the role of genes in complex diseases, and relatively few products based on gene discoveries have been developed and commercialized by drug manufacturers. Even if we are successful in identifying compounds that show effects on the pathways that cells use to control the expression of genes associated with cancer, these discoveries may not lead to the development of effective drugs. Furthermore, the safety and efficacy of drugs that alter gene expression have not yet been established.

***We may be unable to accelerate the drug discovery process.***

Although we believe that one of the advantages of AvalonRx® is its ability to accelerate the drug discovery process, we have not yet identified a drug candidate using AvalonRx® that has advanced beyond *in vivo* preclinical testing. Therefore, we cannot confirm that AvalonRx® performs as reliably as conventional drug discovery methods. Our lead drug candidate, AVN944, was not discovered or developed with AvalonRx®. Until we succeed in discovering compounds that become approved drugs, we will not be certain that the efficiency that we believe is afforded by AvalonRx® is commercially meaningful.

***Preclinical and clinical testing are time consuming, expensive, and uncertain processes.***

Before the FDA approves a drug candidate for marketing, it is tested for safety and efficacy in preclinical testing and human clinical trials. The preclinical phase involves the discovery, characterization, product formulation and animal testing necessary to prepare an IND for submission to the FDA. The IND must be accepted by the FDA before the drug can be tested in humans in the United States. The clinical phase of development follows a successful IND submission and involves the activities necessary to demonstrate the safety, tolerability, efficacy, dose and dose schedule of the product candidate in humans, as well as the ability to produce the substance in accordance with cGMP requirements. Preclinical testing and clinical development are long, expensive and

uncertain processes. It may take us several years to complete our testing, and failure can occur at any stage of the process. During the process, we expect to incur significant expenses to conduct trials and follow required regulatory processes.

We do not know whether our IND for future products or the protocols for any future clinical trials will be accepted by the FDA. We do not know if our clinical trials will begin or be completed on schedule or at all. Even if completed, we do not know if these trials will produce clinically meaningful results sufficient to support an application for marketing approval. The commencement of our planned clinical trials could be substantially delayed or prevented by several factors, including:

- a limited number of, and competition for, suitable patients with particular types of cancer for enrollment in clinical trials;
- delays or failures in obtaining regulatory clearance to commence a clinical trial;
- delays or failures in obtaining sufficient clinical materials;
- delays or failures in reaching agreement on acceptable clinical trial agreement terms or clinical trial protocols with prospective sites; and
- delays or failures in obtaining Institutional Review Board, or IRB, approval to conduct a clinical trial at a prospective site.

The completion of our clinical trials could also be substantially delayed or prevented by several factors, including:

- slower than expected rates of patient recruitment and enrollment;
- failure of patients to complete the clinical trial;
- unforeseen safety issues;
- lack of efficacy during clinical trials;
- inability or unwillingness of patients or medical investigators to follow our clinical trial protocols;
- inability to monitor patients adequately during or after treatment; and
- regulatory action by the FDA for failure to comply with regulatory requirements.

Our clinical trials may be suspended or terminated at any time by the FDA, other regulatory authorities, or by us. Any failure or significant delay in completing clinical trials for our drug candidates could harm our financial results and the commercial prospects for our drug candidates.

If we achieve success at any stage of the clinical trial process, that success may not continue. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful. Interim results of trials do not necessarily predict final results. A number of companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in advanced clinical trials, even after promising results in earlier trials. For example, a single partial response or even a small number of partial responses in cancer patients is not necessarily indicative of success in demonstrating efficacy in Phase II and Phase III clinical trials. Other reasons why candidates that appear promising in preclinical testing or clinical trials may fail to become marketed drugs include:

- failing to demonstrate clinical effectiveness or having significantly lower efficacy than existing therapies;
- producing harmful side effects;
- denial of regulatory approvals by the FDA or other regulators;
- failing to acquire, on reasonable terms, intellectual property rights necessary for commercialization; and
- loss of market to competing drugs which are more effective or economical.

Any clinical trial may fail to produce results satisfactory to the FDA. Preclinical and clinical data can be interpreted in different ways, which could delay, limit or prevent regulatory approval. Negative or inconclusive results or adverse medical events during a clinical trial could cause a clinical trial to be repeated or a program to be terminated.

In addition, the FDA could determine that the design of a clinical trial is inadequate to produce reliable results and require us to alter the design of the clinical trial or terminate the clinical trial altogether. If we need to alter a clinical trial design or perform more or larger clinical trials than planned, our financial results will be harmed.

***If we fail to enter into new strategic collaborations, or if existing collaborations are terminated, we will not grow our revenue and our ability to exploit AvalonRx® to discover drugs for diseases other than cancer will be limited.***

Our business strategy is based in part upon entering into strategic collaborations. To date, all of our revenue has been generated from strategic collaborations, and we continue to rely on our strategic collaborations with MedImmune, Inc., Medarex, Inc. and Novartis Institutes for Biomedical Research, Inc. as a means of furthering our research initiatives. Both the Merck and MedImmune collaborations have provisions that could result in their termination without material breach by Avalon. If we are unable to secure strategic collaborations in the future, or if existing collaborations are terminated prematurely, our revenue will not grow or will decrease and our business will be harmed. Strategic collaborations also provide us with insights into diseases other than cancer by exposing us to the expertise of collaboration partners which focus on these diseases. If we are unable to secure strategic collaborations which expand our disease expertise, we may harm our ability to broaden our drug discovery and development activities to diseases other than cancer.

***We intend to rely on third parties to conduct clinical trials for our drug candidates and those third parties may not perform satisfactorily.***

We do not have the ability to independently conduct clinical trials for drug candidates, and we intend to rely on third parties such as contract research organizations, medical institutions and clinical investigators to perform this function. If third parties do not perform satisfactorily, meet expected deadlines, or comply with regulatory requirements, any clinical trials conducted for our drug candidates may be extended, delayed, terminated, or subject to rejection by the FDA. We may not be able to locate any necessary replacements or enter into favorable agreements with them, if at all.

***We do not have any manufacturing capabilities for any of our drug candidates.***

We outsource all of our manufacturing to third parties, and we intend to rely on third parties to manufacture bulk compounds and finished investigational medicines for human clinical trials and for commercial quantities of any of our drug candidates. Consequently, in order to complete the commercialization process of any of our drug candidates, we must either: (1) acquire, build or expand our internal manufacturing capabilities to produce drug candidates in compliance with cGMP requirements; or (2) rely on third parties to manufacture these drug candidates in compliance with cGMPs. We cannot be sure that we will be able to accomplish either of these tasks. If we are not able to do so, it would impede our efforts to bring our drug candidates to market, which would adversely affect our business. Moreover, if we decide to manufacture one or more of our drug candidates ourselves (rather than engage a contract manufacturer), we would incur substantial start-up expenses and regulatory obligations and would need to expand our facilities and hire additional personnel. Additionally, the manufacture of drug candidates on a limited basis for investigational use in animal studies or human clinical trials does not guarantee that large-scale, commercial production is viable. Small changes in methods of manufacture can affect the safety, efficacy, controlled release or other characteristics of a product.

***We have no sales, marketing or distribution experience.***

To develop internal sales, distribution and marketing capabilities, we would have to invest significant amounts of financial and management resources. For drugs where we decide to perform sales, marketing and distribution functions ourselves, we could face a number of risks, including:

- we may not be able to attract and build a significant marketing or sales force;
- the cost of establishing, training, and providing regulatory oversight for a marketing or sales force may not be justifiable in light of the revenues generated by any particular product;
- our direct sales and marketing efforts may not be successful; and
- there are significant legal and regulatory risks in drug marketing and sales that we have never faced, and any failure to comply with all legal and regulatory requirements for sales, marketing, and distribution could result in enforcement action by the FDA or other authorities that could jeopardize our ability to market the product or could subject us to substantial liability.

Alternatively, we may rely on third parties to launch and market our drug candidates, if approved. We may have limited or no control over the sales, marketing and distribution activities of these third parties and our future revenue may depend on the success of these third parties. Additionally, if these third parties fail to comply with all applicable regulatory requirements, the FDA could take enforcement action that could jeopardize our ability to market the drug candidate.

***Our chemical library may be insufficient to meet our needs.***

We currently have more than 250,000 individual compounds and 10,000 chemical extracts available for screening in our AvalonRx® drug discovery platform. This may not be a sufficient number of compounds to isolate rare hits against key drug targets or there may be an insufficient number with appropriate drug-like properties.

***We face intense competition in the development and commercialization of our drug candidates.***

Our business will be harmed if our competitors develop and market drugs that are more effective, have fewer side effects or are less expensive than our drug candidates. With respect to our drug discovery programs, other companies have drug candidates in clinical trials to treat types of cancer for which we are seeking to discover and develop drug candidates. These competing drugs are further advanced in development than are any of our drug candidates and may result in effective, commercially successful drugs. Even if we are successful in developing effective drugs, our products may not receive marketing approval or, if they do, may not be approved for a disease or with labeling that allows our products to compete effectively with or other commercial products. Our competitors may succeed in developing and marketing drugs either that are more effective than those that we may develop or that are marketed before any drugs we develop are marketed.

In the area of small molecule anticancer therapeutics, we have identified a number of companies that have clinical development programs and focused research and development efforts in small molecule approaches to cancer treatment, such as Amgen, Inc., Ariad Pharmaceuticals, Inc., ArQule, Inc., Array Biopharma, Inc., Millennium Pharmaceuticals, Inc., Onyx Pharmaceuticals, Inc., OSI Pharmaceuticals, Inc., Oxigene, Inc., and Telik, Inc. In addition, large pharmaceutical companies with significant research capabilities are or may be pursuing similar approaches. For example, Merck & Co., Inc., through its acquisition of Rosetta Pharmaceuticals, Inc. in 2001, gained the ability to develop small molecule cancer drugs using gene expression analysis technologies.

We are aware of other companies that are developing IMPDH inhibitors as potential therapeutics for diseases other than cancer. Additionally, our license from Vertex is limited to the compound AVN944 and does not prevent Vertex from developing or licensing to third parties the right to develop other IMPDH inhibitors, including compounds similar to AVN944 that could compete directly with it.

Many of the organizations competing with us have substantially greater capital resources, larger research and development staffs and facilities, greater experience in drug development and in obtaining regulatory approvals and greater marketing capabilities than we do. In addition, these organizations also compete with us to:

- attract qualified personnel;
- attract parties for acquisitions, joint ventures or other collaborations; and
- license technology that is competitive with our technology.

***We may not be able to recruit and retain the experienced scientists and managers we need to compete in the drug research and development industry.***

We had 56 full-time employees as of December 31, 2006, and our future success depends upon our ability to attract, retain and motivate highly skilled scientists and managers. We compete with pharmaceutical and biotechnology companies, contract research companies, government agencies and academic and research institutions to recruit scientists. We may not be successful in attracting new scientists or managers or in retaining or motivating our existing personnel. Our future success also depends on the personal efforts and abilities of the principal members of our senior management and scientific staff to provide strategic direction, manage our operations and maintain a cohesive and stable environment. In particular, we rely on the services of Dr. Kenneth C. Carter, our President and Chief Executive Officer.

If we cannot attract and retain qualified scientists and managers, we will not be able to continue to provide or expand our drug discovery efforts.

***We may face liability claims related to the use or misuse of our drug candidates in clinical trials. If our insurance coverage is not sufficient, a product liability claim against us could adversely affect our business.***

The administration of our drug candidates to humans in clinical trials may expose us to liability claims. Such liability claims may be expensive to defend and may result in large judgments against us. We have obtained liability coverage for clinical trials. However, we cannot be certain that our insurance policies will be sufficient to cover all claims that may be made against us. We intend to increase our coverage limits as we progress into late-stage clinical trials. Liability insurance is expensive, difficult to obtain and may not be available in the future on acceptable terms.

Generally, our clinical trials will be conducted in patients with serious life-threatening diseases for whom conventional treatments have been unsuccessful or for whom no conventional treatment exists, and, during the course of treatment, these patients could suffer adverse medical effects or die for reasons that may or may not be related to our drug candidates. Any of these events could result in a claim of liability. Any such claims against us, regardless of their merit, could result in significant awards against us that could materially harm our business, financial condition and results of operations.

***If we are not able to successfully manage our growth, our business could be materially harmed.***

If we are successful in our plans, we expect rapid and significant growth in all areas of our operations as we develop our drug candidates. If our lead drug candidate, AVN944, and our other drug candidates enter and advance through the clinical trial process, we will need to rapidly expand our research, development, regulatory, manufacturing and marketing capabilities or contract with others to provide these functions for us. As our operations expand, we will need to hire additional personnel and add corporate capabilities we currently do not have. In addition, we will need to manage relationships with various manufacturers, collaborators, suppliers, contract research and other organizations. Our ability to manage our operations and growth will require us to improve our operational, financial and management controls, as well as our internal reporting systems and controls. We may not be able to implement such improvements to our management information and internal control systems in an efficient and timely manner and may discover deficiencies in existing systems and controls. Our failure to accomplish any of these tasks could materially harm our business.

***Our operating results may vary significantly from period to period, which may result in a decrease in the price of our common stock.***

Our future revenues and operating results may vary significantly from period to period due to a number of factors, many of which are outside of our control. These factors include:

- the introduction of new anticancer drugs by us or our competitors;
- costs and expenses associated with delays in or changes to preclinical testing and clinical trials;
- the timing of regulatory approvals;
- sales and marketing expenses; and
- the amount and timing of operating costs and capital expenditures relating to the expansion of our business operations and facilities.

It is possible that in some future periods our operating results may be below the expectations of analysts and investors. If this happens, the price of our common stock may decrease.

***Our agreements with the Maryland Industrial Development Financing Authority, or MIDFA, and Manufacturers and Traders Trust Company, or M&T Bank, for the financing of our corporate office and research facility contain restrictions on our operations that could inhibit our ability to grow our business and generate revenues, and any default under these agreements could materially harm our business.***

In order to finance improvements to our corporate office and research facility, we have entered into a loan agreement with MIDFA and a letter of credit agreement with M&T Bank that contain, among other terms, extensive restrictions on our operations, requires us to comply with certain affirmative covenants and requires us to maintain or satisfy specified financial ratios and tests, including among other things, as of December 31, 2006, a $7.7 million minimum level of tangible net worth, a $5.8 million minimum restricted cash balance, and a minimum ratio of current assets to current liabilities of 1.5:1. Any breach or failure to comply with these restrictions, covenants, financial tests or financial ratios could result in an event of default under these agreements. These agreements are secured by improvements to our corporate office and research facility, certain financed equipment and a collateral account which, as of December 31, 2006, had an adjusted market value of $5.5 million. Upon an event of default, MIDFA and M&T Bank have the right to declare all amounts outstanding under these credit agreements to be immediately due and payable and may enforce their rights by foreclosing on collateral pledged under these agreements. In addition, upon an event of default MIDFA and M&T Bank could restrict our ability to make additional borrowings under these agreements. Any decision by MIDFA or M&T Bank to enforce any one or more of the foregoing remedies upon an event of default could materially harm our business.

The loan agreement and letter of credit agreement also restrict our ability, without MIDFA's and/or M&T Bank's consent, to, among other things:

- declare dividends or make other distributions on existing stock or create new classes of stock;
- change the nature of our business;
- incur additional debt;
- incur mortgages and pledges upon property owned or acquired;
- sell our assets;
- engage in mergers or consolidations, or acquire ownership interests of, or all or substantially all of the assets of, another entity;
- make loans; and
- guarantee indebtedness of any person or entity.

These restrictions may interfere with our ability to obtain financing or to engage in other business activities, which may inhibit our ability to grow our business and generate revenues.

## Risks Related to Our Intellectual Property

***If we are unable to obtain and enforce patent protection for our drug candidates, our business could be materially harmed.***

We have a number of pending patent applications covering our gene expression technology and select novel compounds. We intend to file United States and foreign patent applications for our new inventions, as well as on improvements we make to our existing proprietary technologies that are important to the development of our business. However, we may not file patent applications in all countries in which we could seek patent protection. We cannot assure you that any patents that may be issued or that may be licensed to us will be enforceable or valid or will not expire prior to the commercialization of our drug candidates, allowing others to more effectively compete with us. Therefore, any patents that we may own in the future or license may not adequately protect our drug candidates or any drugs we market in the future. If we are not able to protect our patent positions, our business could be materially harmed.

Issued patents may be challenged, invalidated or circumvented. In addition, court decisions may introduce uncertainty in the enforceability or scope of patents owned by biotechnology companies. The legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Therefore, the enforceability or scope of our future patents in the United States or in foreign countries cannot be predicted with certainty, and, as a result, any patents that we may potentially own or license may not provide sufficient protection against competitors. We may not be able to obtain or maintain patent protection for our pending patent applications, those we may file in the future, or those we may license from third parties.

Except for patent rights to the composition of matter for AVN944 that we licensed from Vertex, our pending patent applications and granted patents cover compounds in one of the drug development programs that we are actively pursuing. The U.S. patent and foreign patents under which we have licensed rights from Vertex to AVN944 expire beginning on March 20, 2020.

***Third parties may challenge the validity of our potential patents or other intellectual property rights and could deprive us of valuable rights. If we infringe patents or other proprietary rights of third parties, we could incur substantial liability.***

If a third party legally challenges our future patents or other intellectual property rights that we own or license, we could lose certain of these rights. For example, third parties may challenge the validity of our patent applications and any future issued U.S. or foreign patents through reexaminations, oppositions or other legal proceedings. If successful, a challenge to our intellectual property rights could deprive us of competitive advantages and permit our competitors to use our technology to develop similar drug candidates. Failure to protect our future patents and other proprietary rights may materially harm our business, financial condition and results of operations.

Other entities may have or obtain patents or proprietary rights that could limit our ability to manufacture, use, sell, offer for sale or import products or impair our competitive position. We use chip-based microarray technology under a license from a manufacturer. We may not be able to continue to obtain supplies and materials from that manufacturer or obtain suitable substitutes, at commercially reasonable terms, or at all. To the extent that a third party develops new technology that covers our products or processes, we may be required to obtain licenses to that technology, which licenses may not be available on commercially reasonable terms, or at all.

Third parties may have or obtain valid and enforceable patents or proprietary rights that could block us from developing drug candidates using our technology. Moreover, our failure to obtain a license to any technology that we require may materially harm our business, financial condition and results of operations.

In addition, legal or administrative proceedings may be necessary to defend against claims of infringement or to enforce our intellectual property rights. If we become involved in any such proceeding, irrespective of the outcome, we may incur substantial costs, and the efforts of our technical and management personnel may be diverted, which could materially harm our business.

***Our drug discovery technology is not patented, and the value of our technology and drug candidates could be adversely affected if we are unable to protect the confidentiality of our proprietary information, know-how and trade secrets.***

Our AvalonRx® drug discovery technology is not patented. Instead, we rely primarily on trade secrets to protect it. Trade secrets are difficult to maintain. While we use reasonable efforts to protect our trade secrets, our, or our collaboration partners', employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, foreign courts are sometimes less willing than U.S. courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how related to AvalonRx®, we would not be able to assert or prevent them from doing so and our business could be harmed.

To maintain the confidentiality of trade secrets and proprietary information, we enter into confidentiality agreements with our employees, consultants and collaborators upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees also provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions.

Adequate remedies may not exist in the event of unauthorized use or disclosure of our confidential information. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations.

***We license patent rights from a third party, Vertex Pharmaceuticals Incorporated. If Vertex does not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects will be harmed.***

Our license with Vertex gives us rights to third party intellectual property that is necessary or useful for our business. We may also enter into additional licenses to third party intellectual property in the future. At the time we entered into our license with Vertex we did not obtain a formal legal opinion from patent counsel as to the validity of, or freedom to operate under, the patents covered by the license, but relied on our own due diligence, which we believe to be a standard practice in licenses of this kind. Our success will depend in part on the ability and willingness of our licensors to obtain, maintain and enforce patent protection for our licensed intellectual property, in particular, those patents to which we have secured exclusive rights. Our licensors may not successfully prosecute the patent applications for the intellectual property we have licensed. Even if patents issue in respect of these patent applications, our licensors may fail to maintain these patents, may determine not to pursue litigation against other companies that are infringing these patents, or may pursue such litigation less aggressively than we would. Without protection for the intellectual property we license, other companies might be able to offer substantially identical products for sale, which could adversely affect our competitive business position and harm our business prospects.

## Risks Related to Regulatory Matters

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

The pharmaceutical industry is subject to stringent regulation by a wide range of authorities. We cannot predict whether regulatory clearance will be obtained for any drug candidate we develop. A pharmaceutical product cannot

be marketed in the United States until it has completed rigorous preclinical testing and clinical trials and an extensive regulatory clearance process implemented by the FDA. Satisfaction of regulatory requirements typically takes many years, is dependent upon the type, complexity and novelty of the product, the safety and efficacy data generated from clinical trials, and requires the expenditure of substantial resources. Of particular significance are the requirements covering research and development, testing, manufacturing, quality control, labeling and promotion of drugs for human use.

Before commencing clinical trials in humans in the United States, we submitted an IND to the FDA. The IND for AVN944 was accepted by the FDA and we were allowed to test the drug in humans in the United States. The clinical trials for AVN944 and others we may conduct in the future are subject to oversight by IRBs and the FDA and:

- must be conducted in conformance with the FDA's good clinical practices and other applicable regulations;
- must meet requirements for IRB oversight;
- must meet requirements for informed consent;
- are subject to continuing FDA oversight;
- may require large numbers of test subjects; and
- may be suspended by us or the FDA at any time, particularly if it is believed that the subjects participating in these trials are being exposed to unacceptable health risks or if the FDA finds deficiencies in the IND or the conduct of these trials.

Before receiving FDA clearance to market a drug, we must demonstrate the safety, tolerability, efficacy, and dosage of the drug in the patient population intended to be treated, as well as the ability to produce the drug in accordance with the FDA's current Good Manufacturing Practices, or cGMP, requirements. Delays, refusal by the FDA to accept an application or rejections of regulatory approval may be encountered for a number of reasons: additional government regulation from future legislation, administrative action or changes in FDA policy during the period of drug development, incomplete or inconclusive clinical trials, differing interpretations of the clinical data, or an FDA review process that results in a request for additional data or limitations on product labeling. Failure to comply with applicable FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, total or partial suspension of production or injunction, as well as other regulatory action against our potential products or us.

Outside the United States, our ability to market a drug candidate is contingent upon receiving a marketing authorization from the appropriate regulatory authorities. This foreign regulatory approval process includes all of the risks associated with FDA clearance described above.

***Even if our drug candidates obtain regulatory approval, we will be subject to ongoing government regulation.***

Even if our drug candidates obtain regulatory approval, our products will be subject to continuing regulation by the FDA, including record keeping requirements, submitting periodic reports to the FDA, reporting of any adverse experiences with the product, and complying with drug sampling and distribution requirements. In addition, updated safety and efficacy information must be maintained and provided to the FDA. We or our collaborative partners must comply with requirements concerning advertising and promotional labeling, including the prohibition against promoting any non-FDA approved or "off-label" indications of products. Failure to comply with these requirements could result in significant enforcement action by the FDA, including warning letters, orders to pull the promotional materials, and substantial fines.

Also, quality control and manufacturing procedures must continue to conform to cGMP after approval. Drug and biologics manufacturers and their subcontractors are required to register their facilities and products manufactured annually with the FDA and certain state agencies and are subject to periodic unannounced inspections by the FDA to assess compliance with cGMP regulations. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain compliance with cGMPs and other

aspects of regulatory compliance. Future FDA inspections may identify compliance issues at our contract manufacturers that may disrupt production or distribution or require substantial resources to correct.

In addition, following FDA approval of a product, discovery of problems with a product or the failure to comply with requirements may result in restrictions on a product, manufacturer, or holder of an approved marketing application, including withdrawal or recall of the product from the market or other voluntary or FDA-initiated action that could delay or prevent further marketing. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contra-indications. Also, the FDA may require post-market testing and surveillance to monitor the product's safety or efficacy, including additional clinical studies, known as Phase IV trials, to evaluate long-term effects.

Compliance with post-marketing regulation may be time-consuming and costly and could delay or prevent us from generating revenue from the commercialization of our drug candidates.

***We have only limited experience in regulatory affairs which may affect our ability or the time we require to obtain necessary regulatory approvals.***

We have only limited experience in preparing and submitting the applications necessary to gain regulatory approvals. This lack of experience may impede our ability to obtain timely regulatory approval, if we receive such approval at all. We will not be able to commercialize AVN944, or any of our drug candidates, until we obtain FDA approval in the United States or approval by comparable authorities in other countries.

***Third parties engaged to produce our drug candidates for clinical use may fail to comply with regulatory requirements, which could delay clinical trials.***

We intend to rely on third parties to produce drug candidates for clinical use. All facilities and manufacturing processes used by third parties to produce our drug candidates for clinical use in the United States must conform with cGMPs. These facilities and practices are subject to periodic regulatory inspections to ensure compliance with cGMP requirements. Their failure to comply with applicable regulations could extend, delay, or cause the termination of clinical trials conducted for our drug candidates.

***Healthcare reform and cost control initiatives by third-party payors could reduce the prices that can be charged for drugs, which could limit the commercial success of our drug candidates.***

The commercial success of our drug candidates will depend significantly on the availability of reimbursement to the patient from third party payors, such as the government and private insurance plans. In the United States, the Medicare Prescription Drug, Improvement and Modernization Act of 2003, signed into law in 2003, added prescription drug coverage to Medicare beginning in 2006 and added a voluntary drug discount card for Medicare beneficiaries. Other governmental and private payer initiatives, however, may limit reimbursement for drugs. Capitated payment systems and other cost containment systems are now widely used by public and private payers and have caused hospitals and health maintenance organizations to be more cost-conscious in their treatment decisions, including decisions regarding the medicines to be made available to their patients. Future legislation may limit the prices that can be charged for drugs we develop and may limit our commercial opportunity and reduce any associated revenue and profits. For example, Congressional action regarding drug reimportation into the United States may affect the pricing of drugs. The Medicare Prescription Drug Plan legislation, which became law in December 2003, requires the Secretary of Health and Human Services to promulgate regulations for drug reimportation from Canada into the United States under some circumstances, including when the drugs are sold at a lower price than in the United States. The Secretary retains the discretion not to implement a drug reimportation plan if he finds that the benefits do not outweigh the costs. Proponents of drug reimportation may attempt to pass legislation that would directly allow reimportation under certain circumstances. If legislation or regulations were passed allowing the reimportation of drugs, they could decrease the price we receive for any products that we may develop, negatively affecting our anticipated revenues and prospects for profitability.

In some countries other than the United States, pricing and profitability of prescription pharmaceuticals and biopharmaceuticals are subject to government control. Also, we expect managed care will continue to put pressure on the pricing of pharmaceutical and biopharmaceutical products. Cost control initiatives could decrease the price

that we or any potential collaborators receive for any of our future products, which could adversely affect our profitability. These initiatives may also have the effect of reducing the resources that pharmaceutical and biotechnology companies can devote to in-licensing drug candidates and the research and development of new drugs, which could reduce our resulting revenue.

***We or our future collaborators may not obtain favorable reimbursement rates for our drug candidates.***

Third party payors, such as government and private insurance plans, frequently require companies to provide predetermined discounts from list prices and are increasingly challenging the prices charged for pharmaceuticals and other medical products. For example, federal laws require drug manufacturers to pay specified rebates for medicines reimbursed by Medicaid, to provide discounts for outpatient medicines purchased by certain public health service entities and "disproportionate share" hospitals, and to provide minimum discounts off of a defined "non-federal average manufacturer price" for purchases by certain components of the federal government such as the Department of Veterans Affairs and the Department of Defense. Our drug candidates may not be considered cost-effective, and reimbursement to the patient may not be available or be sufficient to allow the sale of our drug candidates on a competitive basis. We or our future collaborators may not be able to negotiate favorable reimbursement rates for our drug candidates. If we or our future collaborators fail to obtain an adequate level of reimbursement for our drug candidates by third-party payors, sales of our products would be adversely affected or there may be no commercially viable market for the products.

***Our operations involve hazardous materials and medical waste and are subject to environmental, health and safety controls and regulations. Any claim relating to our improper handing, storage or disposal of biological and hazardous materials could be time-consuming and costly, and may exceed our resources.***

We are subject to environmental, health and safety laws and regulations, including those governing the use of biological and hazardous materials as well as medical waste. The cost of compliance with environmental, health and safety regulations is substantial. Our business activities involve the controlled use of hazardous materials, and we cannot eliminate the risk of accidental contamination or injury from these materials. While we believe that we are currently in compliance with all material rules and regulations governing the use of hazardous materials and, to date, we have not had any adverse experiences, in the event of an accident or environmental discharge, we may be held liable for any resulting damages, which may exceed our financial resources and may materially harm our business, financial condition and results of operations.

***Our business involves animal testing and changes in laws, regulations or accepted clinical procedures or social pressures could restrict our use of animals in testing and adversely affect our research and development efforts.***

Many of the research and development efforts we sponsor involve the use of laboratory animals. Changes in laws, regulations or accepted clinical procedures may adversely affect these research and development efforts. Social pressures that would restrict the use of animals in testing or actions against us or our partners by groups or individuals opposed to testing using animals could also adversely affect these research and development efforts.

In addition, preclinical animal studies conducted by us or third parties on our behalf may be subject to the United States Department of Agriculture regulations for certain animal species. Failure to comply with applicable regulations could extend or delay clinical trials conducted for our drug candidates.

## Risks Related to Our Common Stock and Organizational Structure

***Our stock price is volatile.***

Since our common stock commenced trading on September 29, 2005, our stock has experienced substantial price volatility. Our stock price may continue to fluctuate for many reasons, including as a result of public announcements regarding the progress of our development efforts, regulatory developments, clinical trial results, the addition or departure of our key personnel, the commencement or termination of collaborations with third parties, and variations in our quarterly operating results.

In addition, the market price of our common stock may fluctuate significantly in response to factors that are beyond our control, including public announcements by other biopharmaceutical companies regarding their business, financial condition or results of operations. The stock market in general has recently experienced extreme price and volume fluctuations. The market prices of securities of pharmaceutical and biotechnology companies have been extremely volatile, and have experienced fluctuations that often have been unrelated or disproportionate to the operating performance of these companies. These broad market fluctuations could result in extreme fluctuations in the price of our common stock, which could cause a decline in the value of your investment.

***Insiders have substantial control over us and could delay or prevent a change in corporate control.***

Our directors, executive officers and principal stockholders, together with their affiliates, as of March 15, 2007, beneficially owned, in the aggregate, 5,371,245 shares or approximately 53% of our outstanding common stock. As a result, these stockholders, if acting together, have the ability to determine the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation or sale of all or substantially all of our assets. In addition, these persons, acting together, have the ability to control the management and affairs of our Company. Accordingly, this concentration of ownership may harm the market price of our common stock by:

- delaying, deferring or preventing a change in control of our Company;
- impeding a merger, consolidation, takeover or other business combination involving our Company; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of our Company.

***Provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.***

Provisions in our certificate of incorporation and our bylaws may delay or prevent an acquisition of us or a change in our management. 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 members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. These provisions include:

- the requirement that actions by our stockholders by written consent be unanimous;
- the ability of our board of directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- advance notice requirements for nominations to our board of directors and for proposing matters that can be acted upon at stockholder meetings.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. These provisions would apply even if the proposed merger or acquisition could be considered beneficial by some stockholders.

## ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

## ITEM 2. *PROPERTIES*

We currently lease 55,897 square feet for our corporate offices and research and development laboratories located at 20358 Seneca Meadows Parkway, Germantown, Maryland. The lease expires on February 1, 2013. We have options to extend the term of this lease for two additional consecutive terms of 5 years each. We believe that these facilities are sufficient for our current needs. We have additional space in our current facilities to accommodate our anticipated growth over the next several years.

## ITEM 3. *LEGAL PROCEEDINGS*

We currently are not a party to any material legal proceedings.

## ITEM 4. *SUBMISSION OF MATTERS TO A VOTE OF SECURITIES HOLDERS*

We did not submit any matters for approval of our stockholders during the quarter ended December 31, 2006.

# PART II

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

### Market Information

Our common stock trades on the NASDAQ Global Market and on the Pacific Exchange (for trading on the Archipelago Exchange, or Arch Ex) under the symbol "AVRX." Prior to September 29, 2005 our common stock was not listed or quoted on any national exchange or market system.

The following table sets forth, for the periods indicated, the high and low sale price for our common stock as reported on the NASDAQ Global Market.

| | High | Low |
|---|---|---|
| **2006:** | | |
| **First Quarter** (January 1 — March 31) | $5.99 | $3.80 |
| **Second Quarter** (April 1 — June 30) | $5.45 | $3.30 |
| **Third Quarter** (July 1 — September 30) | $3.98 | $2.20 |
| **Fourth Quarter** (October 1 — December 31) | $4.35 | $2.47 |

| | High | Low |
|---|---|---|
| **2005:** | | |
| **Third Quarter** (September 29 — September 30)) | $10.75 | $8.26 |
| **Fourth Quarter** (October 1 — December 31) | $ 9.25 | $4.26 |

On March 15, 2007, the last sale price reported on the NASDAQ Global Market for our common stock was $3.80.

### Stockholders

As of March 15, 2007, there were approximately 1,340 holders of record of our common stock.

### Dividends

We have not paid any cash dividends since our inception and we do not anticipate paying any cash dividends in the foreseeable future.

**Securities Authorized for Issuance under Equity Compensation Plans**

Information regarding our equity compensation plans, including both stockholder approved plans and non-stockholder approved plans, is included in Item 12 of this Annual Report on Form 10-K.

**Unregistered Sales of Securities**

Not applicable.

**Use of Proceeds**

On September 28, 2005, our Registration Statement on Form S-1 (333-124565) covering our initial public offering was declared effective by the Securities and Exchange Commission. From the effective date of our Registration Statement on Form S-1 through December 31, 2006, we have utilized approximately $17.1 million of the net proceeds of our initial public offering to fund our operations and approximately $0.6 million to make interest and principal payments under our loan agreement with MIDFA and equipment financing arrangement with GE Capital.

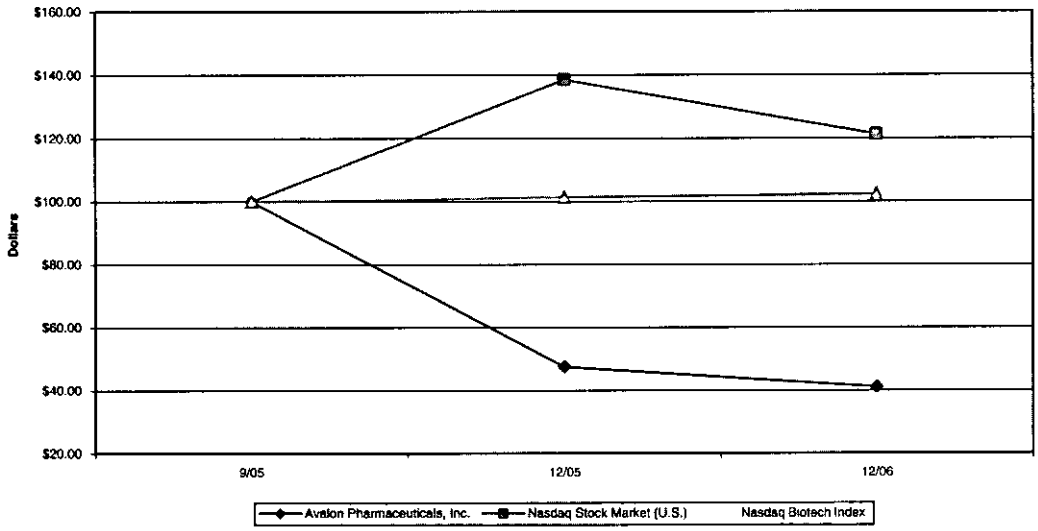
**Issuer Purchases of Equity Securities**

None.

**Performance Graph**

The comparative stock performance graph below compares the cumulative total stockholder return (assuming reinvestment of dividends, if any) from investing $100 on September 29, 2005, the date our common stock was first publicly traded, at the closing price of our common stock on that date, and plotted at the close of the last trading day of 2005 and 2006, in each of (i) our common stock, (ii) the Nasdaq Global Stock Market Index of U.S. Companies, which we refer to as the Nasdaq Stock Market (U.S.), and (iii) the Nasdaq Global Stock Market Pharmaceutical Index, which we refer to as the Nasdaq Pharmaceutical Index. The stock price performance on the graph below is not necessarily indicative of future price performance.

**COMPARISON OF CUMULATIVE TOTAL RETURNS**




| | Cumulative Total Returns | | |
|---|---|---|---|
| | 9/29/05 | 12/30/05 | 12/29/06 |
| **Avalon Pharmaceuticals, Inc.** | $100.00 | $ 47.42 | $ 41.10 |
| **Nasdaq Stock Market (U.S.)** | 100.00 | 138.56 | 121.27 |
| **Nasdaq Pharmaceutical Index** | 100.00 | 102.36 | 100.19 |

## ITEM 6. *SELECTED FINANCIAL DATA*

The following table sets forth our selected financial data for each of the years in the five-year period ended December 31, 2006. The information below should be read in conjunction with our financial statements and notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Annual Report on Form 10-K. The historical results are not necessarily indicative of results to be expected for future periods.

| | December 31, | | | | |
|---|---|---|---|---|---|
| | 2006 | 2005 | 2004 | 2003 | 2002 |
| | (In thousands, except per share data) | | | | |
| **SUMMARY STATEMENTS OF OPERATIONS:** | | | | | |
| Revenue | $ 2,724 | $ 1,544 | $ 1,900 | $ 100 | $ — |
| Operating expenses: | | | | | |
| Research and development | 13,269 | 15,789 | 10,680 | 12,510 | 12,832 |
| General and administrative | 7,661 | 5,066 | 4,325 | 4,567 | 4,434 |
| Total operating expenses | 20,930 | 20,855 | 15,005 | 17,077 | 17,266 |
| Loss from operations | (18,206) | (19,311) | (13,105) | (16,977) | (17,266) |
| Other income (expense): | | | | | |
| Interest income | 1,288 | 503 | 327 | 678 | 1,157 |
| Interest expense | (808) | (1,147) | (890) | (701) | (52) |
| Other | 624 | 663 | 8 | (75) | (5) |
| Other income (expense), net | 1,104 | 19 | (555) | (98) | 1,110 |
| Net loss | $ (17,102) | $ (19,292) | $ (13,660) | $ (17,075) | $ (16,156) |
| Dividends on and accretion of convertible preferred stock | — | (1,111) | (1,449) | (1,449) | (1,401) |
| Net loss attributed to common shareholders | (17,102) | (20,403) | (15,109) | (18,524) | (17,557) |
| Net loss per share — basic and diluted | $ (1.74) | $ (9.58) | $ (117.65) | $ (146.29) | $ (139.61) |
| Weighted average number of shares of Common Stock outstanding | 9,841,235 | 2,129,388 | 128,417 | 126,630 | 125,757 |

| | As of December 31, | | | | |
|---|---|---|---|---|---|
| | 2006 | 2005 | 2004 | 2003 | 2002 |
| | | | (In thousands) | | |
| **SUMMARY BALANCE SHEET DATA:** | | | | | |
| Cash, cash equivalents and marketable securities(1) | $ 20,430 | $ 27,748 | $ 14,309 | $ 27,720 | $ 39,692 |
| Working capital | 9,081 | 17,070 | 5,545 | 15,300 | 34,969 |
| Total assets | 31,391 | 41,282 | 29,292 | 46,055 | 53,112 |
| Total debt | 8,725 | 10,944 | 13,631 | 16,234 | 4,097 |
| Accumulated deficit | (102,704) | (85,602) | (65,949) | (51,454) | (33,553) |
| Total stockholders' equity | 17,874 | 25,883 | (65,971) | (51,435) | (33,388) |

(1) Includes restricted cash of $5.5 million, $6.3 million and $6.1 million at December 31, 2006, 2005 and 004, respectively.

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

### Overview

We are a biopharmaceutical company focused on the discovery and development of novel therapeutics. Our pipeline of drug candidates includes our lead candidate, AVN944. AVN944 is an oral, small molecule drug candidate currently in early stage clinical development for the treatment of hematologic cancers. We seek to discover and develop novel therapeutics through the use of a comprehensive, innovative and proprietary suite of technologies based upon large-scale gene expression analysis, which we call AvalonRx®.

Since we commenced operations in January 2000, our operations have consisted primarily of developing AvalonRx®, utilizing our technology to seek to discover and develop novel cancer therapeutics, and the in-license and development of AVN944. During that period, we have generated limited revenue from collaborative partners, and have had no revenue from product sales. Our operations have been funded principally through the offering of equity securities and debt financings.

We have never been profitable and, as of December 31, 2006, we had an accumulated deficit of $102.7 million. We had net losses of $17.1 million for the year ended December 31, 2006, $19.3 million for the year ended December 31, 2005, and $13.7 million for the year ended December 31, 2004. We expect to incur significant and increasing operating losses for the foreseeable future as we advance our drug candidates from discovery through preclinical testing and clinical trials and seek regulatory approval and eventual commercialization. We will need to generate significant revenues to achieve profitability, and we may never do so.

### Financial Operations Overview

#### *Revenue*

We have not generated any revenue from sales of commercial products and do not expect to generate any product revenue for the foreseeable future. To date, our revenue has consisted of collaboration revenue.

*Collaboration Revenue.* Since inception, we have generated revenue solely in connection with our collaboration and pilot study agreements. Our collaborations with MedImmune and Novartis include upfront payments, research funding, and payments for the achievement of certain discovery and development related milestones. During 2006, we recognized revenue from our collaboration agreements with MedImmune, Novartis and the University of Louisville.

#### *Research and Development Expense*

Research and development expense consists of expenses incurred in connection with developing and advancing our drug discovery technology and identifying and developing our drug candidates and supporting our collaborative relationships. These expenses consist primarily of salaries and related expenses, the purchase of laboratory supplies, access to data sources, facility costs, costs for preclinical development and expenses related to our in-license and clinical trials of AVN944. We charge all research and development expenses to operations as incurred.

Our total research and development expenses for the years ended December 31, 2006, 2005 and 2004 were $13.3 million, $15.8 million, and $10.7 million, respectively, and $3.4 million for the three months ended December 31, 2006. During 2006, we incurred expenses of $2.4 million related to the development of AVN944. Other than for our clinical candidate AVN944, we do not currently track our internal research and development costs or our personnel and related costs on an individual drug candidate basis. We use our research and development resources, including employees and our drug discovery technology, across multiple drug development programs. As a result, we cannot state precisely the costs incurred for each of our research and development programs or our clinical and preclinical drug candidates. During 2006, we estimate that 12% and 21% of research and development expenses were attributable to research related to our β-catenin and Aurora pathway programs, respectively. We estimate that 17% of research and development expenses were attributable to collaborations with MedImmune, Novartis and the University of Louisville. The remaining expenses included all personnel and related

expenses and other research and development expenses not attributable to any specified discovery and development program. Prior to 2004, we completed research related to developing and improving our ability to use AvalonRx®. There were not substantial research costs related to specified programs prior to 2004. We begin to track development costs for a program after an individual molecule has been selected for formal pre-clinical development. Research and development expenses as a percentage of total operating expenses for the years ended December 31, 2006, 2005 and 2004 were 63%, 76% and 71%, respectively.

We expect our research and development costs to be substantial and to increase as we advance AVN944 through clinical trials and move other drug candidates into preclinical testing and clinical trials. Based on the results of our preclinical studies, we expect to selectively advance some drug candidates into clinical trials. We anticipate that we will select drug candidates and research projects for further development on an ongoing basis in response to their preclinical and clinical success and commercial potential. In January 2006, we initiated U.S. Phase I clinical trials of AVN944 in cancer patients which are ongoing.

***General and Administrative***

General and administrative expense consists primarily of salaries and related expenses for personnel in administrative, finance, business development and human resource functions. Other costs include legal costs of pursuing patent protection of our intellectual property, unallocated facility costs and professional fees for legal services. During 2006, we experienced increases in legal fees, accounting fees and directors' and officers' insurance premiums and fees for investor relations services.

## Quarterly Results May Fluctuate

We anticipate that our quarterly results of operations will fluctuate for several reasons, including:

- the timing and extent of our development activities and clinical trials for AVN944 and any other biopharmaceutical drug candidates that we may develop in the future;
- the timing and outcome of our applications for regulatory approval for our drug candidates;
- the timing and extent of our adding new employees and infrastructure; and
- the timing of any milestone payments, license fees, or royalty payments that we may be required to make.

## Critical Accounting Policies and Significant Judgments and Estimates

This discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as revenue and expenses during the reporting periods. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could therefore differ materially from those estimates under different assumptions or conditions.

Our significant accounting policies are more fully described in Note 2 to our audited financial statements included under Item 8 of this Annual Report on Form 10-K. We believe that the following critical accounting policies reflect our more significant estimates and assumptions used in the preparation of our financial statements.

***Revenue Recognition***

Revenue is recognized when there is persuasive evidence that an agreement exists, delivery has occurred, the price is fixed and determinable, and collection is reasonably assured. Payments received in advance of work performed are recorded as deferred revenue and recognized ratably over the performance period. Milestone payments are recognized as revenue when milestones, as defined in the contract, are achieved.

***Accrued Expenses***

As part of the process of preparing financial statements, we are required to estimate accrued expenses. This process involves identifying services which have been performed on our behalf, and estimating the level of service performed and the associated cost incurred for such service as of each balance sheet date in our financial statements. Examples of estimated expenses for which we accrue estimated liabilities include contract service fees paid to contract research organizations in connection with our preclinical testing and legal and other professional services. In connection with such service fees, our estimates are most affected by our understanding of the status and timing of services provided relative to the actual levels of services incurred by such service providers. The majority of our service providers invoice us monthly in arrears for services performed. In the event that we do not identify certain costs, which have begun to be incurred, or we under- or over-estimate the level of services performed or the costs of such services, our reported expenses for such period would be too low or too high. The date on which services commence, the level of services performed on or before a given date and the cost of such services are often determined based on subjective judgments. We make these judgments based upon the facts and circumstances known to us in accordance with generally accepted accounting principles.

***Stock-Based Compensation***

In December 2004, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 123, revised 2004, or SFAS 123(R), *"Share-Based Payment"* SFAS 123(R) supersedes Accounting Principles Board ("APB") Opinion No. 25, *"Accounting for Stock Issued to Employees"* ("APB 25"), and requires companies to recognize compensation expense, using a fair-value based method, for costs related to share-based payments, including those made pursuant to stock option and employee stock purchase plans.

We adopted SFAS 123(R) on January 1, 2006 using the modified prospective transition method, which requires that stock-based compensation cost is recognized for all awards granted, modified or settled after the effective date as well as for all awards granted to employees prior to the effective date that remain unvested as of the effective date. Prior to the adoption, we disclosed such costs on a pro forma basis in the notes to our financial statements. In accordance with the modified prospective method, the financial statements for prior periods have not been restated to reflect the impact of FAS 123(R).

For the year ended December 31, 2006, we recorded approximately $1.7 million of stock-based compensation expenses, of which $0.5 million was included in research and development expense and $1.2 million was included in general and administrative expense. Since we continue to operate in a net loss, the adoption of SFAS 123(R) had no impact for tax-related effects on cash flow from operations and cash flow from financing activities for the year ended December 31, 2006. As of December 31, 2006, unamortized stock-based compensation expenses of approximately $2.0 million remains to be recognized over a weighted-average period of approximately 2.86 years. We amortize stock-based compensation expenses on a straight-line ratable basis over the vesting period.

We estimated the fair value of stock options granted during the three months ended December 31, 2006 using the Black-Scholes option pricing model. The assumptions used under this model are as follows: (i) expected term of 6 years based on the simplified method for estimating the expected term of stock options; (ii) expected volatility of 69.6% based on historical and peer volatility data; (iii) weighted average risk-free interest rate of 4.55% based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected term of the option; and (iv) expected dividend yield of zero percent. In addition, under SFAS 123(R), the fair value of stock options granted is recognized as expense over the service period, net of estimated forfeitures. Based on historical data, we calculated a 3.24% annual forfeiture rate, which we believe is a reasonable assumption. However, the estimation of forfeitures requires judgment, and to the extent actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the same period estimates are revised.

The Black-Scholes option pricing model requires the input of highly subjective assumptions. Because our employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models may not provide a reliable single measure of the fair value of our employee stock. In addition, management will continue to assess the assumptions and methodologies used to calculate estimated fair value of

share-based compensation. Circumstances may change and additional data may become available over time, which result in changes to these assumptions and methodologies, and which could materially impact our fair value determination.

**Results of Operations**

***Year Ended December 31, 2006 Compared to Year Ended December 31, 2005***

*Revenue.* Total revenues increased by $1.2 million, or 76%, to $2.7 million for the twelve months ended December 31, 2006 from $1.5 million for the same period in 2005. The increase in revenues was attributable to our collaboration agreements with MedImmune, Novartis and the University of Louisville, all of which were initiated during 2005.

*Research and Development.* Research and development expenses decreased by $2.5 million, or 16%, to $13.3 million for the twelve months ended December 31, 2006 from $15.8 million for the same period in 2005. The decrease in research and development expenses was primarily attributable to the inclusion in the prior year period of an upfront payment of $5.0 million for the in-license of AVN944. This decrease was offset by compensation expense related to the issuance of stock options, an increase in clinical trial costs related to our AVN944 drug candidate and an increase in lab supplies expense related, in part, to collaboration and drug development programs.

Research and development expenses consist of direct costs which include salaries and related costs of research and development personnel, and the costs of consultants, materials and supplies associated with research and development projects. Indirect research and development costs include facilities, depreciation, patents and other indirect overhead costs.

*General and Administrative.* General and administrative expenses increased by $2.6 million, or 51%, to $7.7 million for the twelve months ended December 31, 2006 from $5.1 million for the same period in 2005. The increase is attributable to compensation expense related to issuance of stock options, salaries and bonuses for new hires, increases in compensation to executives and staff, and other expenses from operating as a public company.

*Interest Income.* Interest income increased by $785,000, or 156%, to $1.3 million for the twelve months ended December 31, 2006, compared to $503,000 for the same period in 2005. The increase in interest income is a result of interest earned on proceeds from the issuance of common stock, including proceeds from our initial public offering, and higher average interest rates.

*Interest Expense.* Interest expense decreased by $339,000, or 30%, to $808,000 for the twelve months ended December 31, 2006, compared to $1.1 million for the same period in 2005. The decrease in interest expense was primarily related to the conversion of our outstanding convertible notes into common stock at the close of our initial public offering in October 2005, and lower balances on our long term debt. This decrease was offset, in part, by higher average interest rates on our long term development bond financing.

*Other Income.* Other income decreased by $39,000, or 6%, to $624,000 for the twelve months ended December 31, 2006, compared to $663,000 for the same period in 2005. The decrease in other income was primarily related to a decrease in shared services utilized by subtenants in our facility.

***Year Ended December 31, 2005 Compared to Year Ended December 31, 2004***

*Revenue.* For the year ended December 31, 2005, we recorded $1.5 million of revenue. Substantially all 2005 revenues are related to our collaboration agreement with MedImmune, Inc. A small portion of revenue was attributable to collaborations with Novartis and the University of Louisville. For the year ended December 31, 2004, we recorded $1.9 million of revenue from our collaboration with Sanofi-Aventis for work performed and milestones achieved during 2004.

*Research and Development.* Research and development expenses increased $5.1 million, or 48%, to $15.8 for the twelve months ended December 31, 2005, from $10.7 million for the same period in 2004. This increase was driven primarily by a $5.0 million expense related to our licensing agreement with Vertex Pharmaceuticals and accrual of annual performance bonuses for research and development personnel. No annual performance bonuses were accrued or paid during 2004.

The largest components of our research and development expense, excluding the in-license fee for AVN944, are personnel costs for our scientific staff, laboratory supplies, facility costs for our laboratories and the use of third-party services.

*General and Administrative.* General and administrative expenses increased by $741,000, or 17%, to $5.1 million for the twelve months ended December 31, 2005 from $4.3 million for the same period in 2004. This increase was primarily attributable to the accrual of annual performance bonuses for general and administrative personnel and increases in outside accounting and professional fees. These increases were offset, in part by a decrease in travel and entertainment expenses.

The largest components of our general and administrative costs are personnel costs for our administrative staff, legal costs primarily attributed to our intellectual property protection activities, and travel.

*Interest Income.* Interest income increased by $176,000, or 54%, to $503,000 for the twelve months ended December 31, 2005 from $327,000 for the same period in 2004. This increase is a result of interest earned on proceeds from our initial public offering of common stock.

*Interest Expense.* Interest expense increased by $257,000, or 29% to $1.1 million for the twelve months ended December 31, 2005 from $890,000 for the same period in 2004. This increase was primarily related to accrued interest on outstanding convertible notes and a higher average interest rate on our long term debt.

## Liquidity and Capital Resources

### *Overview*

Our primary cash requirements are to:

- fund our research, development and clinical programs;
- obtain regulatory approvals;
- prosecute, defend and enforce any patent claims and other intellectual property rights;
- fund general corporate overhead; and
- support our debt service requirements and contractual obligations.

Our cash requirements could change materially as a result of the progress of our research and development and clinical programs, licensing activities, acquisitions, divestitures or other corporate developments.

We have incurred operating losses since our inception and historically have financed our operations principally through public stock offerings, private placement of equity securities, strategic collaborative agreements that include research and development funding, development milestones and investment income.

In evaluating alternative sources of financing we consider, among other things, the dilutive impact, if any, on our stockholders, the ability to leverage stockholder returns through debt financing, the particular terms and conditions of each alternative financing arrangement and our ability to service our obligations under such financing arrangements.

As of December 31, 2006, we had cash, cash equivalents and marketable securities of approximately $20.4 million, which is a decrease of $7.3 million from December 31, 2005. Of the $20.4 million balance at the end of 2006, $5.5 million was held in a restricted account to serve as collateral for our long-term debt. Our funds are currently invested in investment grade and United States government securities.

### *Sources and Uses of Cash*

*Operating Activities.* Net cash used in operating activities was $12.0 million, $13.4 million and $9.8 million in 2006, 2005 and 2004, respectively. In 2006, our net loss of $17.1 million was reduced by non-cash charges of $4.3 million, primarily associated with the issuance of stock options, depreciation and amortization, and a $723,000 increase in our net operating assets and liabilities. In 2005, our net loss of $19.3 million was reduced by non-cash charges of $3.4 million, primarily associated with depreciation and amortization, and a $2.4 million increase in net

operating assets and liabilities, primarily associated with a $1.9 million increase in deferred revenue. In 2004, our net loss of $13.7 million was reduced by non-cash charges of $3.7 million, primarily associated with depreciation and amortization, and a $106,000 increase in net operating assets and liabilities.

*Investing Activities.* Net cash provided by investing activities was $398,000 in 2006, net cash used by investing activities was $6.3 million in 2005, and net cash provided by investing activities was $9.9 million in 2004. In 2006, net cash provided by investing was driven by $749,000 of proceeds from the sale of marketable securities in excess of purchases of marketable securities, offset by $351,000 purchases of property and equipment. In 2005, net cash used by investing activities was primarily associated with $6.0 million purchases of marketable securities in excess of proceeds from the sale of securities. In 2004, net cash provided by investing activities was primarily associated with $10.0 million of proceeds from the sale of securities in excess of purchases of securities.

*Financing Activities.* Net cash provided by financing activities was $5.0 million and $27.2 million in 2006 and 2005, respectively. Net cash used by financing activities in 2004 was $2.9 million. In 2006, net cash provided by financing activities included $7.4 million of net proceeds from the issuance of common stock. This amount was offset by $2.2 million of repayments on debt. In 2005, net cash provided by financing activities was driven by $30.1 million of proceeds from the issuance of common stock and convertible notes. In 2004, net cash provided by financing activities was primarily associated with $2.6 million of repayments on debt.

***Credit Arrangements***

In April 2003, we entered into a series of agreements with the Maryland Industrial Development Financing Authority, or MIDFA, and Manufacturers and Traders Trust Company, or M&T Bank, in order to finance improvements to our corporate office and research facility located in Germantown, Maryland. MIDFA sold development bonds in the amount of $12.0 million. The proceeds of the bond sale were put in trust to reimburse us for the costs we incurred for improvements to our facility. We are required to repay the trust $1.2 million annually for these borrowings. The borrowing bears interest at a variable rate and matures on April 8, 2013. The weighted-average interest rate during 2006 and 2005 was 5.18% and 3.48%, respectively.

In connection with the development bond financing, we entered into an agreement with M&T Bank to issue the trustee an irrevocable letter of credit to provide payment of the principal and interest of the bonds. The amount of the letter of credit changes annually, as principal payments are made. As of December 31, 2006 and 2005, the letter of credit amount was $8.5 million (consisting of $8.4 million of principal and $138,100 in interest) and $9.8 million (consisting of $9.6 million of principal and $157,800 in interest), respectively. The letter of credit expires the earlier of April 8, 2008, or the date the bonds have been paid in full. In consideration of the letter of credit, we have granted M&T Bank a security interest in certain facility improvements, equipment and cash collateral held as restricted cash. The Company is in compliance with all financial covenants contained in the Company's letter of credit.

In June 2002, we entered into an equipment line of credit with General Electric Capital Corporation ("GE Capital") that provided for borrowings of up to $5.0 million. In 2003, the line of credit was increased to allow for an additional $2.0 million in borrowings. During 2002 and 2003 a total of $5.6 million was borrowed by us under the equipment line of credit. No draws have been made since 2003 and the availability of the line of credit has lapsed. Each draw has been treated as a separate promissory note bearing interest between 7.09% and 8.68% over 36- to 48-month terms. The line of credit is secured by the applicable equipment, fixtures, and personal property financed by the line of credit. In connection with draws under the line of credit, the lender received warrants to purchase a total of 39,306 shares of our Series B preferred stock at an exercise price of $3.53, which subsequently automatically converted into warrants to purchase 8,666 shares of common stock at an exercise price of $28.24 per share in connection with the closing of our initial public offering. At December 31, 2006, roughly $329,000 in borrowings remained outstanding under this line of credit.

***Operating Capital and Capital Expenditure Requirements***

Our future funding requirements will depend on many factors, including but not limited to:

- the size and complexity of our research and development programs;
- the scope and results of our preclinical testing and clinical trials;

- continued scientific progress in our research and development programs;
- the time and expense involved in seeking regulatory approvals;
- competing technological and market developments;
- acquisition, licensing and protection of intellectual property rights; and
- the cost of establishing manufacturing capabilities and conducting commercialization activities.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through public or private equity offerings, debt financings or strategic collaborations. If we are successful in raising additional funds through the issuance of equity securities, investors likely will experience dilution, or the equity securities may have rights, preferences or privileges senior to those of the holders of our common stock. If we raise funds through the issuance of debt securities, those securities would have rights, preferences and privileges senior to those of our common stock. We do not know whether additional funding will be available on acceptable terms, or at all. If we are not able to secure additional funding when needed, we may have to delay, reduce the scope of, or eliminate one or more of our clinical trials or research and development programs. In addition, we may have to partner one or more of our drug candidate programs at an earlier stage of development, which would lower the economic value of those programs to our Company.

***Contractual Obligations***

The following table discloses aggregate information about our contractual obligations and the periods in which payments are due as of December 31, 2006 (in thousands):

| | Payment Due by Period | | | | |
|---|---|---|---|---|---|
| **Contractual Obligations** | **Total** | **Less Than 1 Year** | **1-3 Years** | **4-5 Years** | **More Than 5 Years** |
| Long-term debt(1) | $11,014 | $2,156 | $4,866 | $2,758 | $1,233 |
| Operating lease obligations(2) | 4,716 | 718 | 2,287 | 1,641 | 70 |
| Cooperative research and development agreements(3) | 27 | 28 | — | — | — |
| Total(4) | $15,757 | $2,902 | $7,153 | $4,399 | $1,303 |

(1) Includes principal, interest and letter of credit fee payments on our development bond financing and principal and interest payments on our equipment financing. Our development bond financing carries a variable interest rate. Amounts presented in the table assume a fixed rate of 5.45% that was in effect on December 31, 2006. The table does not include potential discounts for debt prepayment.

(2) Our operating lease obligations relate to the lease for our headquarters in Germantown, Maryland.

(3) Cooperative research and development agreements include commitments into which we have entered as of December 31, 2006 to engage third parties to perform various aspects of our research and development efforts subsequent to that date.

(4) The table above reflects only payment obligations that are fixed and determinable. Accordingly, the table does not include any milestone payments under agreements we have entered into in relation to our in-licensed technology, including our license with Vertex Pharmaceuticals Incorporated for the development and commercialization of AVN944, as the timing and likelihood of such payments are not known. We also have service agreements with clinical sites for the conduct of our U.S. Phase I clinical trial of AVN944 in cancer patients. We make payments to these sites based upon the actual number of patients enrolled and the period of follow-up in the trials. We do not have minimum payment obligations under these agreements and the amount to be paid to each center and the timing of those payments will vary based on the negotiated amount paid for each patient to be treated and for each patient screened who fails to or declines to participate in the clinical trial. Due to the variability associated with these agreements and the timing of patient enrollment, we are unable to estimate with certainty the future patient enrollment costs we will incur.

**Recent Accounting Pronouncements**

On December 16, 2004, the Financial Accounting Standards Board, or FASB, issued FASB Statement No. 123 (revised 2004), *Share-Based Payment*, which is a revision of FASB Statement No. 123, *Accounting for Stock-Based Compensation*. Statement 123(R) supersedes APB Opinion No. 25, *Accounting for Stock Issued to Employees* , and amends FASB Statement No. 95, *Statement of Cash Flows*. Generally, the approach in Statement 123(R) is similar to the approach described in Statement 123. However, Statement 123(R) requires all share-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative. We adopted Statement 123(R) on January 1, 2006. See Note 2 to our audited financial statements included under Item 8 of this Annual Report on Form 10-K for additional information.

**Off-Balance Sheet Arrangements**

We do not have any off-balance sheet arrangements, including structured finance, special purpose or variable interest entities.

**Subsequent Events**

On January 23, 2007, we sold 3,000,000 shares of our common stock to seventeen accredited institutional investors for a total purchase price of $10.0 million. We intend to use the proceeds from this offering to support our research and development activities.

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

We are exposed to market risk from changes in interest rates. At December 31, 2006, we had $8.4 million of obligations which were subject to variable rates of interest under our development bond financing with MIDFA. If market interest rates increased 1% from the rate at December 31, 2006, our annual interest expense would increase approximately $84,000, assuming that obligations subject to variable interest rates remained constant.

In addition, the value of our portfolio of cash equivalents and investments is subject to market risk from changes in interest rates.

The primary objective of our investment activities is to preserve our capital for the purpose of funding operations while at the same time maximizing the income we receive from our investments without significantly increasing risk. To achieve these objectives, our investment policy allows us to maintain a portfolio of cash equivalents and investments in a variety of securities, including commercial paper, money market funds and corporate debt securities. As of December 31, 2006, we had cash and cash equivalents, short-term and long-term investments and restricted cash of $20.4 million as follows:

| | |
|---|---|
| Cash and cash equivalents | $ 3.1 million |
| Short-term investments | $10.0 million |
| Long-term investments | $ 1.8 million |
| Restricted cash | $ 5.5 million |

We maintain an investment portfolio of investment grade government agency notes and corporate bonds. The securities in our investment portfolio are not leveraged, are classified as available-for-sale and are, due to their predominantly short-term nature, subject to minimal interest rate risk. We currently do not hedge interest rate exposure on our investment portfolio. As of December 31, 2006, securities totaling $10.0 million mature in the next 12 months and $1.8 million mature after December 31, 2007. While we do not believe that an increase in market rates of interest would have any significant negative impact on the realizable value of our investment portfolio, changes in interest rates affect the investment income we earn on our investments and, therefore, impact our cash flow and results of operations.

We have operated in the United States and all revenues to date have been received in U.S. dollars. Accordingly, we have not had any material exposure to foreign currency rate fluctuations.

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

### REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors
Avalon Pharmaceuticals, Inc.

We have audited the accompanying balance sheets of Avalon Pharmaceuticals, Inc. as of December 31, 2006 and 2005, and the related statements of operations, redeemable convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the three years in the period ended December 31, 2006. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's 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, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Avalon Pharmaceuticals, Inc. at December 31, 2006 and 2005, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2006, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 2 to the financial statements the Company changed its method of accounting for stock-based compensation in 2006 upon adoption of Statement of Financial Accounting Standards No. 123(R), "Share-Based Payment".

/s/ Ernst & Young LLP

McLean, Virginia
March 13, 2007

**Avalon Pharmaceuticals, Inc.**

**Balance Sheets**

| | December 31, 2006 | December 31, 2005 |
|---|---|---|
| | (In thousands, except share and per share data) | |
| **ASSETS** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 3,099 | $ 9,732 |
| Short-term marketable securities | 9,980 | 10,922 |
| Accounts receivable | 724 | 794 |
| Interest receivable | 175 | 201 |
| Prepaid expenses | 642 | 833 |
| Deposits | 102 | 102 |
| Total current assets | 14,722 | 22,584 |
| Restricted cash and marketable securities | 5,520 | 6,313 |
| Property and equipment, net | 8,923 | 10,997 |
| Long-term marketable securities | 1,831 | 781 |
| Deposits | 105 | 205 |
| Deferred financing costs | 290 | 401 |
| Total assets | $ 31,391 | $ 41,282 |
| **LIABILITIES AND STOCKHOLDERS' EQUITY** | | |
| Current liabilities: | | |
| Accounts payable | $ 1,857 | $ 1,098 |
| Accrued expenses and other current liabilities | 1,232 | 913 |
| Deferred revenue | 1,034 | 1,273 |
| Current portion on long-term debt | 1,518 | 2,230 |
| Total current liabilities | 5,641 | 5,514 |
| Deferred rent | 469 | 468 |
| Long-term deferred revenue, net of current portion | 200 | 650 |
| Long-term debt, net of current portion | 7,207 | 8,714 |
| Other long-term liabilities | — | 53 |
| Stockholders' equity: | | |
| Common stock, $0.01 par value; 60,000,000 shares authorized; 10,137,340 and 8,407,376 shares issued and outstanding at December 31, 2006 and 2005, respectively | 101 | 84 |
| Additional capital | 120,477 | 111,677 |
| Deferred stock compensation | — | (250) |
| Other comprehensive loss | — | (26) |
| Accumulated deficit | (102,704) | (85,602) |
| Total stockholders' equity | 17,874 | 25,883 |
| Total liabilities and stockholders' equity | $ 31,391 | $ 41,282 |

The accompanying Notes to Financial Statements are an integral part of these statements.

**Avalon Pharmaceuticals, Inc.**

**Statements of Operations**

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2006 | 2005 | 2004 |
| | (In thousands, except per share data) | | |
| Revenues | $ 2,724 | $ 1,544 | $ 1,900 |
| Costs and expenses: | | | |
| Research and development | 13,269 | 15,789 | 10,680 |
| General and administrative | 7,661 | 5,066 | 4,325 |
| Total costs and expenses | 20,930 | 20,855 | 15,004 |
| Loss from operations | (18,206) | (19,311) | (13,104) |
| Other income (expense): | | | |
| Interest income | 1,288 | 503 | 327 |
| Interest expense | (808) | (1,147) | (890) |
| Other | 624 | 663 | 8 |
| Total other income (expense): | 1,104 | 19 | (554) |
| Net Loss | $ (17,102) | $ (19,292) | $ (13,659) |
| Accretion of redeemable convertible preferred stock | — | (1,111) | (1,449) |
| Net loss attributed to Common Stockholders | $ (17,102) | $ (20,403) | $ (15,108) |
| Net loss attributed to Common Stockholders per common share — basic and diluted | $ (1.74) | $ (9.58) | $ (117.65) |
| Weighted average number of common shares — basic and diluted | 9,841,235 | 2,129,388 | 128,417 |

The accompanying Notes to Financial Statements are an integral part of these statements.

## Avalon Pharmaceuticals, Inc.

## Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)
## (In thousands, except share amounts)

| | Redeemable Convertible Preferred Stock | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Series A | | Series B | | Bridge | Common Stock | | Additional Paid-In | Deferred Stock | Other Comprehensive | Accumulated | Total Stockholders' |
| | Shares | Amount | Shares | Amount | Financing | Shares | Amount | Capital | Compensation | Income | Deficit | Equity (Deficit) |
| **Balance at December 31, 2003** | 5,577,500 | $111,555 | 20,126,997 | $ 66,894 | — | 127,184 | $ 1 | $ 9 | $ — | $ 9 | $ (51,454) | $(51,435) |
| Issuance of common stock to employee upon exercise of stock options | — | — | — | — | — | 1,506 | 0 | 3 | — | — | — | 3 |
| Deferred stock compensation | — | — | — | — | — | — | — | 3 | — | — | — | 3 |
| Amortization of Series B offering costs | — | — | — | 874 | — | — | — | (38) | — | — | (836) | (874) |
| Amortization of Series B purchase stock warrant | — | — | — | 575 | — | — | — | 32 | — | — | — | 32 |
| Net loss | — | — | — | — | — | — | — | — | — | — | (13,659) | (13,659) |
| Net unrealized gain on available for sale securities | — | — | — | — | — | — | — | — | — | (41) | — | (41) |
| Net comprehensive loss | — | — | — | — | — | — | — | — | — | — | — | (13,700) |
| **Balance at December 31, 2004** | 5,577,500 | 11,155 | 20,126,997 | 68,343 | | 128,690 | 1 | 9 | — | (32) | (65,949) | (65,971) |
| Issuance of common stock to employee upon exercise of stock options | — | — | — | — | — | 3,521 | 0 | 9 | — | — | — | 9 |
| Deferred stock compensation | — | — | — | — | — | — | — | 379 | (379) | — | — | — |
| Amortization of deferred stock compensation | — | — | — | — | — | — | — | — | 129 | — | — | 129 |
| Proceeds from Convertible bridge financing and related accrued interest of $267,140 | — | — | — | — | 5,294 | — | — | — | — | — | — | 5,294 |
| Amortization of Series B offering costs | — | — | — | 656 | — | — | — | (295) | — | — | (361) | (656) |
| Amortization of Series B purchase stock warrant | — | — | — | 456 | — | — | — | — | — | — | — | 456 |
| Conversion of Series B stock warrants to common stock warrants | — | — | — | — | — | — | — | 656 | — | — | — | 656 |
| Conversion of preferred stock to common upon close of credit facility | (1,000,000) | (2,000) | (1,190,611) | (4,109) | — | 273,826 | 3 | 6,106 | — | — | — | 6,109 |
| Conversion of preferred stock, convertible notes and related accrued interest upon IPO | (4,577,500) | (9,155) | (18,936,386) | (65,346) | (5,294) | 5,251,339 | 53 | 79,742 | — | — | — | 74,501 |
| Issuance of common stock upon IPO, net of offering costs | — | — | — | — | — | 2,750,000 | 28 | 25,072 | — | — | — | 25,100 |
| Net loss | — | — | — | — | — | — | — | — | — | — | (19,292) | (19,292) |
| Net unrealized gain on available for sale securities | — | — | — | — | — | — | — | — | — | 6 | — | 6 |
| Net comprehensive loss | — | — | — | — | — | — | — | — | — | — | — | (19,286) |
| **Balance at December 31, 2005** | — | $ — | — | $ 0 | $ 0 | 8,407,376 | $ 84 | $111,677 | $(250) | $(26) | $ (85,602) | $ 25,883 |
| Issuance of common stock to employee upon exercise of stock options | — | — | — | — | — | 35,152 | 0 | 93 | — | — | — | 93 |
| Issuance of common stock to board of directors as compensation | — | — | — | — | — | 28,146 | 0 | 103 | — | — | — | 103 |
| Issuance of common stock, net of offering costs | — | — | — | — | — | 1,666,666 | 17 | 7,180 | — | — | — | 7,197 |
| Expense fair value of options per FAS 123R | — | — | — | — | — | — | — | 1,674 | — | — | — | 1,674 |
| Deferred stock compensation | — | — | — | — | — | — | — | (250) | 250 | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | — | — | (17,102) | (17,102) |
| Net unrealized gain on available for sale securities | — | — | — | — | — | — | — | — | — | 26 | — | 26 |
| Net comprehensive loss | — | — | — | — | — | — | — | — | — | — | — | (17,076) |
| **Balance at December 31, 2006** | — | $ — | — | $ 0 | $ 0 | 10,137,340 | $101 | $120,477 | $ 0 | $ (0) | $(102,704) | $ 17,874 |

The accompanying Notes to Financial Statements are an integral part of these statements.

**Avalon Pharmaceuticals, Inc.**

**Statements of Cash Flows**

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2006 | 2005 | 2004 |
| | | (In thousands) | |
| Operating activities Net loss | $(17,102) | $(19,292) | $(13,659) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Depreciation | 2,425 | 2,644 | 2,768 |
| Non cash interest expense | 282 | 623 | 385 |
| Warrant amortization | — | — | 32 |
| Compensation expense related to stock and stock options | 1,778 | 129 | 3 |
| Loss on disposal of assets | — | — | 5 |
| Amortization of premium on investments | (37) | 148 | 527 |
| Changes in operating assets and liabilities: | | | |
| Accounts receivable | 196 | (475) | 266 |
| Prepaid expenses | 190 | (580) | 91 |
| Other assets | — | — | 213 |
| Accounts payable | 758 | 719 | 63 |
| Accrued liabilities | 266 | 766 | (69) |
| Deferred revenue | (689) | 1,923 | (500) |
| Deferred rent | 1 | 22 | 41 |
| Net cash used in operating activities | (11,932) | (13,373) | (9,832) |
| Investing activities Purchases of marketable securities | (19,974) | (24,771) | (19,972) |
| Proceeds from sale of marketable securities | 20,723 | 18,671 | 30,002 |
| Purchases of property and equipment | (351) | (243) | (110) |
| Net cash provided by (used in) investing activities | 398 | (6,343) | 9,920 |
| Financing activities Principal payments on debt, line of credit | (1,018) | (1,487) | (1,428) |
| Proceeds from issuance of common stock, net | 7,290 | 25,109 | 3 |
| Principal payments on bond payable | (1,200) | (1,200) | (1,200) |
| Deferred financing costs | (171) | (251) | (259) |
| Proceeds from issuance convertible notes | — | 5,026 | — |
| Net cash provided by (used in) financing activities | 4,901 | 27,197 | (2,884) |
| Net increase (decrease) in cash and cash equivalents | (6,633) | 7,481 | (2,796) |
| Cash and cash equivalents at beginning of year | 9,732 | 2,251 | 5,047 |
| Cash and cash equivalents at end of year | $ 3,099 | $ 9,732 | $ 2,251 |
| Supplemental information Cash paid for interest | $ 515 | $ 1,147 | $ 473 |

The accompanying Notes to Financial Statements are an integral part of these statements.

AVALON PHARMACEUTICALS, INC.

NOTES TO FINANCIAL STATEMENTS
December 31, 2006

## 1. Organization

Avalon Pharmaceuticals, Inc. (the Company), was incorporated on November 10, 1999, under the laws of the state of Delaware. Avalon Pharmaceuticals, Inc. is a biopharmaceutical company using proprietary technology, AvalonRx®, to discover and develop novel therapeutics.

Inherent in the Company's business are various risks and uncertainties, including its limited operating history, the fact that the Company's technologies are new and may not allow the Company or its collaboration partners to develop commercial products, regulatory requirements associated with drug development efforts, and the intense competition in the pharmaceutical industry. The Company's success depends, in part, upon its prospective drug discovery and development efforts, the acceptance of the Company's technology by the marketplace, including potential collaborators, and raising additional capital.

## 2. Summary of Significant Accounting Policies

### *Use of Estimates*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

### *Cash and Cash Equivalents*

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash equivalents consist primarily of money market funds and commercial paper. The Company maintains cash balances with financial institutions in excess of insured limits. The Company does not anticipate any losses with such cash balances.

### *Marketable Securities*

Marketable securities consist primarily of U.S. Treasury and agency debt securities with various maturities. Management classifies the Company's marketable securities as available-for-sale. Such securities are stated at market value, with the unrealized gains and losses included as accumulated other comprehensive income (loss). Realized gains and losses and declines in value judged to be other-than-temporary on securities available for sale, if any, are included in operations. A decline in the market value of any available-for-sale security below cost that is deemed to be other-than-temporary results in a reduction in fair value. The impairment is charged to earnings, and a new cost basis for the security is established. Dividend and interest income are recognized when earned. The cost of securities sold is calculated using the specific identification method.

### *Property and Equipment*

Property and equipment is stated at cost. Property and equipment is depreciated using the straight-line method over the estimated useful lives of assets, generally three to five years for equipment and seven years for furniture and fixtures. Leasehold improvements are amortized over the shorter of the life of the lease or the related asset. Maintenance and repairs are charged to expense as incurred.

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

| | December 31, | |
|---|---|---|
| | 2006 | 2005 |
| Scientific equipment | $ 6,730 | $ 6,503 |
| Computer equipment | 1,338 | 1,234 |
| Leasehold improvements | 12,093 | 12,093 |
| Furniture and fixtures | 463 | 443 |
| | 20,624 | 20,273 |
| Less accumulated depreciation | 11,701 | 9,276 |
| Property and equipment, net | $ 8,923 | $10,997 |

Depreciation expense related to property and equipment was $2.4 million, $2.6 million and $2.8 million for the years ended December 31, 2006, 2005, and 2004, respectively.

***Deferred Financing Costs***

Deferred financing costs consist primarily of costs incurred related to the procurement of funding to finance leasehold improvements and equipment. These costs are deferred and amortized over the term of the related financing agreement using the effective interest method.

***Revenue Recognition***

During 2006, 2005 and 2004, the Company recognized revenue from its collaboration partners for work performed and milestones achieved. Corporate revenues include receipt of non-refundable license fees, milestone payments and research & development payments. Revenue is recognized when there is persuasive evidence that an arrangement exists, delivery has occurred, the price is fixed and determinable, and collection is reasonably assured. Payments received in advance of work performed are recorded as deferred revenue and recognized ratably over the performance period. Milestone payments are recognized as revenue in an amount commensurate with the level of effort expended when the milestones are achieved, contract partner acknowledges completion of the milestone, no further performance obligations exist as defined in the agreements, collection is reasonably assured and substantive effort was necessary to achieve the milestone.

***Research and Development Costs***

The Company expenses its research and development costs as incurred.

***Income Taxes***

Income taxes are accounted for using the liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and net operating loss carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the year in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are established when necessary to reduce net deferred tax assets to the amount expected to be realized. Income tax expense is the tax payable for the period and the change during the period in deferred tax assets and liabilities.

***Restricted Cash and Investments***

In accordance with the terms of a financing arrangement discussed in Note 4, the Company established an investment account, which is pledged as collateral for a letter of credit. The issuer of the letter of credit, a bank, maintains the investment account. The bank's security interest in the account cannot exceed the minimum required cash collateral amount, which as of December 31, 2006 and 2005, was defined as an adjusted market value of $5:5 million and $6.3 million, respectively. This collateral agreement defines adjusted market value as the product of the fair market value of each permitted investment by a defined percentage ranging from 60% to 100%, depending on the nature of the permitted investment. The minimum cash collateral amount automatically decreases each April 1 as specified in the collateral agreement.

***Stock-Based Compensation***

Prior to January 1, 2006, the Company accounted for its stock-based compensation plans under the recognition and measurement provisions of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" ("Opinion 25"), and related Interpretations, as permitted by FASB Statement No. 123, "Accounting for Stock-Based Compensation" ("Statement 123"). Effective January 1, 2006, the Company adopted the fair value recognition provisions of FASB Statement No. 123(R), "Share-Based Payment" ("Statement 123(R)"), using the modified-prospective-transition method.

Under the modified-prospective-transition method, compensation cost recognized during 2006 includes: (a) compensation cost for all share-based payments granted prior to but not yet vested as of January 1, 2006, based on the grant date fair value estimated in accordance with the original provisions of Statement 123, and (b) compensation cost for all share-based payments granted subsequent to January 1, 2006, based on the grant-date fair value estimated in accordance with the provisions of Statement 123(R). Results for prior periods have not been restated. The adoption of Statement 123(R) has no impact on the cash flows from operating or financing activities.

The following table illustrates the effect on net loss and net loss per share if the Company had applied the fair value recognition provisions of Statement 123(R) to stock-based employee compensation for the years ended December 31, 2006, 2005 and 2004. The reported and pro forma net loss and net loss per share for the year ended December 31, 2006 are the same because stock-based compensation expense is calculated under the provisions of Statement 123(R). The amounts for the year ended December 31, 2006 are included in the table below only to provide net loss and net loss per share for a comparative presentation to the period of the previous year.

| | Year Ended December 31, | | |
|---|---|---|---|
| | 2006 | 2005 | 2004 |
| | | (In thousands) | |
| Actual net loss attributable to common stockholders: | | | |
| As reported | $ (17,102) | $ (20,403) | $(15,108) |
| Add: Stock compensation included in reported net loss attributable to common stockholders | | 129 | 3 |
| Deduct: Total stock-based employee compensation expense determined under fair value-based method for all awards | | (681) | (126) |
| Pro forma net loss attributable to common stockholders | (17,102) | (20,955) | (15,231) |
| Net loss attributable to common stockholders per common share: | | | |
| Basic and diluted — as reported | $ (1.74) | $ (9.58) | $(117.65) |
| Basic and diluted — pro forma | $ (1.74) | $ (9.84) | $(118.61) |
| Weighted average number of common shares — basic and diluted | 9,841,235 | 2,129,388 | 128,417 |

Disclosures prescribed by SFAS No. 123, *Accounting for Stock-Based Compensation* (SFAS 123), are presented in Note 6.

***Basic and Diluted Net Loss Attributable to Common Stockholders Per Common Share***

Basic net loss attributable to common stockholders per common share excludes dilution for potential common stock issuances and is computed by dividing net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted net loss attributable to common stockholders per common share reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock. Stock options and warrants were not considered in the computation of diluted net loss attributable to common stockholders per common share for the periods presented, as their effect is antidilutive.

***Comprehensive Loss***

SFAS No. 130, *Reporting Comprehensive Income*, requires the presentation of comprehensive income or loss and its components as part of the financial statements. For the years ended December 31, 2006, 2005, and 2004, the Company's net loss plus its unrealized gains (losses) on available-for-sale securities reflects comprehensive loss.

***Fair Value of Financial Instruments and Concentration of Credit Risk***

The fair value of the Company's cash equivalents, accounts receivable, accounts payable, and accrued liabilities have approximated their carrying amounts due to the relatively short maturity of these items. The fair value of debt approximated its carrying amount as of December 31, 2006 and 2005, based on rates currently available to the Company for debt with similar terms and remaining maturities. Financial instruments, which potentially subject the Company to concentrations of credit risk, consist primarily of cash and cash equivalents and marketable securities. Management believes the risks associated with its financial instruments are minimal, due to its policy of investing in highly rated securities.

***Segment Information***

The Company currently operates in one business segment, which is the development and commercialization of pharmaceutical products through its unique and proprietary drug discovery process. The Company is managed and operated as one business. A single management team that reports to the chief executive officer comprehensively manages the entire business. The Company does not operate separate lines of business with respect to its products or product candidates. Accordingly, the Company does not have separately reportable segments as defined by SFAS No. 131, *Disclosure about Segments of an Enterprise and Related Information.*

## 3. Marketable Investments

Marketable investments held by the Company were as follows as of December 31 (in thousands):

| | 2006 | | | 2005 | | |
|---|---|---|---|---|---|---|
| Available for Sale | Amortized Cost | Gains (Losses) | Fair Value | Amortized Cost | Gains (Losses) | Fair Value |
| **Investments** | | | | | | |
| U.S. Treasury and agencies . . . | $ — | $— | $ — | $ 782 | $ (1) | $ 781 |
| Corporate debt securities . . . . . | 11,811 | — | 11,811 | 10,949 | (27) | 10,922 |
| | 11,811 | — | 11,811 | 11,731 | (28) | 11,703 |
| **Restricted investments** | | | | | | |
| Cash and cash equivalents . . . . | 3,099 | — | 3,099 | 6,313 | — | 6,313 |
| U.S. Treasury and agencies . . . | 657 | (1) | 656 | 0 | — | 0 |
| Corporate debt securities . . . . . | 1,765 | — | 1,765 | — | — | — |
| | 5,521 | (1) | 5,520 | 6,313 | — | 6,313 |
| | $17,332 | $(1) | $17,331 | $18,044 | $(28) | $18,016 |

The following table summarizes maturities of the Company's investments at December 31 (in thousands):

| | 2006 | | 2005 | |
|---|---|---|---|---|
| Maturity | Amortized Cost | Fair Value | Amortized Cost | Fair Value |
| Less than one year . . . . . | $15,499 | $15,499 | $17,262 | $17,235 |
| Due in one to two years . . . . . | 1,832 | 1,831 | 782 | 781 |
| Total . . . . . | $17,331 | $17,330 | $18,044 | $18,016 |

## 4. Debt

Notes and bond payable consisted of the following (in thousands):

| | December 31, | |
|---|---|---|
| | 2006 | 2005 |
| Maryland Industrial Development Financing Authority Taxable Variable Rate Demand Revenue Bond . . . . . | $ 8,400 | $ 9,600 |
| Equipment financing . . . . . | 329 | 1,359 |
| | 8,729 | 10,959 |
| Less current portion . . . . . | (1,518) | (2,230) |
| Less discount related to warrants . . . . . | (4) | (15) |
| Long-term debt . . . . . | $ 7,207 | $ 8,714 |

***Maryland Industrial Development Financing Authority (MIDFA) Taxable Variable Rate Demand Revenue Bond***

In April 2003, the Company entered into a series of agreements with MIDFA and a bank in order to finance the build out of its corporate headquarters and research facility located in Germantown, Maryland. MIDFA sold bonds in the amount of $12.0 million. The proceeds of the bond sale were put in trust to reimburse the Company for the costs it incurred for the build out of the facility. The Company is required to repay the trust $1.2 million annually for

these borrowings. The borrowing bears interest at a variable rate and matures on April 8, 2013. The weighted-average interest rate during 2006 and 2005 was 5.18% and 3.48%, respectively.

The Company entered into an agreement with the bank to issue the trustee an irrevocable letter of credit to provide payment of the principal and interest of the bonds. The amount of the letter of credit changes annually, as principal payments are made. At December 31, 2006 and 2005, the letter of credit amount was $8,538,082 (consisting of $8.4 million of principal and $138,082 in interest) and $9,757,808 (consisting of $9.6 million of principal and $157,808 in interest), respectively. For purposes of the letter of credit, interest is computed at 50 days at an assumed maximum rate of interest of 12% per annum. The letter of credit expires the earlier of April 8, 2008, or the date the bonds have been paid in full. The Company granted the bank a security interest in certain facility improvements, the equipment financed, and the collateral described in Note 2. The Company will pay the bank an annual fee of 1.50% of the outstanding stated amount of the letter of credit. The annual fee approximated $131,000, $189,000 and $211,000 for the years ended December 31, 2006, 2005 and 2004, respectively. The Company is also required to pay the bank $1,200 for each year until the letter of credit expires. The principal portion of the letter of credit shall be reduced $1.2 million on each anniversary of the closing date through April 1, 2007. Pursuant to the terms of the agreements, the Company is required to meet certain financial and non-financial covenants, including maintaining minimum cash balances and net worth ratios.

***Equipment Financing***

The Company had a line of credit agreement that provided for borrowings up to $2.0 million. Each draw was treated as a separate promissory note, bearing interest between 9.51% and 12.44% over a 36-month term. The applicable equipment, fixtures, and personal property financed provide collateral for the borrowings. The Company repaid all borrowings under this arrangement in 2004.

In 2001, the Company issued the lender warrants to purchase 20,000 shares of the Company's Series B Redeemable Convertible Preferred Stock (the Series B Preferred Stock). The warrants were initially exercisable for $3.53 per share and expire on May 14, 2011. The fair value of the warrants issued was estimated at the date of grant using the Black-Scholes option-pricing model. The fair value of the warrants of $48,000 was recorded as deferred financing costs and was amortized into interest expense over the term of the line of credit. On October 4, 2005, upon the close of the Company's initial public offering, these warrants converted into warrants to purchase 4,410 shares of the Company's common stock for $28.24 per share.

The Company entered into a second line of credit agreement that provided for borrowings up to $7.0 million. No draws were made. The availability of the credit line elapsed in 2004. Each draw was to be treated as a separate promissory note. These notes were to bear interest between 7.09% and 8.68% over terms of 36 to 48 months. The applicable equipment, fixtures, and personal property financed provide collateral for the borrowings.

In conjunction with the second line of credit, the Company issued the lender warrants to purchase 39,306 shares of the Company's Series B Preferred Stock with an initial per share exercise price of $3.53. The fair value of the warrants was estimated at the date of grant using the Black-Scholes option-pricing model. The fair value of the warrants was recorded as a debt discount to the applicable draw and is amortized into interest expense over the term of the applicable draw. On October 4, 2005, upon the close of the Company's initial public offering of common stock, these warrants converted into warrants to purchase 8,666 shares of the Company's common stock for $28.24 per share.

For the years ended December 31, 2006, 2005, and 2004, the Company incurred interest expense of $808,000, $1.1 million and $890,000.

Future minimum principal payments on all debt are as follows at December 31 (in thousands):

| | |
|---|---|
| 2007 | $1,529 |
| 2008 | 1,200 |
| 2009 | 1,200 |
| 2010 | 1,200 |
| 2011 | 1,200 |
| Thereafter | 2,400 |
| | $8,729 |

## 5. Redeemable Convertible Preferred Stock

### *Series A Redeemable Convertible Preferred Stock*

From December 1999 through July 2000, the Company issued 5,577,500 shares of Series A Redeemable Convertible Preferred Stock (the Series A Preferred Stock) for net proceeds of $11,155,000. In conjunction with the sale of the Series B Preferred Stock, the holders of Series A Preferred Stock retroactively revoked their right to receive cumulative dividends.

In August and September 2005, the Company received commitments from certain existing investors under a line of credit facility to provide up to $6.5 million in subordinated debt financing to support operations. As an incentive for investors to participate in the facility, the Company amended its certificate of incorporation to convert shares of Series A and B Preferred Stock into common stock if the investor declined to participate in the facility. As a result, 1,000,000 shares of Series A Preferred Stock, held by 3 investors who did not participate in the facility, converted into a total of 125,000 shares of common stock on September 22, 2005.

In October 2005, upon the close of the Company's initial public offering of common stock, all remaining outstanding shares of Series A Preferred Stock were converted into 572,188 shares of common stock.

### *Series B Redeemable Convertible Preferred Stock*

From October 2001 to February 2002, the Company issued 19,843,519 shares of Series B Preferred Stock at $3.53 for $65.8 million, net of issuance costs, consisting of cash of approximately $59.7 million and conversion of the principal and related accrued interest on approximately $6.1 million of notes payable.

In September and August 2005, the Company received commitments from certain existing investors under a line of credit facility to provide up to $6.5 million in subordinated debt financing to support operations. As an incentive for investors to participate in the facility, the Company amended its certificate of incorporation to convert shares of Series A and B Preferred Stock into common stock if the investor declined to participate in the facility. As a result, 1,190,611 shares of Series B Preferred Stock, held by 4 investors who did not participate in the facility, converted into a total of 148,826 shares of common stock on September 22, 2005.

In October 2005, upon the close of the Company's initial public offering of common stock, all remaining outstanding shares of Series B Preferred Stock were converted into 4,175,000 shares of common stock.

During 2002, the Company issued warrants for the purchase of 1,543,795 shares of Series B Preferred Stock to the placement agent in the Company's Series B Preferred Stock offering. The warrants had a per-share exercise price of $3.53 and expire on February 6, 2007, if unexercised. The fair value of the warrants of $2,732,517 was estimated at the date of grant using the Black-Scholes option-pricing model. The fair value of the warrants was netted against the proceeds from the offering of the Series B Preferred Stock. In October 2005, upon the close of the Company's initial public offering of common stock, these warrants were converted into warrants to purchase 340,368 shares of the Company's common stock at a price of $28.24 per share.

## 6. Stockholders' Equity (Deficit)

*Reverse Stock Split*

All share and per share amounts have been retroactively adjusted to give effect to a 1-for-5 reverse stock split effected on August 15, 2005 and a subsequent 1-for-1.6 reverse stock split effected on August 30, 2005.

*Common Stock*

Holders of common stock are entitled to one vote per share in all matters voted upon by the stockholders and have no right to accumulate votes in the election of directors. Holders of common stock are entitled to receive ratably such dividends, when and if declared by the Board of Directors out of funds legally available therefore. Holders of common stock have no preemptive, subscription, redemption, or conversion rights, nor are there sinking fund provisions applicable to the common stock.

In February 2005, the Company completed a financing pursuant to which the Company issued $4.8 million of unsecured convertible notes. Under the original terms of notes, the notes converted into equity upon the earliest to occur of the closing of certain qualified financing events (including an initial public offering) or at maturity in February 2006. In addition, the original terms of the notes provided that in the event of an initial public offering, the outstanding convertible notes automatically converted into such number of shares of common stock as was determined by dividing the outstanding principal amount of the convertible note, plus interest accrued through the date of closing of the initial public offering, by the per share public offering price of the initial public offering. In all other circumstances, the outstanding principal amount of the convertible notes, plus interest accrued, converted into either shares of a newly created class of preferred stock or shares of the class of security being issued in a subsequent qualified financing based on the fair market value of securities then being issued as determined in good faith by the Company's Board of Directors. Pursuant to the February 2005 financing, investors also were entitled to receive warrants equal to 50% of the number of shares of new preferred stock or other securities issuable upon conversion of the convertible notes. No estimate of the fair value of the Company's equity was made in connection with this transaction since the financing provided that any valuation determination was to be deferred until the time of conversion. All participants were current preferred stock investors in the Company.

In April 2005, the Company revised the terms of its convertible notes issued in February 2005 and issued an additional $260,000 of convertible notes. Under the revised terms of the notes, all of the notes converted into equity upon the earliest to occur of an initial public offering, the sale of the Company, or January 1, 2006. Upon the closing of an initial public offering prior to January 1, 2006, any outstanding convertible notes automatically converted into such number of shares of common stock as was determined by dividing the outstanding principal amount of the convertible note, plus interest accrued through the date of closing of the initial public offering, by the per share public offering price of the initial public offering. In all other circumstances, the outstanding principal amount of the convertible note, plus interest accrued, converted into shares of a new preferred security based on the fair market value of the new preferred as determined in good faith by the Company's Board of Directors. Under the revised terms of the notes, the warrants were terminated. No estimate of the fair value of the Company's equity was made in connection with this transaction since the financing provided that any valuation determination was to be deferred until the time of conversion. All additional participants were current preferred stock investors in the Company. During 2005, the Company incurred interest expense of $267,140 related to these notes.

Upon the closing of the Company's initial public offering in October 2005, all of the Company's outstanding convertible notes, representing principal and interest of $5,293,600, automatically converted into 504,152 shares of common stock.

*Stock Options*

The Company adopted the Avalon Pharmaceuticals, Inc. 1999 Stock Incentive Plan (the 1999 Plan) to provide for the granting of stock awards, such as stock options, restricted common stock, and stock appreciation rights to

employees, directors, and other individuals as determined by the Board of Directors. The Company has reserved 505,164 shares of common stock to accommodate the exercise of options granted under the 1999 Plan.

The Company terminated the 1999 Plan as to future awards effective upon the closing of the Company's initial public offering in October 2005.

Effective upon the closing of the Company's initial public offering in October 2005, the Company adopted the Avalon Pharmaceuticals, Inc. 2005 Omnibus Long-Terra Incentive Plan, or 2005 Plan. The Company reserved 989,738 shares of common stock to accommodate the exercise of options granted under the 2005 Plan.

In June 2006, the Company reserved an additional 591,844 shares of common stock to accommodate the exercise of options granted under the 2005 Plan.

For the year ended December 31, 2006, we recorded approximately $1.7 million of stock-based compensation expenses, of which $0.5 million was included in research and development expense and $1.2 million was included in general and administrative expense. Since we continue to operate in a net loss, the adoption of SFAS 123® had no impact for tax-related effects on cash flow from operations and cash flow from financing activities for the year ended December 31, 2006.

Additional information with respect to stock option activity is summarized as follows:

| | Shares | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term | Aggregate Intrinsic Value (in thousands) |
|---|---|---|---|---|
| Balance at December 31, 2003 | 535,022 | 2.85 | | |
| Granted | 46,985 | 3.20 | | |
| Exercised | (1,508) | 1.73 | | |
| Cancelled or expired | (24,705) | 3.08 | | |
| Balance at December 31, 2004 | 555,794 | 2.87 | | |
| Granted | 746,440 | 5.86 | | |
| Exercised | (3,520) | 2.49 | | |
| Cancelled or expired | (24,876) | 3.06 | | |
| Balance at December 31, 2005 | 1,273,838 | 4.62 | | |
| Granted | 874,433 | 3.39 | | |
| Exercised | (35,152) | 2.64 | | |
| Cancelled or expired | (123,645) | 4.62 | | |
| Balance at December 31, 2006 | 1,989,474 | 4.11 | | |
| Outstanding at December 31, 2006 | 1,989,474 | $4.11 | 8.4210 | $922 |
| Vested and expected to vest at December 31, 2006 | 1,925,015 | $4.11 | 8.4210 | $922 |
| Exercisable at December 31, 2006 | 931,548 | $4.39 | 7.0553 | $489 |
| Exercisable at December 31, 2005 | 472,779 | $2.94 | | |
| Exercisable at December 31, 2004 | 388,477 | $2.76 | | |

The following disclosure provides a description of the significant assumptions used during 2006, 2005 and 2004 to estimate the fair value of the Company's employee stock option awards. The fair value of employee stock options were estimated using the Black-Scholes option-pricing fair value model using the weighted-average assumptions shown in the table below. A discussion of our methodology for developing each of the assumptions used in the valuation model follows:

| | 2006 | 2005 | 2004 |
|---|---|---|---|
| Option pricing model | Black-Scholes | Black-Scholes | Black-Scholes |
| Expected stock price volatility | 69.26% | 66.2% | 56.1% |
| Expected dividend yield | 0% | 0% | 0% |
| Risk-free interest rate | 4.60% | 4.00% | 3.41% |
| Expected life of option (years) | 6.0 | 4.7 | 5.0 |

*Expected Stock Price Volatility* — Volatility is a measure of the amount by which a financial variable such as a share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. Due to the Company's limited trading history, there is inadequate data to calculate historical volatility of our stock. The Company has used an average volatility of similar companies in the pharmaceutical industry.

*Dividend Yield* — The Company has never declared or paid dividends and has no plans to do so in the foreseeable future.

*Risk-Free Interest Rate* — This is the U.S. Treasury rate for the week of each option grant during the quarter having a term that most closely resembles the term of the option.

*Expected Life of the Option Term* — This is the period of time that the options granted are expected to remain unexercised. Options granted during the quarter have a maximum term of ten years. The Company has adopted SAB 107's simplified method for estimating the expected term of stock options.

The Black-Scholes option pricing model requires the input of highly subjective assumptions. Because our employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models may not provide a reliable single measure of the fair value of our employee stock. In addition, management will continue to assess the assumptions and methodologies used to calculate estimated fair value of share-based compensation. Circumstances may change and additional data may become available over time, which result in changes to these assumptions and methodologies, and which could materially impact our fair value determination.

The following information summarizes information about stock options outstanding at December 31, 2006:

| | Outstanding as of 12/31/06 | | | | Exercisable as of 12/31/06 | |
|---|---|---|---|---|---|---|
| Exercise Prices | Vested | Unvested | Weighted-Average Exercise Price | Weighted-Average Remaining Contractual Term | Shares | Weighted-Average Exercise Price |
| $1.28 - $1.92 | 97,757 | 500 | $1.60 | 3.5208 | 97,757 | $1.60 |
| $1.92 - $2.56 | 690 | 8,279 | $2.35 | 9.5907 | 690 | $2.35 |
| $2.56 - $3.20 | 364,714 | 331,695 | $3.00 | 7.6285 | 364,714 | $3.18 |
| $3.20 - $3.84 | — | 461,900 | $3.78 | 9.9388 | — | — |
| $3.84 - $4.48 | 4,788 | 13,376 | $3.89 | 9.5562 | 4,788 | $3.86 |
| $4.48 - $5.12 | 6,256 | 14,494 | $4.78 | 9.2187 | 6,256 | $4.81 |
| $5.12 - $5.76 | 60,213 | 180,644 | $5.50 | 8.9172 | 60,213 | $5.50 |
| $5.76 - $6.40 | 397,130 | 47,038 | $6.03 | 8.7926 | 397,130 | $6.02 |
| | 931,548 | 1,057,926 | $4.11 | 8.4210 | 931,548 | $4.39 |

The total intrinsic value of options exercised during 2006, 2005 and 2004 was approximately $47,000, $12,000 and $2,000, respectively. The total intrinsic value of options outstanding and options exercisable at December 31, 2006 was approximately $922,000 and $489,000, respectively. The weighted average remaining contractual life of options exercisable at December 31, 2006 was 7.1 years.

As of December 31, 2006, unamortized stock-based compensation expenses of approximately $1.9 million remains to be recognized over a weighted-average period of approximately 2.86 years. We amortize stock-based compensation expenses on a straight-line ratable basis over the vesting period. The total fair value of shares vested during the years ended December 31, 2006, 2005 and 2004 was $1.7 million, $0.7 million and $0.1 million, respectively.

*Stock Warrants*

In August 2000, the Company issued warrants to its landlord to purchase 1,875 shares of common stock at $16 per share. The warrants expire in August 2010. In March 2001, the Company issued warrants to a vendor to purchase 31,250 shares of its common stock at $27.92 per share. The warrants expire on the earlier of the closing of the sale of all of the Company's outstanding equity capital or the third anniversary of the initial public offering. The exercise prices of both warrants are subject to adjustment for certain dilutive events, as defined in the terms of the warrants. The fair value of the warrants at the grant date was nominal.

## 7. Income Taxes

For the years ended December 31, 2006, 2005, and 2004, there is no current provision for income taxes and the deferred tax benefit has been entirely offset by valuation allowances. The difference between the amounts of income tax benefit that would result from applying domestic federal statutory income tax rates to the net loss and the net deferred tax assets is related to certain nondeductible expenses, state income taxes, and the change in the valuation allowance.

| | December 31, | |
|---|---|---|
| | 2006 | 2005 |
| | (in thousands) | |
| Deferred tax assets: | | |
| Net operating loss carryforwards | $ 27,051 | $ 19,492 |
| Capitalized research and development expenses | 7,135 | 8,596 |
| Start-up costs | 2,146 | 3,218 |
| Deferred revenue | 399 | — |
| Deferred rent expense | 181 | 181 |
| Accrued payroll | 119 | 60 |
| Depreciation | 738 | 276 |
| R&D Credit | 1,616 | — |
| Stock Options | 389 | — |
| Other | 31 | 75 |
| Deferred tax liabilities: | | |
| Depreciation | — | — |
| Valuation allowance | (39,805) | (31,898) |
| Net deferred tax assets | $ — | $ — |

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which the net operating loss carryforwards are available. Management considers projected future taxable income, the scheduled reversal of

deferred tax liabilities, and available tax planning strategies that can be implemented by the Company in making this assessment. Based upon the level of historical taxable income and projections for future taxable income over the periods in which the net operating loss carryforwards are available to reduce income taxes payable, management has established a full valuation allowance.

The net operating loss carryforwards of approximately $70.0 million will begin to expire in various years beginning in 2020. The use of the Company's net operating loss carryforwards may be restricted due to changes in Company ownership. Additionally, despite the net operating loss carryforwards, the Company may have a future tax liability due to an alternative minimum tax or state tax requirements. The Company paid no income taxes in 2006, 2005, or 2004.

The provision for income taxes differs from the amount of taxes determined by applying the U.S. federal statutory rate to loss before provision for income taxes as a result of the following for the year ended December 31 (in thousands):

| | 2006 | 2005 | 2004 |
|---|---|---|---|
| Federal tax at statutory rates | $(5,815) | $(6,559) | $(4,644) |
| State taxes, net of federal benefit | (758) | (876) | (630) |
| Change in valuation allowance | 6,339 | 7,322 | 5,267 |
| Permanent differences | 234 | 113 | 7 |
| Provision for income taxes | $ — | $ — | $ — |

## 8. Related Party Transactions

For the year ended December 31, 2006 and 2005, the Company paid two members of the board of directors consulting fees totaling $122,100 and $132,300, respectively. For the year ended December 31, 2004, the Company paid three members of the board of directors consulting fees totaling $128,556.

## 9. Commitments and Contingencies

In July 2002, the Company entered into a 10-year noncancelable operating lease agreement for office and laboratory space. The lease expires on February 1, 2013. This agreement contains an option to renew for two periods of 5 consecutive years. The lease contains a 3% annual escalation.

Total rent expense, inclusive of the monthly maintenance charges, for the years ended December 31, 2006, 2005 and 2004 was $1,457,000, $1,504,000 and $1,300,000, respectively. Total sublease income recorded for the years ended December 31, 2006, 2005 and 2004 was $246,022, $184,946 and $0, respectively. As of December 31, 2006, minimum future rental payments under non-cancelable leases, exclusive of maintenance charges, and rental income from subleases are as follows (in thousands):

| | Operating | Sublease Income |
|---|---|---|
| 2007 | $ 718 | $28 |
| 2008 | 740 | — |
| 2009 | 762 | — |
| 2010 | 785 | — |
| 2011 | 808 | — |
| Thereafter | 903 | — |
| Total | $4,716 | $28 |

## 10. Collaborations and Licenses

In October 2003, the Company entered into a collaboration with Medarex, Inc. to jointly research, develop and commercialize human antibodies against cancer targets. Under the agreement, each party is obligated to use commercially reasonable efforts to conduct their respective research activities in accordance with jointly developed project plans and budgets for the research, development, manufacture and commercialization of human antibodies resulting from this collaboration. The agreement generally provides that all costs associated with the research, development, manufacturing and commercialization of any such antibodies are to be shared equally between the two parties and that any operating profits or losses with respect to commercial products derived from the collaboration are to be similarly shared equally between the two parties. In addition, the agreement provides that each of parties shall own an equal, undivided interest in any intellectual property and technology derived from the collaboration. The agreement further provides that either party may voluntarily opt-out of its research, development and commercialization obligations. Upon the exercise of such opt-out right, the non-terminating party has the option to unilaterally continue research, development, manufacture and commercialization activities with respect to these antibodies, subject to the payment to the terminating party of specified royalties based on the phase of development during which such opt-out right is exercised and of up to between $6.5 million to $8.5 million per unilateral product in additional payments based on the achievement of various development and commercialization milestones, with the terminating party continuing to be responsible for all of its budgeted costs and expenses associated with completing the particular research and development phase applicable to such antibody. To date, no such royalty or milestone payments have been made by or paid to either party.

In February 2005, the Company entered into a licensing agreement with Vertex Pharmaceuticals, Inc. for the development of the investigational agent AVN944 in oncology indications. Under the terms of the agreement, Avalon holds exclusive rights to develop and commercialize AVN944 worldwide for the treatment of various cancers. The Company is obligated to pay up to $73 million in license fees and milestone payments to Vertex over the term of the agreement, based on the successful development and commercialization of AVN944 in oncology. In 2005, the Company made licensing payments to Vertex in the amount of $5 million. Upon commercialization, Vertex will receive royalties on product sales.

In June 2005, the Company entered into a collaboration and license agreement with MedImmune, Inc. for the discovery of small molecule therapeutic compounds in the area of inflammatory disease. Under the terms of the agreement, we are using AvalonRx® to identify lead compounds. MedImmune is responsible for preclinical and clinical testing of any resulting product candidates, as well as all future development, sales and marketing activities.

The Company received an upfront technology access fee payment and MedImmune is funding all research and development activities at the Company and MedImmune for the purpose of the collaboration. The Company may receive up to $16 million in milestone payments from MedImmune related to the discovery, development and commercialization of compounds resulting from this collaboration. The Company may also receive royalties on net sales of any products discovered in the collaboration.

Additionally, MedImmune has the option to initiate two additional small molecule drug discovery collaborations with us under similar terms.

The term of the agreement expires on the earlier of (i) fifty years from the date of the agreement or, (ii) such time as MedImmune's obligation to pay royalties expires. The agreement also expires if, after the research is completed, MedImmune does not select a clinical candidate. The license agreement may be terminated sooner by either the Company or MedImmune upon, among other events, a material, uncured breach by the other party or by MedImmune for reason other than our material breach, upon 90 days notice.

In September 2005, the Company entered into an agreement with Novartis Institutes for Biomedical Research, Inc. for the discovery of small molecule therapeutic compounds targeted against a pathway selected by Novartis. Under the terms of the agreement the Company is using AvalonRx® to identify and characterize compounds from

Novartis' chemical library. Novartis is responsible for lead optimization, preclinical and clinical testing of any resulting product candidates, as well as all future development and sales and marketing activities.

The Company received an upfront technology access fee and Novartis is funding all research activities at the Company for the purpose of the collaboration. The Company may receive milestone payments from Novartis based on the achievement of the following milestones: (1) identification of a validated hit compound and (2) identification of a lead compound.

In January 2007 the initial agreement term was amended from 18 months to 30 months from the date of inception. The agreement may be terminated sooner by either the Company or Novartis upon a material, uncured breach by the other party upon 60 days notice. In February 2007, following the Company's successful validation of an AvalonRx® based screen for monitoring disruption of the selected pathway, the parties have agreed to initiate the primary screen against a large subset of Novartis' compound library. Under the terms of the agreement, the initiation of the screening phase triggered a $500,000 payment to the Company for research support.

In July 2006, the Company entered into a collaboration agreement with ChemDiv, Inc. for the discovery and development of small molecule oncology therapeutics. The Company and ChemDiv will share in the costs of development and the value of any lead candidate resulting from their joint research efforts. Additional terms of the agreement provide the Company with the right to select 200,000 compounds from the ChemDiv library for use in all of the Company's discovery programs. The Company will use its proprietary AvalonRx® platform to discover new active compounds in screens against selected targets and target pathways. ChemDiv will provide the Company with access to its Discovery outSource™ services platform, as well as medicinal and synthetic chemistry for the discovery and development of new active compounds.

The term of the agreement expires 60 years from the effective date. The collaboration may be terminated sooner upon mutual written agreement of both parties.

## 11. Employee Benefit Plan

The Company has a defined contribution plan (the Plan) under Internal Revenue Code Section 401(k). All employees who have completed three months of service and are over age 21 are eligible for participation in the Plan. Participants may elect to contribute up to 25% of their annual pretax earnings, up to federally allowed maximum limits. The Company may make matching contributions at its discretion. Participant contributions vest immediately. Company contributions vest over four years or increasing by 25% annually. The Company has not made any contributions to the Plan.

## 12. Quarterly Financial Information (Unaudited)

| | Quarter Ended | | | |
|---|---|---|---|---|
| | March 31 | June 30 | September 30 | December 31 |
| | (in thousands, except per share data) | | | |
| **2006 Summary statement of operations:** | | | | |
| Total revenues | $ 539 | $ 417 | $ 1,115 | $ 653 |
| Loss from operations | (4,863) | (4,716) | (3,992) | (4,635) |
| Net loss attributable to Common Stockholders | (4,558) | (4,429) | (3,723) | (4,391) |
| Net loss attributable to Common Stockholders per common share — basic and diluted | (0.51) | (0.44) | (0.37) | (0.43) |
| **2005 Summary statement of operations:** | | | | |
| Total revenues | $ — | $ — | $ 748 | $ 796 |
| Loss from operations | (8,702) | (3,979) | (3,642) | (2,970) |
| Net loss attributable to Common Stockholders | (9,072) | (4,349) | (4,013) | (2,970) |
| Net loss attributable to Common Stockholders per common share — basic and diluted | (70,49) | (33.56) | (29.50) | (0.37) |

## 13. Subsequent Event

In January 2007, the Company raised $10.0 million through a private placement of 3,000,000 shares of it common stock to seventeen accredited institutional investors. The proceeds from this financing will be used to fund the Company's lead oncology drug, AVN944, and the continued development of additional pipeline programs using the Company's proprietary technology AvalonRx®.

In March 2007, the Company entered into a drug discovery, development and commercialization agreement with Merck & Co., Inc., to identify and develop inhibitors against a selected target in the area of oncology.

Under the terms of the agreement, the Company will use its AvalonRx® platform to screen a select set of compounds from Merck's proprietary compound library and identify hits against this target, which is generally regarded as "intractable" based on the difficulty in identifying inhibitors of this target. The Company is responsible for the selection of compound families and optimization of those compounds to a preclinical candidate selection stage. Merck is responsible for the clinical development, regulatory approval and commercialization of any resulting product candidates. Under the agreement, the Company will receive milestone payments based on meeting a number of discovery, development and commercial milestones relating to proof of concept, expansion of research term, selection of license compound and filing of INDs for a first cancer indication and subsequent cancer indications, initiations of different levels of clinical trials for those indications and the filing, and approval, of NDAs for those indications, and achievement of a specified level of net sales. If the Company achieves all of the milestones under the agreement, the Company will receive in excess of $200 million in milestone payments. The Company will also receive royalties on net sales of products developed in the collaboration. The agreement does not provide for any minimum guaranteed payments to the Company by Merck.

The term of the agreement expires upon the expiration of all royalty obligations under the agreement. The agreement may be terminated earlier by Merck upon 60 days advanced written notice during the preliminary stages of the research program and thereafter during the research program if certain levels of research support are not provided by the Company. Merck may terminate if certain research milestones are not met, subject to the payment of specified fees by Merck to us and our right to obtain reversion licenses from Merck to continue the development and commercialization of potential product candidates derived from the research program. The agreement may be further terminated by Merck if it determines that development of a compound is not commercially viable and again the Company has the right to obtain a reversion license to the compound to continue the development and commercialization of potential product candidates. Additionally, the agreement may be terminated either by the

Company or by Merck upon a material, uncured breach by the other party of the terms of the agreement, following the expiration of a 90 day cure period.

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

None.

## ITEM 9A. *CONTROLS AND PROCEDURES*

### Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness as of December 31, 2006 of our disclosure controls and procedures, as such term is defined under Rule 13(a)-15(e) under the Exchange Act. Based on this evaluation, our principal executive officer and our principal financial officer concluded that the design and operation of our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K.

### Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

## ITEM 9B. *OTHER INFORMATION*

None.

# PART III

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

The information required by this item regarding our directors and executive officers is incorporated by reference to our Definitive Proxy Statement to be filed with the Securities and Exchange Commission in connection with our Annual Meeting of Stockholders to be held in 2007 (the 2007 Proxy Statement) under the captions "Election of Directors" and "Management of the Company — Executive Officers."

The information required by this item regarding "Compliance with Section 16(a) of the Exchange Act" is incorporated by reference to the 2007 Proxy Statement under the caption "Other Matters — Section 16(a) Beneficial Ownership Reporting Compliance."

We have adopted our Code of Ethics for Senior Financial Officers, a code of ethics that applies to our Chief Executive Officer, Chief Financial Officer and Corporate Controller. This code of ethics may be accessed and reviewed through our website: http://www.avalonrx.com. We intend to satisfy any disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Ethics for our Chief Executive Officer, Chief Financial Officer and Corporate Controller, by posting such information on our web site at the address above.

The information required by this item regarding any material changes to the procedures by which security holders may recommend nominees to our Board of Directors is incorporated by reference to the 2007 Proxy Statement under the caption "Management of the Company — Nominating and Corporate Governance Committee."

The information required by this item regarding our Audit Committee is incorporated by reference to the 2007 Proxy Statement under the caption "Management of the Company — Board Committees — Audit Committee."

## ITEM 11. *EXECUTIVE COMPENSATION*

The information required by this item is incorporated by reference to the 2007 Proxy Statement under the captions "Management of the Company — Compensation of Directors" and "Executive Compensation."

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

The information regarding the security ownership of certain beneficial owners and management is incorporated by reference to the 2007 Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management."

The information regarding "Securities Authorized for Issuance under Equity Compensation Plans" is incorporated by reference to our 2007 Proxy Statement under the caption "Executive Compensation — Equity Compensation Plan Information."

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

The information required by this item is incorporated by reference to the 2007 Proxy Statement under the caption "Certain Relationships and Related Transactions," and "Management of the Company."

## ITEM 14. *PRINCIPAL ACCOUNTING FEES AND SERVICES*

The information required by this item is incorporated by reference to the 2007 Proxy Statement under the caption "Appointment of Independent Registered Public Accounting Firm."

# PART IV

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

(a)(1) Financial Statements — See Item 8.

(a)(2) Financial Statement Schedules — All financial statement schedules are omitted because they are not applicable, not required under the instructions or all the information required is set forth in the financial statements or notes thereto.

(a)(3) and (b) Exhibits — See accompanying Index to Exhibits.

(c) Financial Statement Schedules and Other Financial Statements.

Not applicable.

## SIGNATURES

Pursuant to the requirements 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.

**AVALON PHARMACEUTICALS, INC.**

By: /s/ KENNETH C. CARTER, PH.D.
Kenneth C. Carter, Ph.D.
President and Chief Executive Officer

Dated: March 30, 2007

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kenneth C. Carter, Ph.D., Gary Lessing and Thomas G. David, and each of them individually, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and his name, place and stead in any and all capacities, to sign the report and any and all amendments to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes, may lawfully do or cause to be done by virtue thereof.

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

| Signature | Title | Date |
|---|---|---|
| /s/ KENNETH C. CARTER, PH.D.<br>Kenneth C. Carter, Ph.D. | President, Chief Executive Officer and Director<br>*(Principal Executive Officer)* | March 30, 2007 |
| /s/ GARY LESSING<br>Gary Lessing | Executive Vice President and Chief Financial Officer<br>*(Principal Financial Officer)* | March 30, 2007 |
| /s/ GLEN A. FARMER<br>Glen A. Farmer | Controller<br>*(Principal Accounting Officer)* | March 30, 2007 |
| /s/ DAVID S. KABAKOFF, PH.D.<br>David S. Kabakoff, Ph.D. | Director | March 30, 2007 |
| /s/ MICHAEL R. KURMAN, M.D.<br>Michael R. Kurman, M.D. | Director | March 30, 2007 |
| /s/ BRADLEY G. LORIMIER<br>Bradley G. Lorimier | Director | March 30, 2007 |
| /s/ IVOR ROYSTON, M.D.<br>Ivor Royston, M.D. | Director | March 30, 2007 |

| Signature | Title | Date |
|---|---|---|
| /s/ WILLIAM A. SCOTT, PH.D.<br>William A. Scott, Ph.D. | Director | March 30, 2007 |
| /s/ PATRICK VAN BENEDEN<br>Patrick Van Beneden | Director | March 30, 2007 |
| /s/ ALAN G. WALTON, PH.D., D.SC.<br>Alan G. Walton, Ph.D., D.Sc. | Chairman of the Board of Directors | March 30, 2007 |
| /s/ WILLIAM H. WASHECKA<br>William H. Washecka | Director | March 30, 2007 |
| /s/ RAYMOND J. WHITAKER, MBA, PH.D.<br>Raymond J. Whitaker, MBA, Ph.D. | Director | March 30, 2007 |

## INDEX TO EXHIBITS

| Exhibit Number | Exhibit Title |
|---|---|
| 3.1(1) | Amended and Restated Certificate of Incorporation of Avalon Pharmaceuticals, Inc., as amended |
| 3.2(1) | Amended and Restated Bylaws |
| 4.1(1) | Specimen Common Stock Certificate |
| 10.1*(1) | License Development and Commercialization Agreement, dated February 14, 2005, between Avalon Pharmaceuticals, Inc. and Vertex Pharmaceuticals Incorporated |
| 10.2*(1) | Collaboration Agreement, effective as of October 15, 2003, between Avalon Pharmaceuticals, Inc. and Medarex, Inc. on behalf of itself and its wholly-owned subsidiary, GenPharm International, Inc. |
| 10.3*(1) | Collaboration and License Agreement, dated June 17, 2005, between Avalon Pharmaceuticals, Inc. and MedImmune, Inc. |
| 10.4*(1) | Pilot Study Agreement, dated September 9, 2005, between Avalon Pharmaceuticals, Inc. and Novartis Institutes for Biomedical Research, Inc. |
| 10.5A*(8) | Collaboration Agreement between Avalon Pharmaceuticals, Inc. and ChemDiv, Inc., dated July 25, 2006 |
| 10.5B*(8) | First Amendment, dated September 21, 2006, to Collaboration Agreement between Avalon Pharmaceuticals, Inc. and ChemDiv, Inc. |
| 10.6A(1)† | Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Kenneth C. Carter, Ph.D. |
| 10.6B† | Amendment No. 1, dated December 26, 2006, to Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Kenneth C. Carter, Ph.D. (filed herewith) |
| 10.7A(1)† | Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Thomas G. David |
| 10.7B† | Amendment No. 1, dated December 26, 2006, to Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Thomas G. David (filed herewith) |
| 10.8A(1)† | Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Gary Lessing |
| 10.8B† | Amendment No. 1, dated December 26, 2006, to Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and Gary Lessing (filed herewith) |
| 10.9A(1)† | Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and David Bol, Ph.D. |
| 10.9B† | Amendment No. 1, dated December 26, 2006, Amended and Restated Employment Agreement, dated April 21, 2005 by and between Avalon Pharmaceuticals, Inc. and David Bol, Ph.D (filed herewith) |
| 10.10(A)(6)† | Offer letter between Avalon Pharmaceuticals, Inc. and J. Michael Hamilton, dated April 20, 2006. |
| 10.10(B)† | Amendment No. 1, dated December 26, 2006, to Employment Agreement between Avalon Pharmaceuticals, Inc. and J. Michael Hamilton, dated April 20, 2006 (filed herewith) |
| 10.11(A)(7)† | Offer letter between Avalon Pharmaceuticals, Inc. and David D. Muth, dated September 12, 2006. |
| 10.11(B) † | Amendment No. 1, dated December 26, 2006, to Employment Agreement between Avalon Pharmaceuticals, Inc. and David D. Muth, dated September 12, 2006 (filed herewith) |
| 10.12A(1)† | Consulting Agreement, dated February 1, 2000, by and between Avalon Pharmaceuticals, Inc. and Bradley G. Lorimier |
| 10.12B(1)† | Addendum to Consulting Agreement |
| 10.12C(1)† | Second Addendum to Consulting Agreement, dated March 30, 2003 |
| 10.12D(1)† | Third Addendum to Consulting Agreement, dated October 25, 2004 |
| 10.13(1)† | Consulting Agreement, dated August 4, 2004, by and between Avalon Pharmaceuticals, Inc. and Michael R. Kurman |
| 10.14(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan, as of October 15, 2001, as amended |
| 10.15(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — Form of Non-qualified Stock Option Agreement — $.20 per share |

| Exhibit Number | Exhibit Title |
|---|---|
| 10.16(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — Form of Non-qualified Stock Option Agreement — $.40 per share |
| 10.17(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — Form of Incentive Stock Option Agreement — $.20 per share |
| 10.18(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — Form of Incentive Stock Option Agreement — $.40 per share |
| 10.19A(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — First Amendment to Form of Incentive Stock Option Agreement |
| 10.19B(1)† | Avalon Pharmaceuticals, Inc. Amended and Restated 1999 Stock Plan — Second Amendment to Form of Incentive Stock Option Agreement |
| 10.20(5) | Avalon Pharmaceuticals, Inc. 2005 Omnibus Long-Term Incentive Plan, as amended |
| 10.21(2)† | Avalon Pharmaceuticals, Inc. 2005 Omnibus Long-Term Incentive Plan — Form of Incentive Stock Option Agreement |
| 10.22(2)† | Avalon Pharmaceuticals, Inc. 2005 Omnibus Long-Term Incentive Plan — Form of Nonqualified Stock Option Agreement |
| 10.23† | Stock Option Agreement Amendment, dated December 26, 2006, between Avalon Pharmaceuticals, Inc. and Gary Lessing (filed herewith) |
| 10.24(3)† | Stock Election Policy for Non-Employee Director Fees |
| 10.25(1)† | Form of Avalon Pharmaceuticals, Inc. Director and Officer Indemnification Agreement |
| 10.26*(4) | Purchase Agreement, dated February 27, 2006 |
| 10.27(4) | Registration Rights Agreement, dated February 27, 2006 |
| 10.28(1) | Registration Rights Agreement, dated October 26, 2001, by and between Avalon Pharmaceuticals, Inc. and the Investors listed on Schedule I thereto |
| 10.29(1) | Common Stock Warrant Agreement, dated August 11, 2000, by and between Avalon Pharmaceuticals, Inc. and Alexandria Real Estate Equities, L.P. |
| 10.30(1) | Common Stock Warrant Agreement, dated March 23, 2001, by and between Avalon Pharmaceuticals, Inc. and Compugen, Ltd. |
| 10.31(1) | Series B Convertible Preferred Stock Warrant, dated February 6, 2002, granted to Array Capital LLC |
| 10.32A(1) | Series B Convertible Preferred Stock Warrant, dated May 14, 2001, granted to GATX Ventures, Inc. |
| 10.32B(1) | Letter Amendment to Series B Convertible Preferred Stock Warrant, dated October 11, 2001, by and between Avalon Pharmaceuticals, Inc. and GATX Ventures, Inc. |
| 10.33(1) | Series B Convertible Preferred Stock Warrant Agreement, dated August 20, 2002, by and between Avalon Pharmaceuticals, Inc. and General Electric Capital Corporation |
| 10.34(1) | Series B Convertible Preferred Stock Warrant Agreement, dated December 23, 2002, by and between Avalon Pharmaceuticals, Inc. and General Electric Capital Corporation |
| 10.35(1) | Series B Convertible Preferred Stock Warrant Agreement, dated June 18, 2003, by and between Avalon Pharmaceuticals, Inc. and General Electric Capital Corporation |
| 10.36(1) | Series B Convertible Preferred Stock Warrant Agreement, dated December 23, 2003, by and between Avalon Pharmaceuticals, Inc. and General Electric Capital Corporation |
| 10.37A(1) | Master Security Agreement, dated as of June 25, 2002, by and between General Electric Capital Corporation and Avalon Pharmaceuticals, Inc. |
| 10.37B(1) | Amendment to Master Security Agreement dated as of June 25, 2002 |
| 10.38(1) | Lease Agreement, dated July 15, 2002, by and between Westphalia Center II Limited Partnership and Avalon Pharmaceuticals, Inc. |
| 10.39(1) | Trust Indenture, dated April 1, 2003, by and between the Maryland Industrial Development Financing Authority and Allfirst Trust Company National Association, as trustee (including form of Maryland Industrial Development Financing Authority Taxable Variable Rate Demand Revenue Bond (Avalon Pharmaceuticals, Inc. Facility) Series 2003) |
| 10.40(1) | Loan Agreement, dated April 1, 2003, by and between Maryland Industrial Development Financing Authority and Avalon Pharmaceuticals, Inc. |

Avalon
pharmaceuticals

20358 Seneca Meadows Parkway
Germantown, MD 20876
Phone: 301-556-9900
www.avalonrx.com

END