

METABASIS THERAPEUTICS INC  
Form 10-K  
March 17, 2008

[QuickLinks](#) -- Click here to rapidly navigate through this document

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

**Form 10-K  
FOR ANNUAL AND TRANSITION REPORTS  
PURSUANT TO SECTIONS 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934**

(Mark One)

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

For the fiscal year ended December 31, 2007

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: 000-50785

**METABASIS THERAPEUTICS, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation or organization)

**33-0753322**  
(I.R.S. Employer Identification No.)

**11119 North Torrey Pines Road, La Jolla, CA**  
(Address of principal executive offices)

**92037**  
(Zip Code)

**(858) 587-2770**

(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value \$0.001 per share	The Nasdaq Stock Market

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

**None**

Indicate by check mark whether 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

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

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, a non-accelerated filer or a smaller reporting company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company   
(Do not check if a smaller reporting company)

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

As of June 29, 2007, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$70.8 million, based on the closing price of the registrant's common stock on the Nasdaq Stock Market on June 29, 2007 of \$7.00 per share. Shares of common stock held by executive officers, directors and 10% or greater stockholders of the registrant have been excluded in that such persons or entities may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's common stock, par value \$0.001 per share, as of March 3, 2008 was 30,756,906.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant's definitive Proxy Statement to be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2007 are incorporated by reference into Part III of this report.

---

---

---

**METABASIS THERAPEUTICS, INC.**

**FORM 10-K ANNUAL REPORT  
FOR THE YEAR ENDED DECEMBER 31, 2007**

**TABLE OF CONTENTS**

<b>PART I</b>		3
Item 1	Business	3
Item 1A	Risk Factors	31
Item 1B	Unresolved Staff Comments	54
Item 2	Properties	54
Item 3	Legal Proceedings	54
Item 4	Submission of Matters to a Vote of Security Holders	54
<b>PART II</b>		55
Item 5	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	55
Item 6	Selected Financial Data	57
Item 7	Management's Discussion and Analysis of Financial Condition and Results of Operations	58
Item 7A	Quantitative and Qualitative Disclosures About Market Risk	70
Item 8	Financial Statements and Supplementary Data	70
Item 9	Changes in and Disagreements With Accountants on Accounting and Financial Disclosures	70
Item 9A	Controls and Procedures	70
Item 9B	Other Information	73
<b>PART III</b>		74
Item 10	Directors, Executive Officers and Corporate Governance	74
Item 11	Executive Compensation	74
Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	74
Item 13	Certain Relationships and Related Transactions, and Director Independence	74
Item 14	Principal Accountant Fees and Services	74
<b>PART IV</b>		75
Item 15	Exhibits and Financial Statement Schedules	75
<b>SIGNATURES</b>		79

**PART I**

**Item 1. Business**

**Forward-Looking Statements**

This annual report on Form 10-K contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to our management. Forward-looking statements include information concerning our possible or assumed future results of operations, business strategies, future collaborations, financing plans, competitive position, industry environment, potential growth opportunities, the effects of future regulation and the effects of competition. Forward-looking statements include all statements that are not historical facts and can be identified by terms such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" or similar expressions.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in the "Risk Factors" section below and in our other filings with the Securities and Exchange Commission. Our actual results may differ materially from those anticipated in these forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements. The forward-looking statements speak only as of the date on which they are made, and we undertake no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they are made.

**Overview**

We are a biopharmaceutical company focused on discovering, developing and commercializing novel drugs by applying our proprietary technologies, scientific expertise and unique capabilities for targeting the liver and liver pathways. We have established a broad pipeline of product candidates and advanced research programs targeting large markets with significant unmet needs. Our product pipeline includes product candidates and advanced research programs for treating metabolic diseases such as diabetes and hyperlipidemia, which we refer to as our "core assets," as well as product candidates and advanced research programs for the treatment of liver diseases such as hepatitis and primary liver cancer, which we refer to as our "non-core assets." All of our product candidates were developed internally using our proprietary technologies.

Our business strategy includes advancing our clinical stage core assets through key clinical milestones, expanding our core asset pipeline, establishing strategic collaborations that maximize the current and future value of our core assets while allowing us to participate in their future worldwide clinical development and commercialization and enhancing the value of our non-core assets by licensing them for future clinical development and commercialization or otherwise selling them to provide near term resources to reinvest into our core asset pipeline.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

The following table summarizes our product candidates currently in clinical development and our advanced research programs:

Product Candidates/Programs(1)	Disease/Condition	Partner	Our Commercial Rights	Status
<b>Core Assets:</b>				
MB07803	Diabetes	None	Worldwide	Phase 2a
MB07811	Hyperlipidemia	None	Worldwide	Phase 1b
Unnamed	Diabetes	None	Worldwide	Lead Optimization(4)
Unnamed	Hyperlipidemia	None	Worldwide	Lead Optimization(4)
Unnamed(2)	Diabetes	Merck	Royalties	Lead Optimization(4)
<b>Non-Core Assets:</b>				
Pradefovir	Hepatitis B	None	Worldwide	Phase 2b completed
MB07133	Liver Cancer	None	Worldwide	Phase 1/2 completed
Unnamed(3)	Hepatitis C	Merck	Royalties	Lead Optimization(4)
Unnamed(3)	Hepatitis C	Idenix	Royalties	Lead Optimization(4)

- (1) None of our product candidates have received regulatory approval in the U.S. or in foreign countries.
- (2) We are collaborating with Merck & Co., or Merck, to discover AMPK activators for treating diabetes and potentially other metabolic diseases.
- (3) We are collaborating with Merck and Idenix Pharmaceuticals, Inc., or Idenix, to apply our HepDirect and other liver-targeting technologies to certain compounds for treating hepatitis C infection. The funded research phases of these collaborations are completed. Merck is currently evaluating certain candidate compounds discovered during the collaboration to determine if one or more will be recommended for clinical development. Idenix is currently evaluating this program for further development.
- (4) Lead optimization is a stage within the discovery process during which the properties of various lead active compounds are evaluated to determine those with the greatest potential to be developed into safe and effective medicines.

### ***Core Assets Metabolic Disease Product Candidates***

*MB07803, a Phase 2a product candidate for treating type 2 diabetes.* MB07803 is a second- generation gluconeogenesis inhibitor for treating type 2 diabetes that we discovered using our NuMimetic technology. We have completed five Phase 1 clinical trials in healthy volunteers with MB07803, the most advanced of which was a 14-day rising multiple dose clinical trial. We initiated a four week randomized proof-of-concept Phase 2 clinical trial in the second quarter of 2007, which we expect to complete in 2008. We are currently independently developing this product candidate.

*MB07811, a Phase 1 product candidate for treating hyperlipidemia.* MB07811 uses our HepDirect prodrug technology and other structural characteristics to target a beta-subtype selective thyroid hormone receptor, or TR $\beta$ , agonist to the liver to reduce fat protein complexes called lipoproteins including low density lipoprotein, or LDL, serum triglycerides and liver triglycerides (which may lead to unhealthy liver fat accumulations) and Lp(a), a lipoprotein potentially associated with coronary artery disease. Preclinical data suggest that MB07811 could be an effective approach for lowering cholesterol with the added benefit of reducing both serum and liver triglycerides as well as Lp(a). Importantly, MB07811 appears to have an additive effect in reducing cholesterol when used with statins. We initiated a rising multiple-dose Phase 1b clinical trial in the second quarter of 2007 that was designed to evaluate the safety and tolerability of

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

MB07811 in healthy volunteers with modestly elevated LDL cholesterol. In January 2008, we announced interim results from this ongoing trial that indicated MB07811 was safe and well tolerated at the first four doses studied. This has allowed us to continue increasing the dose and the dosing of a fifth dose cohort was completed successfully and a sixth group of patients is currently underway. Although not the primary end-point of the study, we also evaluated the efficacy of MB07811 in the first four dose cohorts (each cohort included eight volunteers, two on placebo and six who received MB07811). While these observations should be considered preliminary, the results were encouraging with clinically-relevant reductions in LDL cholesterol and triglycerides, or TG, observed relative to the changes seen in patients treated with placebo. We are currently independently developing this product candidate.

### ***Core Assets Metabolic Disease Advanced Research Programs***

Our metabolic disease-related advanced research programs are as follows:

A program focused on identifying potent, orally bioavailable glucagon antagonists for treating type 2 diabetes.

A second generation TR $\beta$  agonist program to identify drug candidates for treating hyperlipidemia.

A metabolic disease program focused on developing drug candidates that activate AMPK for treating type 2 diabetes and potentially other metabolic diseases.

### ***Non-Core Assets Liver Disease Product Candidates and Other Programs***

We currently have two non-core liver disease product candidates at the clinical stage of development, pradeфовir and MB07133, which are product candidates for treating hepatitis B viral disease and primary liver cancer, respectively. Pradeфовir has successfully completed a number of Phase 1 and Phase 2 clinical trials designed to evaluate safety and efficacy. MB07133 has successfully completed a Phase 1/2 clinical trial in which it was well tolerated in patients with primary liver cancer and demonstrated encouraging signs of drug activity as evidenced by tumor shrinkage (in 29% of the patients included in the study) and disease stabilization (in up to 60% of the patients in the study). We intend to license both pradeфовir and MB07133 to continue further clinical development. In addition, we are collaborating with Merck and Idenix to apply our HepDirect and other liver-targeting technologies to certain compounds for treating hepatitis C infection.

### ***Technologies***

We are expanding our product pipeline by using our proprietary technologies, our knowledge of liver diseases and our expertise in pathways and proteins residing in the liver that significantly contribute to metabolic diseases. We have additional expertise in processes in the liver that are important for drug uptake, metabolism and excretion, all of which are important for targeting drugs to the liver with high specificity. We have used this knowledge to develop our proprietary NuMimetic and HepDirect technologies, which we use in several of our research programs. Our NuMimetic technology encompasses know-how and compound libraries that are useful in discovering molecules that bind effectively and specifically to nucleotide binding sites on certain key enzymes controlling important metabolic pathways. Our HepDirect technology is a proprietary technology used to target drugs to the liver. We also have expertise in structure-based drug design, and we have developed novel computational methods useful for predicting drug binding effectiveness and specificity. These methods have aided our design and discovery of novel drug compounds.

## Our Business Strategy

Our goal is to be a leading biopharmaceutical company developing and commercializing novel drugs. Important elements of our business strategy include:

*Advancing our clinical stage core assets through key value driving clinical development milestones.* We are currently independently developing two metabolic disease product candidates, MB07803 and MB07811, as potential treatments for type 2 diabetes and hyperlipidemia, respectively. MB07803 is a second generation inhibitor of a metabolic pathway in the liver called gluconeogenesis, which is responsible for the excessive production of glucose by patients with type 2 diabetes. MB07811 selectively targets a TR $\beta$  agonist to the liver for treating hyperlipidemia. Our clinical development efforts, and the majority of our internal resources, are directed toward achieving key value-driving clinical development milestones for MB07803 and MB07811. Because these product candidates address some of the world's largest and fastest growing pharmaceutical markets, we believe that their successful clinical development would create significant value for our shareholders.

*Expanding our core asset product pipeline.* We currently have advanced research programs developing orally bioavailable glucagon antagonists for treating type 2 diabetes, a second-generation liver-targeted TR $\beta$  agonists for treating hyperlipidemia and activators of an enzyme known as AMPK for treating type 2 diabetes and potentially other metabolic diseases, the latter of which we are developing in collaboration with Merck. We also have other promising metabolic disease research programs that have the potential to yield additional core assets. We intend to expand our existing pipeline of core assets by moving additional new drug compounds from our research programs into clinical development.

*Establishing strategic collaborations that maximize the current and future value of our core assets while allowing us to participate in their future worldwide clinical development and commercialization.* Because many of our current and future core metabolic disease product candidates employ novel, as yet unproven approaches to metabolic diseases, and because the optimal clinical development and commercialization of metabolic disease product candidates can be complex, costly and time consuming, we will seek strategic collaborations with pharmaceutical companies to develop and commercialize our core metabolic disease assets. However, we will seek these collaborations for each research program, product candidate or group of product candidates only at appropriate times and under terms that:

maximize their current and future value to our shareholders,

provide additional resources that allow us to continue to grow our metabolic disease product pipeline, and

allow us to enhance our internal capabilities by participating in the future worldwide clinical development and commercialization of any compounds subject to the collaboration.

*Enhancing the value of our non-core assets by licensing them for future clinical development and commercialization or otherwise selling them to provide near term resources to reinvest into our core asset pipeline.* We currently retain rights to two non-core clinical development stage liver disease product candidates, pradefovir and MB07133, which we have developed as potential treatments for hepatitis B viral disease and primary liver cancer, respectively. In addition, we retain royalty-related interests in advanced research programs being conducted by Merck and Idenix to develop potential treatments for hepatitis C viral disease. Our interests in the two advanced research programs with Merck and Idenix were the result of collaborations that applied our proprietary HepDirect technology to these third-party compounds. We may enter into additional technology-based collaborations in the future as a result of our efforts or, as in the case of Idenix and Merck, if we are approached by others seeking access to our technologies or

intellectual property. These various programs are not core to our main metabolic disease focus. However, these non-core assets could provide significant value to our shareholders in the future if these products are successfully developed, generate milestone or royalty revenue or our interests in these products are otherwise sold. Therefore, we intend to further enhance the value of these non-core assets by licensing them, assisting current licensees in their development efforts or by selling these non-core assets in the future to provide near term resources to reinvest into our core assets.

### **Our Core Assets**

Our metabolic disease product candidates focus on treating diseases such as type 2 diabetes and hyperlipidemia. These diseases are major healthcare problems worldwide, but are especially prevalent in the U.S. and Europe. We believe that these metabolic diseases can be treated by targeting metabolic pathways in the liver, such as the pathways responsible for producing and/or metabolizing glucose, cholesterol and fat molecules. Many drugs are currently available for treating metabolic diseases either alone or in combination with other drugs. However, while effective drug therapies exist for some patients, most are inadequately treated or controlled. Over 60% of patients treated for type 2 diabetes remain above the targeted levels for glucose set by the American Diabetes Association. In addition, over 80% of patients with coronary heart disease, which is associated with hyperlipidemia, remain above the targeted levels for cholesterol set by the National Cholesterol Education Program. As a result, we believe more effective drugs are needed to treat these diseases.

#### *Diabetes*

There are two forms of diabetes: type 1 (insulin-dependent; juvenile onset diabetes) and type 2 (non-insulin dependent; adult onset diabetes). Approximately 90% of diabetes patients have type 2 diabetes. Elevated blood glucose levels in patients with type 2 diabetes are the result of decreased glucose metabolism combined with increased glucose production. Decreased glucose metabolism arises from a relative underproduction of the hormone insulin by the pancreas, along with a decrease in the sensitivity of the body's tissues, such as muscle, liver and fat, to insulin action. Increased glucose production is caused by increased synthesis of glucose by the gluconeogenesis pathway in the liver. Over time, the chronically elevated blood glucose levels seen in patients with type 2 diabetes can lead to many long-term complications such as coronary heart disease, stroke, blindness, peripheral vascular disease, kidney disease and nerve damage. Diabetes is a leading cause of death in the U.S. Type 2 diabetes afflicts over 170 million people worldwide and over 18 million people in the U.S.

#### *Current Treatments*

The United Kingdom Prospective Diabetes Study, a landmark 20-year clinical study completed in 1996, demonstrated that stringent control of blood glucose levels reduces the risk of the serious complications associated with type 2 diabetes. As a result of this study, the American Diabetes Association now recommends that levels of hemoglobin A1c be maintained under 7% in patients with type 2 diabetes. However, other than insulin, at the present time no single marketed drug is capable of lowering hemoglobin A1c levels into the targeted range for a sustained period of time in the majority of patients with type 2 diabetes.

Drugs from each of the four major classes of oral diabetes drugs not only exhibit limited efficacy, but also are associated with less than desired tolerability and significant mechanism-based side effects. These drug classes include:

insulin secretion enhancers, which lower glucose levels by inducing insulin secretion from the pancreas. This drug class has been associated with a significant risk of hypoglycemia,



## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

insulin sensitizers, which lower glucose levels by enhancing insulin sensitivity. This drug class has been associated with fluid retention, weight gain and a risk of heart attacks and angina,

hepatic glucose output inhibitors, the primary mechanism of which is to lower glucose levels by inhibiting liver glucose production. The only drug in this class is metformin, which, based on a study reported in the medical journal *Diabetes*, inhibits glucose production by the liver by only approximately 20-25%, even when administered at the maximum allowed dose. Metformin therapy is associated with an increased risk of lactic acidosis in certain patient populations, including patients with kidney dysfunction. In addition, metformin therapy commonly leads to transient gastrointestinal disturbances such as nausea, diarrhea and vomiting, which may compromise patient compliance, and

incretin mimetics, which lower glucose levels by increasing the levels of certain naturally occurring hormones from the pancreas, including glucagon-like peptide-1, or GLP-1, a peptide that facilitates the response of the pancreas and liver to fluctuations in glucose levels by its action on pancreatic beta and alpha cells. This drug class includes dipeptidyl peptidase IV or DPP-IV inhibitors, and BYETTA ® (exenatide) injection. DPP-IV is an enzyme in the bloodstream that cleaves and inactivates GLP-1. Inhibition of DPP-IV thus increases the half-life of endogenous GLP-1 by preventing cleavage and inactivation of GLP-1. BYETTA is an injectable medication that exhibits many of the same glucose regulating actions of GLP-1. The overall effect of drugs in this class is to enhance glucose-dependent insulin secretion and suppress inappropriate glucagon secretion.

Certain widely used insulin secretion enhancers and insulin sensitizers, but not metformin, are also associated with increased weight gain. Since weight gain is known to impact glucose control, physicians often prescribe metformin as a first line therapy to obese patients who, according to a recent study published in the medical journal *Diabetes & Endocrinology*, comprise more than 90% of newly diagnosed patients with type 2 diabetes. In the United Kingdom Prospective Diabetes Study, obese patients treated with maximum doses of metformin or an insulin secretion enhancer ultimately showed a steady rise in hemoglobin A1c levels above the targeted range at three years. Progressively fewer patients were able to maintain baseline hemoglobin A1c levels at six years and nine years, respectively.

Once treatment with a single oral drug fails to adequately control glucose levels, patients with diabetes typically are treated with one or more additional oral drugs. It is estimated that more than 75% of patients with type 2 diabetes will require multiple oral drug therapies to attain adequate glucose control, and just over 30% of patients with type 2 diabetes will ultimately advance to a stage that requires daily insulin injections. We believe that because of the limitations in currently marketed drugs, the diabetes market is receptive to new drugs, and new therapeutic approaches have the potential to experience rapid clinical acceptance.

### *Markets*

Combined sales of oral products used to treat type 2 diabetes in the seven major pharmaceutical markets were \$16.4 billion in 2006, with the U.S. accounting for \$10.7 billion of that total. By 2016, combined sales of oral products used to treat type 2 diabetes in the seven major pharmaceutical markets are expected to increase to \$25 billion, and sales in the U.S. are expected to increase to \$16 billion.

### *MB07803: A second generation gluconeogenesis inhibitor for treating type 2 diabetes*

MB07803 is an oral product candidate for treating type 2 diabetes that we discovered using our NuMimetic technology and is designed to inhibit gluconeogenesis by targeting an enzyme known as fructose-1, 6-bisphosphatase, or FBPase. MB07803 is our second generation FBPase inhibitor to CS-917, our first product candidate designed to treat type 2 diabetes via this mechanism. CS-917 had

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

demonstrated promising results in early clinical studies but failed to significantly lower the placebo-adjusted level of glycosylated hemoglobin, or HbA1c, a measure of glucose load, at the doses tested, in a later Phase 2b clinical trial completed in 2007.

Subsequently, further clinical evaluation of CS-917 was discontinued and all rights to this product candidate were returned to us by our former development partner on CS-917, Daiichi Sankyo, Co. Ltd., or Daiichi Sankyo. Subsequent analysis of the data from the Phase 2b study showed that CS-917 significantly lowered both hemoglobin A1c and fasting plasma glucose in certain patient sub-populations over the three-month dosing period evaluated. These results confirmed the product candidate's mechanism of action and were consistent with the efficacy seen in previous Phase 2a clinical trials. Further, our analysis indicated that concerns raised in prior clinical trials regarding CS-917's tolerability may have led to it being under dosed by Daiichi Sankyo at the 50 and 100 mg doses evaluated. This under dosing, combined with CS-917's previously identified tendency to produce variable active drug levels from patient to patient, may have led to its failure to achieve the primary efficacy endpoint of this Phase 2b clinical trial. While the trial's primary efficacy endpoint was not met, CS-917 was determined to be safe and well-tolerated in this Phase 2b clinical trial at the doses tested.

We have designed our second generation FBPase inhibitor, MB07803, with certain improvements that we believe have the potential to address the shortcomings seen to date with CS-917, including those that may have contributed to its failure to achieve the above described Phase 2b efficacy endpoint. These improvements include improved oral bioavailability, metabolic stability and once-daily dosing, which we believe could lead to better tolerability and improved efficacy. We believe that results from our currently ongoing Phase 2a clinical trial of MB07803 may provide initial evidence of its improved profile relative to CS-917. Because we believe that MB07803 has a superior product profile and is now approximately at the same stage of clinical development as CS-917, we have decided to concentrate our future clinical development efforts related to FBPase inhibitors on MB07803 and not CS-917, even though we now possess full worldwide development and commercialization rights to both compounds. We are currently independently developing MB07803.

### *Product Position*

An effective hepatic glucose output inhibitor, such as MB07803, which directly inhibits the gluconeogenesis pathway, may provide robust efficacy and could compare favorably to the current first-line therapy, metformin. If MB07803 is approved by regulatory authorities we believe that it could initially be the drug of choice, alone or in combination with other oral therapies, for those patients who are intolerant to, or contraindicated for, metformin use and as well as for those who no longer respond to metformin, a common problem with long-term use. Market research indicates that by 2017 these patient populations together are projected to comprise approximately 61% of patients with type 2 diabetes. Over time, if the safety and/or efficacy profile of MB07803 is determined by physicians to be superior to metformin, it could be used as an alternative first line therapy in some patients.

Our first generation hepatic glucose output inhibitor, CS-917, appeared to interact with metformin in a limited number of patients during a drug-drug interaction study, leading to elevated drug levels and serious adverse events in those patients. Thus combination of CS-917 and metformin was avoided in subsequent studies. It is possible but not certain that MB07803 could also prove to be contraindicated for use with metformin. While we do not believe this would adversely affect use in the many patients unable to tolerate metformin, it could limit usage in other patient populations.

We believe there is a considerable market opportunity for MB07803 regardless of whether MB07803 is determined by physicians to have a superior or equivalent safety and/or efficacy profile compared to metformin or if it is ultimately determined in further clinical trials that the use of MB07803 cannot be safely combined with metformin.

*Clinical Trials*

We have completed five Phase 1 clinical trials of MB07803 in healthy volunteers, the most advanced of which was a 14-day, rising multiple dose clinical trial. The results from these completed clinical trials indicated that MB07803 was safe and well tolerated and supported the advancement of MB07803 into Phase 2 clinical trials. We initiated a four-week randomized proof-of-concept Phase 2 clinical trial in the second quarter of 2007, which we expect to complete in 2008. This trial was fully enrolled in February 2008, including approximately 100 patients with type 2 diabetes who are being treated with MB07803 and placebo.

*Hyperlipidemia*

Hyperlipidemia is a disease characterized by an elevation of lipids, such as cholesterol or triglycerides, in the bloodstream. Elevation of cholesterol and/or triglycerides in the bloodstream can accelerate a process called atherosclerosis, or hardening of the arteries, through the formation of plaque deposits on the artery walls. As more plaque builds up, the arteries can narrow and stiffen. Eventually, enough plaque may build up to reduce blood flow through the arteries leading to a greater risk of cardiovascular disease and heart attack or stroke. Cardiovascular disease is the leading cause of death worldwide, and in the U.S. alone claims more lives than cancer, chronic respiratory diseases, accidents and diabetes combined.

*Current Treatments*

While many drug classes are currently available for treating hyperlipidemia either alone or in combination with other drugs, many patients are not achieving optimal cholesterol lowering and are not meeting their cholesterol lowering targets with current therapies.

Major classes of hyperlipidemia drugs include, but are not limited to:

statins, which reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol,

fibrates, which reduce the amount of cholesterol and triglycerides (fatty substances) in blood,

nicotinic acid derivatives, which lower cholesterol, triglycerides and low density lipoproteins and increase high density lipoproteins,

cholesterol absorption inhibitors or CAIs, which inhibit the absorption of dietary and biliary cholesterol,

bile acid sequestrants, which bind with cholesterol-containing bile acids in the intestines and remove them in bowel movements by excretion via the feces, and

statin combination therapies, which combine statins with members of the above-mentioned classes.

Lipitor® (atorvastatin; a statin marketed by Pfizer Inc.) is currently the best selling prescription medicine for treating hyperlipidemia. Several large pharmaceutical companies are also developing novel therapies that target hyperlipidemia.

### *Markets*

Combined sales of products used to treat hyperlipidemia in the seven major pharmaceutical markets were \$29.2 billion in 2006, with the U.S. accounting for \$21.7 billion of that total. By 2016 combined sales in the seven major pharmaceutical markets are expected to increase to \$33 billion and sales in the U.S. are expected to increase to \$23 billion. The relatively modest growth in sales in the combined seven major markets, and the increase in U.S. sales over this period, are mainly due to the projected impact from the introduction of generic statins during this period. However, the number of patients diagnosed with hyperlipidemia is expected to increase from 301 million worldwide in 2006 to 330 million in 2015. In the U.S., the number of patients diagnosed with hyperlipidemia is expected to increase from 111 million in 2006 to 124 million in 2015.

### ***MB07811: A liver-targeted thyroid hormone receptor agonist for treating hyperlipidemia***

MB07811 is the result of our efforts to find ways to control the expression of certain genes in the liver that are important for making, or metabolizing, cholesterol as well as genes involved in the control of energy expenditure. MB07811 uses our HepDirect prodrug technology and other structural characteristics to target a TR $\beta$  agonist to the liver to reduce fat protein complexes called lipoproteins, including serum triglycerides and liver triglycerides (elevated levels of which may lead to unhealthy liver fat accumulations) and Lp(a). Thyroid hormone receptor agonists are known to reduce cholesterol in animal models, but typically at doses similar to those associated with potential safety concerns, including cardiac and other non-hepatic toxicities. MB07811 is an internally discovered HepDirect prodrug of a novel TR $\beta$  receptor agonist that is designed to deliver the agonist to the site where cholesterol is produced and metabolized, i.e. the liver, while reducing the exposure of other tissues to the agonist to other tissues. We believe that liver-targeting may avoid the safety concerns previously seen with non-liver targeted TR $\beta$  agonists and thus unlock the therapeutic potential of this approach. In addition, MB07811, if approved, could be one of the first in an entirely new class of anti-hyperlipidemic agents which may help patients better reach targeted cholesterol levels either as first line therapy or in combination with statins.

### *Product Position*

Preclinical data suggest that MB07811 could be an effective approach for lowering cholesterol with the added benefit of reducing both serum and liver triglycerides as well as Lp(a). Importantly, MB07811 appears to have an additive effect in reducing cholesterol when used with statins. Thus, if MB07811 is ultimately approved, it may find broad acceptance among physicians as an add-on to statin therapy. In addition, while statins are generally considered to be first line agents for the majority of patients with hyperlipidemia, approximately 5% of patients with hyperlipidemia, or approximately 5.5 million patients in the U.S., are intolerant to statins. For these statin-intolerant patients, MB07811 may be considered as an alternative therapy. Therefore, MB07811 may not be subject to competitive pressure from the introduction of generic statins during this period and thus, we believe there is a considerable market opportunity for MB07811.

We believe that because of the limitations of currently marketed drugs, the hyperlipidemia market is receptive to new drugs, and new therapeutic approaches have the potential to experience rapid clinical acceptance. For example, the results from the February 2000 Lipid Treatment Assessment Project, or L-TAP, a large, multi-center study, showed that of the 4,888 patients with evaluable data, only 38% achieved their cholesterol target goals as defined by National Cholesterol Education Program guidelines on lipid-lowering drugs. One reason patients with hyperlipidemia fail to reach their cholesterol lowering goals may be inadequate titration, or gradual escalation, of the dose of statins that they are prescribed due to the increased potential of adverse events at higher doses and because doubling of the statin dose only provides a small incremental (6%) reduction in cholesterol. For

patients with high cholesterol who do not respond well to statins, their options are limited to changing to another statin and/or using a statin in combination therapy with a non-statin, lipid-lowering agent.

#### *Clinical Trials*

MB07811 has successfully completed a rising single-dose Phase 1 clinical trial in healthy volunteers. We initiated a rising multiple-dose Phase 1b clinical trial in the second quarter of 2007 that was designed to evaluate the safety and tolerability of MB07811 in healthy volunteers with modestly elevated LDL cholesterol. In January 2008, we announced interim results from this ongoing trial that indicated MB07811 was safe and well tolerated at the first four doses studied. This has allowed us to continue increasing the dose and the dosing of a fifth dose cohort was completed successfully and a sixth group of patients is currently underway. Although not the primary end-point of the study, we also evaluated the efficacy of MB07811 in the first four dose cohorts; each cohort included eight volunteers, two on placebo and six who received MB07811. While these observations should be considered preliminary, the results were encouraging with clinically- relevant reductions in LDL cholesterol and TG levels observed relative to the changes seen in patients treated with placebo. We expect to complete this study in 2008. We are currently independently developing this product candidate.

#### *Metabolic Disease Advanced Research Programs*

We are expanding our product pipeline by using our proprietary technologies, our knowledge of liver diseases, and our expertise in pathways and proteins residing in the liver that significantly contribute to metabolic diseases. We have additional expertise in processes in the liver that are important for drug uptake, metabolism and excretion, all of which are important for targeting drugs to the liver with high specificity. We have used this knowledge to develop our proprietary NuMimetic and HepDirect technologies, which we use in several of our research programs. We also have expertise in structure-based drug design, and we have developed novel computational methods useful for predicting drug binding effectiveness and specificity. These methods have aided our design and discovery of novel drug compounds. Our goal is to expand our clinical development pipeline by continuing to develop and move additional new drug compounds into clinical development. We believe our advanced research programs have the potential to yield additional clinical development candidates in the near term.

Our metabolic disease advanced research programs are:

*A metabolic disease program focused on developing a glucagon antagonist for treating type 2 diabetes.*

Type 2 diabetes has long been considered a hormonal disorder, with insulin deficiency and/or insensitivity and a relative glucagon excess. Glucagon opposes the actions of insulin leading to an inappropriate increase in glucose production by the liver and other metabolic disturbances. We have an advanced research program that is focused on identifying chemically novel, potent, orally bioavailable glucagon antagonists for treating type 2 diabetes. Our most advanced compound has shown significant and consistent lowering of blood glucose when dosed orally to numerous diabetic animal models. This program may yield additional development candidates to further expand our product pipeline.

*A second generation TR $\beta$  agonist program to identify drug candidates for treating hyperlipidemia.*

We have an advanced research program to identify second-generation TR $\beta$  agonists for treating hyperlipidemia. This program may yield additional development candidates that lower cholesterol and triglycerides by the same mechanism as MB07811 but with potential improvements.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

*A metabolic disease program focused on developing an AMPK activator for treating type 2 diabetes and potentially other metabolic diseases.*

AMPK plays an important role in regulating carbohydrate and fat metabolism. Activation of AMPK switches cellular metabolism from an energy consuming state to an energy-sparing one. Accordingly, diseases manifested through overproduction of biochemical end products by energy-consuming pathways, e.g. glucose, cholesterol, fatty acids and triglycerides are potential disease targets for AMPK activators. We have an advanced research program, being conducted in collaboration with Merck, that is focused on identifying drug candidates that activate AMPK to treat type 2 diabetes and potentially other metabolic diseases. This program may yield additional development candidates to further expand our product pipeline.

In addition to the advanced research programs described above, we have other, as yet undisclosed research programs underway that we believe have the potential to yield additional clinical development candidates in the areas of diabetes, hyperlipidemia and obesity.

### **Non-Core Assets**

Liver diseases such as hepatitis B, hepatitis C and primary liver cancer represent some of the most widespread and serious diseases in the world. Liver diseases are generally poorly treated with current drug therapies. Moreover, these marketed drugs generally show significant limitations, including poor tolerability, safety risks or inadequate efficacy in the majority of patients. Some existing anti-viral and anti-cancer drugs, while effective outside of the liver, are not effective against diseases of the liver due to the liver's inability to effectively convert them to their active forms. The use of existing drugs for treating liver diseases is further limited in some cases by dose-limiting toxicities, which may occur when high levels of the drug accumulate in tissues outside the liver.

#### ***Hepatitis B***

Hepatitis B is a viral disease that causes inflammation of the liver. Hepatitis B is transmitted by contact with the blood or other body fluids of an infected person. Hepatitis B infection is often difficult to diagnose because, depending upon the severity of the infection, patients may either be asymptomatic or experience only general flu-like symptoms such as fatigue, nausea or vomiting. Without appropriate treatment, continued inflammation of the liver leads to progressive scarring, or fibrosis, and eventually may lead to liver cancer, resulting in death.

Hepatitis B is the most common serious liver infection in the world. Over two billion people worldwide, or approximately one-third of the world's population, have been infected at some time with hepatitis B, and approximately 400 million of those people are chronic carriers of the virus. Approximately 1.2 million deaths per year worldwide are hepatitis B-related. The Centers for Disease Control and Prevention reports that, in the U.S., over 1.2 million people are chronically infected with hepatitis B and nearly 80,000 new infections occur every year.

There is also an opportunity for substantial additional growth from potential sales of anti-viral drugs for hepatitis B in emerging markets including Eastern Europe and Asia. These regions have some of the highest rates of chronic hepatitis B infection in the world. There are currently over 300 million people with chronic hepatitis B infection in these emerging markets, representing greater than 75% of the total chronic infections worldwide.

#### ***Current Treatments***

In the U.S., there are five approved treatments for chronic hepatitis B: Intron A, Epivir-HBV, also referred to as Zeffix (lamivudine), Hepsera, Baraclude (entecavir) and TYZEKA (telbivudine). Each of these therapies has limitations in treating patients with hepatitis B. For example, Intron A is

generally poorly tolerated. Patients taking Epivir-HBV or Zeffix can develop significant resistance to lamivudine, the drug's active ingredient. We believe that induction of viral resistance is also a significant issue for certain hepatitis B product candidates that are currently in late stage clinical development. Hepsera, on the other hand, shows limited propensity to induce virus mutations that are resistant to drug therapy and has proven effective against lamivudine-resistant strains of hepatitis B. However, potential kidney toxicities limit the level at which Hepsera can be dosed. To date, for the relatively short time that it has been on the market, Baraclude has not been shown to induce significant viral resistance in drug-naïve patients. However, based on clinical data, lamivudine-resistant patients respond less effectively to Baraclude therapy and exhibit a higher rate of viral resistance. However, based on clinical data it appears that TYZEKA is associated with significant viral resistance over time.

Hepsera, lamivudine, Baraclude and TYZEKA all decrease virus levels, as measured by hepatitis B DNA in the blood serum. Nevertheless, further decreases are desirable since these reductions are not sufficient to cure the infection in the majority of patients. In 2003, the *New England Journal of Medicine* reported that a three-fold higher dose of Hepsera led to a more than ten-fold greater reduction in hepatitis B DNA in the blood serum and consistent trends toward improvement in all measures of liver injury. However, this higher dose caused elevation in markers of kidney toxicity that prevented further development at that dose. As a result, we believe that the approved dose of Hepsera (10 mg.) may be suboptimal for reducing virus levels in patients with hepatitis B.

### **Markets**

In the seven major pharmaceutical markets combined sales of oral hepatitis B anti-viral products were \$433 million in 2006, with the U.S. accounting for \$224 million of that total. By 2016, combined sales in the seven major pharmaceutical markets are expected to increase to \$1.3 billion and sales in the U.S. are expected to increase to \$488 million. In addition to the seven major pharmaceutical markets, considerable potential exists in the growing Chinese pharmaceutical market, as there are more patients with hepatitis B in China than all other markets combined. Based on the results of clinical trials to date, we believe that pradefovir has the potential to become a best-in-class product that is used as first-line treatment in the majority of patients. Pradefovir, if approved by regulatory authorities, may also be targeted as a second line therapy in patients for whom treatment with other approved agents has failed. Therefore, we believe that there is a considerable worldwide market opportunity for pradefovir.

### ***Pradefovir: A HepDirect prodrug of adefovir for treating hepatitis B***

Pradefovir is an oral product candidate for treating hepatitis B. Pradefovir is designed using our proprietary HepDirect technology to deliver high concentrations of adefovir to the liver, while limiting the amount of adefovir generated outside of the liver, thereby potentially significantly reducing dose-related toxicities similar to those found in currently marketed therapies such as Hepsera. In preclinical studies, pradefovir has been shown to result in higher levels of the active form of Hepsera, adefovir, in the liver without significantly increased levels of adefovir in the bloodstream or kidney. In clinical studies conducted to date, pradefovir has reduced hepatitis B virus levels to a greater extent than Hepsera at doses that are associated with lower circulating adefovir levels. In these studies, pradefovir also appeared to be safe and well tolerated.

In October 2001, we entered into a development and license agreement with Valeant Pharmaceuticals North America, or Valeant, for the development and commercialization of pradefovir. In January 2007, Valeant with our consent assigned its rights, interests and obligations under the development and license agreement to Schering Corporation, or Schering, and further granted Schering a license to its intellectual property related to pradefovir. Concurrently, we and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license

agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. In September 2007, we entered into an agreement with Schering and Valeant to terminate our agreements for the development and commercialization of pradefovir. In connection with this agreement, all rights to pradefovir were transferred back to us subject to certain milestone and royalty payments we may be required to make to Valeant should this product candidate be subsequently developed. These agreements were terminated as a result of numerous factors, which may include previously reported adverse 24-month oral carcinogenicity studies of pradefovir in rats and mice, which we are currently evaluating. The most advanced clinical trial completed by Valeant prior to its assignment of its rights to Schering was a successful Phase 2b clinical trial, completed in 2006. At this time, we do not intend to independently develop pradefovir and intend to license this product candidate for further development and commercialization, pending the outcome of our aforementioned evaluation.

### ***Primary Liver Cancer***

Primary liver cancer is a malignancy originating in the liver that often kills patients within six months after diagnosis with less than 10% of patients surviving for five years or more. Metastatic liver cancer, on the other hand, originates in other organs and then progresses to the liver. In the U.S., the American Cancer Society reports that primary liver cancer is the ninth leading cause of cancer mortality in men and is the twelfth leading cause of cancer mortality in women. The American Cancer Society estimates that approximately 18,550 new cases of primary liver cancer were diagnosed in the U.S in 2007. Primary liver cancer is responsible for over 500,000 deaths per year worldwide.

While the definitive cause of primary liver cancer is unknown, it is well recognized that patients with chronic liver diseases such as hepatitis B, hepatitis C, alcoholic cirrhosis and iron overload are at high risk for developing liver cancer over a 30-year period. In the U.S., Europe and Japan, hepatitis C is considered to be one of the leading risk factors associated with primary liver cancer. The incidence of primary liver cancer in these countries is expected to increase over the next 10 to 15 years due to the large number of people previously infected with hepatitis C whose disease has or will advance to liver cirrhosis. In the U.S. alone, the National Institutes of Health projects a four-fold increase over this period in patients with chronic hepatitis C.

We believe that given the current and projected primary liver cancer incidence levels, and the cost of similar cancer therapeutics, an approved drug for primary liver cancer could present a substantial worldwide commercial opportunity.

### ***Current Treatments***

Treatment methods for patients with primary liver cancer are typically determined by the stage of the disease at diagnosis. Patients are generally classified as eligible for surgical tumor resection, inoperable and non-terminal, or terminal. According to the American Cancer Society, on average, over a ten-year period, over 16% of patients have been treated by surgical tumor resection. Additionally, over 50% of patients are inoperable and non-terminal and 26% of patients are terminal. Patients who undergo successful tumor resection have a future life expectancy of about five years, whereas all other terminal patients have an average life expectancy of less than one year. Treatment for inoperable and terminal patients is dependent on many factors. Liver transplantation represents the only method that can cure the disease, but few transplants are possible due to the severe shortage in liver donors and the high cost.

In late 2007, the FDA approved Nexavar® (sorafenib) for the treatment of primary liver cancer. Nexavar works by blocking certain kinases, or proteins, that trigger cancer cells to divide and control the growth of new blood vessels that feed cancer tumors. Other alternatives involve non-surgical therapies that use either radioactive microscopic beads (such as TheraSpheres) or chemotherapy



(known as Transcatheter Arterial Chemoembolization (TACE)) injected through a catheter directly into the liver, as well as regional tumor destruction and chemotherapy with unapproved agents that have shown limited efficacy.

### ***Markets***

In the seven major pharmaceutical markets, represented by the United States, Japan, United Kingdom, Germany, France, Italy and Spain, approximately 120,000 patients were afflicted with primary liver cancer in 2006. By 2014, the prevalence rate in the seven major global pharmaceutical markets is expected to increase to approximately 185,000 patients. The prevalence rate in the U.S. includes approximately 18,550 patients that were diagnosed in 2007, a number that is expected to grow to approximately 40,000 patients by 2010. In addition, China, which is not one of the seven major pharmaceutical markets, has an incidence rate of primary liver cancer of approximately 350,000 patients as of 2006. This is greater than the rest of the world combined. The incidence rate in China is expected to rise to 600,000 by 2014.

### ***MB07133: A HepDirect prodrug of araC for treating primary liver cancer***

MB07133 is a product candidate for treating primary liver cancer, which is expected to be administered intravenously and continuously over a multiple-day period on an out-patient basis. Cytarabine, or araC, is a marketed anti-cancer drug used to treat leukemia. AraC has shown only limited success in solid tumors such as primary liver cancer because the liver lacks sufficient quantities of a particular protein, or kinase, necessary for converting it to an important intermediate form known as araCMP. MB07133 uses our HepDirect technology to deliver this intermediate form of araC to the liver where it is then readily converted by a different liver kinase into its anti-cancer form, known as araCTP. This approach bypasses the need for the first kinase, which the liver lacks in sufficient quantities. In addition, araC, when systemically delivered is readily converted to araCTP in tissues such as the bone marrow where it can cause toxicity. MB07133 appears to avoid this potential toxicity because the HepDirect prodrug version of araCMP is not converted to araCTP in tissues outside the liver. We believe the unique ability of MB07133 to deliver araCMP selectively to the liver where it can be readily converted into its anti-cancer form will enhance efficacy while minimizing the toxicities associated with systemic araC therapy. MB07133 has successfully completed a phase <sup>1</sup>/<sub>2</sub> clinical trial designed to evaluate its safety and preliminary efficacy in non-terminal patients with inoperable primary liver cancer. MB07133 was granted Orphan Drug Designation by the FDA in September 2007 and Orphan Medicinal Product Designation by the European Commission in October 2007. We do not intend to independently develop this product candidate and are seeking a licensee to conduct the further development and commercialization of this product candidate.

### ***Product Position***

MB07133, if approved by regulatory authorities, could potentially be used as a chemotherapeutic treatment in combination with angiogenesis inhibitors, such as Nexavar, for patients with inoperable primary liver cancer. Given the current and projected primary liver cancer prevalence rates, and the cost of similar cancer therapies, we believe that MB07133, if approved by regulatory authorities, could present a significant worldwide commercial opportunity.

### ***Liver Disease-Related Programs***

#### ***Viral enzyme inhibitor programs for treating hepatitis C***

Hepatitis C is a viral disease that causes inflammation of the liver that may lead to cirrhosis, primary liver cancer and other long-term complications. Roughly 3% of the world population has been infected with hepatitis C. In the U.S., nearly 4 million people are infected with hepatitis C, of which

2.7 million are chronically infected. Since the discovery of the hepatitis C virus in 1989, many antiviral targets have been identified, and many novel approaches to hepatitis C infection are currently being evaluated.

We have entered into separate non-exclusive collaborations with Merck and Idenix to create liver-targeted prodrugs of certain viral enzyme inhibitors that Merck and Idenix have supplied to us. All of our research activities under the collaborations were funded by Merck and Idenix. The funded research phase of these collaborations are completed. Merck is currently evaluating certain candidate compounds discovered during the collaboration to determine if one or more will be recommended for clinical development. Idenix is currently evaluating this program for further development. Merck and Idenix are solely responsible for conducting and funding all development work for compounds resulting from these collaborations and for commercializing any resulting products. If a product is successfully developed, we will receive substantial milestone payments as well as receive a portion of the revenue from sales of a drug in the form of a royalty on net sales.

### **Proprietary Technologies**

We have developed proprietary technologies that we have used to develop our current product candidates and which we expect to help us expand our product pipeline in the future. Our NuMimetic technology encompasses know-how and compound libraries that are useful in the discovery of molecules that bind effectively and specifically to nucleotide binding sites on certain key enzymes controlling important metabolic pathways. We used this technology to identify MB07803 and may continue to use it to help discover product candidates in other areas. Our HepDirect technology is a proprietary technology used to target drugs to the liver. We applied this technology to develop pradeфовir, MB07133 and MB07811 and may continue to use it in programs focused on the discovery of drugs for liver diseases such as hepatitis C as well as metabolic diseases.

#### *NuMimetic Technology*

The liver plays a central role in many metabolic diseases. Metabolic pathways in the liver are responsible for much of the body's generation of products such as cholesterol, glucose and lipids. This production is normally dependent on an individual's nutritional and hormonal status. However, in individuals with metabolic diseases, these pathways are improperly controlled, leading to excessive production of cholesterol, glucose and lipids.

We are studying enzymes found in the liver that directly or indirectly control the rate of flow through these pathways. We believe that many of these enzymes use compounds called nucleotides as a signal for switching flow on or off. While nucleotides are more typically known as a cell's primary chemical energy form and its building blocks for DNA synthesis, they are now becoming recognized as important regulators of metabolic pathways.

We believe that certain nucleotide-binding enzymes represent important drug targets. Nucleotides that bind to these enzymes affect enzyme activity and therefore the rate of flow through certain metabolic pathways. Certain enzymes important to glucose, cholesterol and fat production and metabolism are known to contain a nucleotide-binding site. It is likely that successful drug compounds targeting these sites will need to exhibit both high binding effectiveness and high enzyme specificity. Over the past two decades, efforts to find such compounds by screening large compound libraries have failed in large part due to the physical characteristics of these sites.

We have extensively studied the structure of certain nucleotide-binding sites to determine the structural elements that are important for binding and specificity. Through these efforts, we have discovered proprietary compounds that bind to these sites and simulate the action of the natural nucleotides. We have generated large libraries of these compounds, which are known as nucleotide mimetics. These libraries and the know-how generated from our studies constitute our NuMimetic technology.

*HepDirect Technology*

Developing drugs to treat diseases of the liver and metabolic diseases that involve the liver has been a major challenge for the pharmaceutical industry. Although companies have worked for decades to develop drugs that treat chronic liver diseases, relatively few drugs are commercially available. In addition, currently marketed drugs approved for chronic liver diseases often show poor tolerability, have significant safety risks or are ineffective in the majority of patients. We believe a primary reason for these limitations is that many drugs cannot be delivered to the liver in sufficient quantities to be effective without leading to serious toxicity in other tissues. In addition, prior approaches to developing therapeutics for metabolic diseases were unable to selectively target pathways in the liver that were believed to play important roles in these diseases. We believe that our liver targeting technologies may be useful in developing therapeutics that selectively target these pathways in the liver and thus reduce the risk of peripheral toxicity due to exposure to tissues outside the liver.

Our HepDirect technology addresses these problems by delivering high concentrations of the biologically active forms of target drugs to the liver while simultaneously reducing drug exposure in other tissues. We accomplish this process by making a simple chemical modification that renders the target drug biologically inactive. We refer to the modified drug as a HepDirect prodrug. The following diagram shows how a HepDirect prodrug works:

Administration of HepDirect prodrugs results in their distribution throughout the body. HepDirect prodrugs, unlike most other prodrug classes, are generally stable in the blood and tissues outside the liver. Because of the limited capacity of non-liver tissues to metabolize and convert HepDirect prodrugs to their active forms, distribution into these tissues leads to rapid reappearance of the prodrugs in the blood stream and ultimately diffusion of the prodrugs from the blood into the liver. In the liver, HepDirect prodrugs are metabolized by an enzyme expressed predominantly in the liver (CYP3A4) which converts the prodrug to the biologically active form of the target drug. Because HepDirect prodrugs are metabolized primarily in the liver, higher target drug levels are achieved in the liver while target drug levels outside of the liver are diminished.

Our HepDirect technology is broadly applicable to a wide variety of drugs. In some cases, the technology may enable the use of drugs that are otherwise ineffective or poorly effective in a particular liver disease due to the drug's failure to achieve therapeutic levels in the liver or due to the inability to administer doses that achieve therapeutic levels as a consequence of drug-related toxicities outside of the liver.

We have shown that our HepDirect technology can deliver compounds with anti-viral, anti-cancer, or anti-hyperlipidemic activity, and we are continuing to use this technology to discover innovative new products for treating liver diseases, and to deliver compounds that affect pathways in the liver responsible for metabolic diseases. For example, we are using this technology and other liver-targeting

technologies in collaborations with Merck and Idenix in which we are creating prodrugs of certain compounds to target the hepatitis C virus residing in the liver.

#### *Other Technologies*

We have developed other proprietary technologies useful for discovering new candidates for treating diseases. These include proprietary structure-based drug design technologies and additional methods for targeting the liver by taking advantage of processes in the liver that are important for drug uptake, metabolism and excretion. We continue to develop and refine our capabilities for identifying important new drugs.

#### **Strategic Alliances**

We use, or plan to use, strategic alliances and collaborative partnerships with pharmaceutical or biotechnology companies to develop and commercialize our core metabolic disease products at times and under terms that maximize their current and future value to our shareholders while balancing the resource needs of our growing pipeline. We intend to utilize these collaborations as a method of participating in the future worldwide clinical development and commercialization of our core metabolic disease products. In addition, we plan to license our non-core liver disease assets to provide near term resources to invest in our core metabolic disease pipeline. The revenues from license fees, royalties, milestone payments and research funding associated with our current arrangements, combined with clinical development expenses assumed by our partners, allow us to better manage our resources and focus on building new opportunities. We have generally structured our alliances and partnerships to license specific products, rather than technology, or to apply our technology to a partner's product to enhance its value, and we intend to continue this practice in the future.

#### *Merck*

##### *AMPK Collaboration*

In June 2005, we entered into a collaboration agreement with Merck to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes and potentially other metabolic diseases by activating AMPK. As part of this collaboration, Merck paid an initial non-refundable license fee of \$5.0 million in July 2005 and agreed to provide research support funding of a minimum of \$2.1 million each year during the three-year research term. The three-year research term is subject to renewal for one additional year upon the parties' mutual agreement. Our level of research activities, and the minimum research support funding, may be increased during the term upon mutual agreement of both parties. Merck is also obligated to pay milestone payments if specified preclinical and clinical development and regulatory events occur and to pay royalties on sales of any product resulting from this collaboration. We would also have the option to co-promote any such product in the United States. If all preclinical and clinical milestones are achieved on multiple indications, then including the \$5.0 million initial, non-refundable license fee and the minimum \$6.3 million in research support funding, we may be entitled to payments which total up to \$74.3 million, plus royalties. Merck is solely responsible for conducting and funding all development work for compounds resulting from this collaboration.

The term of the collaboration agreement will continue until all of Merck's royalty payment obligations have expired, unless the agreement is terminated earlier. The agreement may be terminated by either party for material breach or insolvency of the other party. Merck also has the right to terminate the agreement without cause at any time after the end of the twenty-first month following the effective date upon 90 days' advance written notice to us.

*Hepatitis C Collaboration*

In December 2003, we entered into a collaboration agreement with Merck to discover new treatments for hepatitis C. Under this collaboration, we created liver-targeting prodrugs of certain compounds that Merck supplied to us. The research term of the collaboration was initially for one year and in January 2005, was extended for an additional year through December 2005. At the same time, the scope of the technology that we apply to the Merck compounds was expanded. Merck is obligated to pay preclinical and clinical milestone payments if specified development and regulatory events occur and royalties on sales of products resulting from the collaboration. If all preclinical and clinical milestones are achieved, and including the \$500,000 upfront fee and the \$1.4 million in research support for each of the first two research years, we may be entitled to payments which total up to \$25.3 million, plus royalties. Merck is currently evaluating certain candidate compounds discovered during the collaboration to determine if one or more will be recommended for clinical development. Merck is solely responsible for conducting and funding all development work for compounds resulting from the collaboration and for commercializing any resulting products.

The term of the collaboration agreement will continue until all of Merck's royalty payment obligations have expired, unless the agreement is terminated earlier. The agreement may be terminated by either party for material breach or insolvency of the other party. Merck also has the right to terminate the agreement without cause at any time after the end of the research term upon 90 days' advance written notice to us.

*Idenix*

In October 2006, we entered into a collaboration agreement with Idenix to apply our HepDirect technology to certain Idenix lead compounds with the goal of improving the safety and efficacy of these compounds for treating hepatitis C. The agreement provided for up to two years of sponsored research. In addition, Idenix had the option to terminate the research term upon the first anniversary of the effective date of the agreement or upon the achievement of certain preclinical and clinical development milestones during the research term. As part of this collaboration, Idenix paid us an initial, non-refundable license fee of \$2.0 million in November 2006 and agreed to provide us research funding of up to \$1.7 million per year during the research term. If all preclinical and clinical milestones are achieved, then including the \$2.0 million initial, non-refundable license fee and the minimum \$1.7 million in research support funding, we may be entitled to payments which total up to \$68.8 million, plus royalties. In October 2007, the sponsored research term of our collaboration agreement ended upon the first anniversary of the agreement. While the sponsored research portion of the collaboration has ended, the research programs are under evaluation for further development. The remaining rights and obligations of the agreement remain in effect.

*Daiichi Sankyo*

In April 1997, we established a multi-year research, development and commercialization collaboration with Daiichi Sankyo to discover, develop and commercialize FBPase inhibitors for treating diabetes. The discovery research portion of the collaboration was extended in February 2000 and March 2001 and ended in April 2002. Under this agreement, our drug discovery efforts were fully funded by Daiichi Sankyo. Daiichi Sankyo had the right to select compounds discovered during the discovery period and was responsible for conducting and funding the clinical development of any compound selected for development. Daiichi Sankyo selected CS-917 as a clinical candidate in 1999 and completed clinical trials of CS-917 through Phase 2b in the third quarter of 2007. CS-917 had demonstrated promising results in early clinical studies but failed to significantly lower the placebo-adjusted level of HbA1c at the doses tested in the Phase 2b clinical trial. In January 2008, we and Daiichi Sankyo agreed to terminate our strategic collaboration and return all rights and data related to this product candidate to us. We do not intend to further develop this product candidate.

*Schering-Plough*

In October 2001, we entered into a development and license agreement with Valeant for the development and commercialization of pradefovir. In January 2007, Valeant with our consent assigned its rights, interests and obligations under the development and license agreement to Schering and further granted Schering a license to its intellectual property related to pradefovir. Concurrently, we and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. In September 2007, we, Schering and Valeant entered into an agreement to terminate the agreements for the development and commercialization of pradefovir. These agreements were terminated as a result of numerous factors, which may include recently reported adverse 24-month oral carcinogenicity studies of pradefovir in rats and mice, which we are currently evaluating. We received a non-refundable \$1.8 million up-front license fee in the first quarter of 2007 when the agreements became effective. We will not receive any additional payments related to these agreements and all rights to pradefovir have been returned to the Company, subject to certain milestone and royalty payments we may be required to make to Valeant should this product candidate be subsequently developed. At this time, we do not intend to independently develop pradefovir and intend to license this product candidate for further development and commercialization, pending the outcome of the aforementioned evaluation.

**Intellectual Property**

Our success will depend in large part on our ability to:

obtain and maintain patent and other legal protections for the proprietary technology, inventions and improvements we consider important to our business,

prosecute and defend our patents,

preserve our trade secrets, and

operate without infringing the patents and proprietary rights of third parties.

We intend to continue to seek appropriate patent protection for our lead compounds, our proprietary technologies and their uses by filing patent applications in the U.S. and selected other countries. We intend for these patent applications to cover, where possible, claims for composition of matter, medical uses, processes for preparation and formulations.

As of January 2008, we owned a total of 40 issued U.S. patents, one allowed U.S. application and 36 pending U.S. applications. In foreign countries, as of the same date, we owned a total of 167 issued patents, six allowed and 217 pending applications. As of the above date, we co-owned two pending U.S. applications and two foreign pending applications. As of the same date, we held rights to a total of six in-licensed U.S. pending patent applications.

We believe we have a strong intellectual property position, including 21 issued U.S. patents, one allowed U.S. application, 36 pending U.S. applications, 123 foreign issued patents and 216 foreign pending applications that relate to proprietary technologies and compounds used in our current business. Patents and patent applications, if they issue as patents, in the U.S. that cover our compounds currently in clinical development will expire as follows: MB07803, August 2025; MB07811, November 2024; pradefovir, May 2023; and MB07133, October 2023. The preceding patent term expirations do not include possible patent term extensions.

Although we believe our rights under patents and patent applications provide a competitive advantage, the patent positions of pharmaceutical and biotechnology companies are highly uncertain and involve complex legal and factual questions. We may not be able to develop patentable products or

processes, and may not be able to obtain patents from pending applications. Even if patent claims are allowed, the claims may not issue, or in the event of issuance, may not be sufficient to protect the technology owned by or licensed to us. Any patents or patent rights that we obtain may be circumvented, challenged or invalidated by our competitors.

We also rely on trade secrets, proprietary know-how and continuing innovation to develop and maintain our competitive position, especially when we do not believe that patent protection is appropriate or can be obtained. Our policy is to require each of our employees, as well as consultants and advisors when appropriate, to execute a proprietary information and inventions agreement before they begin providing services to us. Among other things, this agreement obligates the employee, consultant or advisor to refrain from disclosing any of our confidential information received during the course of providing services and, with some exceptions, to assign to us any inventions conceived or developed during the course of these services. We also require confidentiality agreements from third parties that receive our confidential information.

The biotechnology and biopharmaceutical industries are characterized by the existence of a large number of patents and frequent litigation based on allegations of patent infringement. As our current and potential product candidates and others based upon our proprietary technologies progress toward commercialization, the possibility of an infringement claim against us increases. While we attempt to be certain that our products and proprietary technologies do not infringe other parties' patents and other proprietary rights, competitors or other parties may assert that we infringe on their proprietary rights.

We have conducted searches of U.S. and foreign patents, but cannot guarantee that the searches were comprehensive and therefore whether any of our product candidates or the methods of using, making or identifying our product candidates infringe the patents searched, or that other patents do not exist that cover our product candidates or these methods. There may also be pending patent applications related to these patents that are unknown to us and may prevent us from marketing our product candidates. Other product candidates that we may develop, either internally or in collaboration with others, could be subject to similar delays and uncertainties.

For a more detailed discussion of risks and uncertainties concerning intellectual property protection for our product candidates and proprietary technologies, see the section in "Risk Factors" entitled "*Risks Related to Our Intellectual Property.*"

## **Sales and Marketing**

We do not currently have internal sales or marketing capabilities. In order to commercially market our product candidates, if we obtain regulatory approval, we must either develop a sales and marketing infrastructure or collaborate with third parties with sales and marketing capabilities. At this time, we have not entered into collaborative partnerships for our core assets, MB07803 and MB07811, and are currently independently developing them. We plan to establish strategic collaborations for these product candidates at appropriate times to secure additional financial resources, accelerate clinical development, access worldwide sales and marketing capabilities and share risk. We intend to license pradefovir and MB07133 for further development and commercialization.

We currently retain worldwide rights to all compounds from our internally discovered research programs, with the exception of hepatitis C and metabolic disease product candidates that are covered by our hepatitis C and AMPK collaborations with Merck and hepatitis C collaboration with Idenix.

We intend to make decisions regarding independent marketing of the product candidates for which we retain commercialization rights based on the data derived from our development and research programs in the future. If we proceed with independent marketing of any product candidates, we anticipate building a sales force designed to call on specialists that would be expected to prescribe a significant portion of the market share of the product candidate.

## Competition

The biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face competition from many different sources, including commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies and private and public research institutions. Due to the high demand for treatments for liver and metabolic diseases, research is intense and new treatments are being sought out and developed by our competitors.

We are aware of many competitive products currently marketed or under development that are used to treat some of the diseases we have targeted. If MB07803 is ultimately determined safe and effective and approved for marketing, it may face significant competition from various formulations of metformin and products containing metformin. Metformin is a drug that inhibits liver glucose production like MB07803, but does so through an unknown mechanism other than direct inhibition of gluconeogenesis. Because it does not cause weight gain, metformin is often prescribed as a first-line therapy to obese type 2 diabetes patients, who are reported to comprise more than 90% of newly diagnosed type 2 subjects. In addition, inexpensive generic forms of metformin are available.

Other currently marketed drugs that may compete with MB07803 include, but are not limited to the following classes:

sulfonylureas, which increase the secretion of insulin by the pancreas, thereby lowering the level of the sugar glucose in the blood,

insulins, which mimic insulin, the naturally occurring hormone made by the pancreas to control blood glucose levels,

peroxisome proliferator-activated receptor agonists, or PPARs, which improve insulin sensitivity by activating certain genes involved in fat synthesis and carbohydrate metabolism,

incretin mimetics, which lower glucose levels by increasing the levels of certain naturally occurring hormones from the pancreas, including glucagon-like peptide-1, or GLP-1, a peptide that facilitates the response of the pancreas and liver to fluctuations in glucose levels by its action on pancreatic beta and alpha cells. This drug class includes dipeptidyl peptidase IV, or DPP-IV inhibitors, and BYETTA® (exenatide) injection. DPP-IV is an enzyme in the bloodstream that cleaves and inactivates GLP-1. Inhibition of DPP-IV thus increases the half-life of endogenous GLP-1 by preventing cleavage and inactivation of GLP-1. BYETTA is an injectable medication that exhibits many of the same glucose regulating actions of GLP-1. The overall effect of drugs in this class is to enhance glucose-dependent insulin secretion and suppress inappropriate glucagon secretion,

alpha-glucosidase inhibitors, which decrease the absorption of carbohydrates from the intestine, resulting in a slower and lower rise in blood glucose throughout the day,

glinides, which stimulate the pancreas' beta-cells to produce insulin, and

combination therapies, which combine metformin with members of several of the above-mentioned classes, particularly sulfonylureas and PPARs.

In addition, many companies are developing novel therapies that target diabetes.

If MB07811 is ultimately determined safe and effective and approved for marketing, it would compete with products marketed by several large pharmaceutical companies that currently comprise a



very large share of the hyperlipidemia market. The major classes of hyperlipidemia drugs include, but are not limited to:

statins, which reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol,

fibrates, which reduce the amount of cholesterol and triglycerides (fatty substances) in blood,

nicotinic acid derivatives, which lower cholesterol and triglycerides, decrease low density lipoproteins and increase high density lipoproteins,

CAIs, which inhibit the absorption of dietary and biliary cholesterol,

bile acid sequestrants, which bind with cholesterol-containing bile acids in the intestines and remove them in bowel movements, and

statin combination therapies, which combine statins with members of the above-mentioned classes, particularly CAIs.

Several large pharmaceutical companies are also developing novel therapies that target hyperlipidemia. These companies may develop and introduce products competitive with or superior to MB07811. Lipitor is currently the best selling prescription medicine. In addition, generic statins (cholesterol-reducers) have recently been approved in the major pharmaceutical markets and would also compete with MB07811.

Currently approved treatments for hepatitis B in the U.S. that may compete with pradefovir are included in the following classes:

interferons, which mimic interferon, the naturally occurring infection-fighting immune substance produced by the body,

nucleoside analogues, which chemically engineered nucleoside compounds structurally similar to the building blocks of DNA and RNA that interferes with the replication of HBV, and

nucleotide analogues, which chemically engineered nucleotide compounds structurally similar to the building blocks of DNA and RNA that interferes with the replication of HBV.

A competitor to pradefovir may be Hepsera (adefovir dipivoxil), which is a nucleotide analogue marketed in the U.S. by Gilead Sciences, Inc. Pradefovir and Hepsera are prodrugs of the same active drug, and therefore may directly compete. In addition, marketed products approved to treat HIV infections are being evaluated for their effectiveness in treating hepatitis B infections.

Bayer Healthcare Pharmaceuticals and Onyx Pharmaceuticals' Nexavar (sorafenib), a chemotherapy approved for treating kidney cancer, received FDA approval in November, 2007 for the treatment of inoperable liver cancer. This follows the European Medicines Agency's, or EMEA, decision in October of the same year to approve Nexavar for the same indication in Europe. Nexavar is now the only drug approved for primary liver cancer in the United States or Europe. Nexavar acts to inhibit a range of tyrosine kinases, including those involved in promoting tumor angiogenesis, the growth of new blood vessels, and cell proliferation. Even with the availability of Nexavar, we believe the disease will remain poorly treated and that an agent with a different mechanism of action like MB07133, if approved, could find wide usage.

In addition, companies are developing therapies for other solid tumors, which may be efficacious in treating primary liver cancer. These companies may develop and introduce products competitive with MB07133.

In addition, many other companies are developing products for the treatment of the diseases we are targeting and if successful, these products could compete with our products. If we receive approval to market and sell any of our product candidates, we may compete with these companies and their products as well as others in varying stages of development.



## **Manufacturing**

We rely on several suppliers to produce sufficient quantities of MB07803 and MB07811 for use in clinical trials. We currently intend to continue this practice for any future clinical trials and the possible large-scale commercialization of MB07803 and MB07811 and for any other potential products that we independently develop and commercialize. All of our current product candidates are small molecule drugs. These drugs are historically simpler and less expensive to manufacture than biologic drugs. We believe our focus on small molecule drugs gives us a manufacturing advantage over companies that develop and manufacture biologic drugs.

## **Government Regulation and Product Approval**

### *Our Product Candidates*

Our core metabolic disease product candidates, MB07803 and MB07811; our non-core liver disease product candidates, pradefovir and MB07133; and any other product candidates that we or our collaborators develop will require regulatory approval during clinical development and before they can be commercialized. Although our collaborations with Merck and Idenix have not yet yielded product candidates, should they be successful, we will be dependent on Merck and/or Idenix for clinical development and regulatory approval of any resulting product candidates. We are currently solely responsible for clinical development and regulatory approval of MB07803, MB07811, pradefovir and MB07133.

### *Product Regulation*

Governmental authorities in the U.S. and foreign countries regulate, among other things, the preclinical and clinical testing, manufacturing, labeling, storage, record-keeping, advertising, promotion, export, marketing and distribution of drug products. In the U.S., pharmaceutical products are regulated by the FDA under the Federal Food, Drug, and Cosmetic Act, its implementing regulations and other federal laws and regulations. Both before and after the FDA approves a product, the manufacturer and the holder of the product approval are subject to comprehensive regulatory oversight. Violations of regulatory requirements at any stage, including the preclinical and clinical testing process, the New Drug Application, or NDA, approval process, or the post-FDA-approval marketing of the product, may result in various adverse consequences. These adverse consequences may include a clinical hold on an ongoing study, the FDA's delay in approving or refusal to approve a product, suspension of manufacturing or withdrawal of an approved product from the market, seizure or recall of a product or the imposition of criminal or civil penalties against the manufacturer or the holder of the product approval. In addition, later discovery of previously unknown problems may result in restrictions on a product, its manufacturer, or the NDA holder, or market restrictions through labeling changes or product withdrawal. Also, new government requirements may be established that could delay or prevent regulatory approval of our products under development.

The steps required before a new drug may be approved for marketing in the U.S. generally include:

conducting appropriate preclinical laboratory tests and preclinical studies in animals in compliance with the FDA's Good Laboratory Practice, or GLP, requirements,

the submission of the results of these evaluations and studies to the FDA, along with manufacturing information and analytical data, in an Investigational New Drug, or IND, for human clinical testing, which must become effective before human clinical trials may commence,

obtaining approval of institutional review boards, or IRBs, to introduce the product into humans in clinical studies,

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

conducting adequate and well-controlled human clinical trials to establish the safety and efficacy of the product, in compliance with FDA's Good Clinical Practice, or GCP requirements,

the submission of the results of preclinical studies, clinical studies, and adequate data on chemistry, manufacturing and control information to the FDA in an NDA, and

FDA review and approval of the NDA, including potential pre-approval inspections of manufacturing and testing facilities to assess compliance with the FDA's current Good Manufacturing Practice, or GMP, requirements and other FDA regulations.

Preclinical studies generally include animal studies to evaluate the product's mechanism of action, safety and efficacy. Compounds must be produced according to applicable GMP requirements, and preclinical safety tests must be conducted in compliance with FDA's GLP and similar international regulations. The results of the preclinical tests, together with manufacturing information and analytical data, are generally submitted to the FDA as part of an IND, which must become effective before human clinical trials may be commenced. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA before that time requests an extension or raises concerns about the conduct of the clinical trials described in the application. The sponsor of the application and the FDA must resolve any outstanding concerns before clinical trials can proceed. Clinical trials involve the administration of the investigational product to healthy volunteers or to patients with the disease or disorder being tested, under the supervision of a qualified principal investigator, and must be conducted in accordance with good clinical practices and other requirements, including the informed consent of human test subjects. Clinical trials are conducted in accordance with protocols that detail many items, including:

the objectives of the study,

the parameters to be used to monitor safety, and

the efficacy criteria to be evaluated.

Each protocol must be submitted to the FDA as part of the IND. Further, each clinical study must be reviewed and approved by an IRB at each institution at which the study will be commenced, prior to the recruitment of subjects. The IRB will consider, among other things, ethical factors, the safety of human subjects and the possible liability of the institution.

Clinical trials typically are conducted in three sequential phases, but the phases may overlap. In Phase 1, the initial introduction of the drug into human subjects, the drug is tested in healthy volunteers or, on occasion, in patients, for safety and, as appropriate, for absorption, metabolism, distribution, excretion, pharmacodynamics, pharmacokinetics and other preliminary measures of efficacy. Phase 2 usually involves initial studies designed to identify doses of the drug that result in suitable efficacy, safety and tolerance in patients with the targeted disease. A clinical trial designed to generate efficacy data but that is not expected to satisfy FDA criteria for NDA approval is sometimes referred to as a Phase 2b study. Phase 3 clinical trials, commonly referred to as pivotal studies, are undertaken to provide proof of clinical efficacy and to provide sufficient evidence of safety to justify FDA approval, typically within an expanded and diverse patient population at multiple, geographically dispersed clinical study sites. Some clinical trials that combine elements of two phases may be referred to as a Phase  $1/2$  or a Phase  $2/3$  clinical trial. Phase 1, Phase 2 or Phase 3 testing may not show sufficient safety or efficacy within any specific time period, if at all, with respect to any products being tested. Furthermore, the sponsor, the FDA or the IRB may suspend clinical trials at any time on various grounds, including a finding that the healthy volunteers or patients are being exposed to an unacceptable health risk.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

The results of the preclinical studies and clinical trials, together with detailed information on the manufacture and composition of the product, are submitted to the FDA as part of an NDA requesting approval for the marketing of the product. The cost of preparing and submitting an NDA is substantial.

The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that the NDA is sufficiently complete to permit substantive review. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under federal law, the FDA has agreed to certain performance goals in the review of NDAs. The goal for review of most such applications for non-priority drug products is ten months and for priority drug products is six months. The review process is often significantly extended by FDA requests for additional information or clarification regarding information already provided in the submission. The FDA may also refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved. The FDA is not bound by the recommendation of an advisory committee.

If FDA evaluations of the NDA and the manufacturing facilities are favorable, the FDA may issue an approval letter, or, in some cases, an approvable letter followed by an approval letter. An approvable letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. As a condition of NDA approval, the FDA may require post approval testing and surveillance to monitor the drug's safety or efficacy and may impose other conditions, including labeling restrictions which can materially impact the potential market and profitability of the drug. Once granted, product approvals may be withdrawn if compliance with regulatory standards is not maintained or problems are identified following initial marketing.

Once the NDA is approved, a product will be subject to certain post-approval requirements, including requirements for adverse event reporting and submission of periodic reports. Additionally, the FDA also strictly regulates the promotional claims that may be made about prescription drug products. In particular, the FDA requires substantiation of any claims of superiority of one product over another including, in many cases, requirements that such claims be proven by adequate and well controlled head-to-head clinical trials. To the extent that market acceptance of our products may depend on their superiority over existing therapies, any restriction on our ability to advertise or otherwise promote claims of superiority, or requirements to conduct additional expensive clinical trials to provide proof of such claims, could negatively affect the sales of our products and/or our costs.

If the FDA's evaluation of the NDA submission or manufacturing facilities is not favorable, the FDA may refuse to approve the NDA or issue a not approvable letter.

The not approvable letter outlines the deficiencies in the submission and often requires additional testing or information in order for the FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. With limited exceptions, FDA may withhold approval of an NDA regardless of prior advice it may have provided or commitments it may have made to the sponsor.

FDA approval of any application may entail many delays or never be granted. Moreover, if regulatory approval of a product is granted, the approval may include limitations on the uses or patient populations for which the product may be marketed. Further, product approvals may be withdrawn if compliance with regulatory standards is not maintained or if safety or manufacturing problems occur following initial marketing. Finally, if there are any modifications to the drug, including changes in indications, labeling or manufacturing processes or facilities, we or our collaborators may be required

to submit and obtain FDA approval of a new NDA or NDA supplement, which may require the development of additional data or the conduct of additional preclinical studies and clinical trials.

Among the conditions for approval is the requirement that the prospective manufacturer's quality control, recordkeeping and manufacturing procedures conform to CGMP requirements enforced by the FDA through its facilities inspection program. In addition, product manufacturing facilities in California are subject to licensing requirements of the California Department of Health Services. These requirements must be followed at all times in the manufacture of the approved product, and manufacturing facilities are subject to inspection by the FDA and the California Department of Health, or other applicable governmental authorities, at any time. In complying with these requirements, manufacturers must continue to expend time, money and effort in the area of production and quality control to be certain of full compliance. The applicable requirements are complex, can be subject to differing interpretations and are subject to change without clear advance notice or guidance from the FDA. Any failure to comply with these requirements may subject manufacturers to, among other things, notices or letters detailing alleged deviations and demanding corrective actions, actions seeking fines and civil penalties, suspension or delay in product approvals, product seizure or recall, suspension of manufacturing, or withdrawal of product approval.

Once an NDA is approved, the product covered thereby becomes a "listed drug" which can, in turn, be cited by potential competitors in support of approval of an abbreviated NDA, or ANDA. An ANDA provides for marketing of a drug product that has the same active ingredients in the same strengths and dosage form as the listed drug and has been shown through bioequivalence testing to be therapeutically equivalent to the listed drug. There is no requirement, other than the requirement for bioequivalence testing, for an ANDA applicant to conduct or submit results of preclinical or clinical tests to prove the safety or effectiveness of its drug product. Drugs approved in this way are commonly referred to as "generic equivalents" to the listed drug, are listed as such by the FDA, and can often be substituted by pharmacists under prescriptions written for the original listed drug.

There are limitations on the timing of FDA's ability to approve an ANDA for a generic equivalent of a listed drug. In the event that the sponsor of the listed drug has properly informed FDA of patents covering its listed drug, applicants submitting an ANDA referencing that drug are required to certify whether they intend to market their generic products prior to expiration of those patents. If an ANDA applicant certifies that it believes one or more listed patents are invalid or not infringed, it is required to provide notice of its filing to the NDA sponsor and the patent holder. If the patent holder then initiates a suit for patent infringement against the abbreviated NDA sponsor within 45 days of receipt of the notice, FDA cannot grant effective approval of the ANDA until either 30 months has passed or there has been a court decision holding that the patents in question are invalid or not infringed. A holding that a valid and enforceable listed patent is infringed will preclude approval of the ANDA until the expiration of that patent. If the ANDA applicant certifies that it does not intend to market its generic product before some or all listed patents on the listed drug expire, then FDA cannot grant effective approval of the ANDA until those patents expire. Under Federal law, the term of a patent covering a new chemical entity can be extended by up to five years, for an effective patent life of up to 14 years after approval, based on restoration of part of the patent life lost during clinical testing and FDA review.

Federal law also provides for periods of non-patent exclusivity that also limit the timing of potential approval of an ANDA for a generic equivalent to a listed drug. These include a period of three years of non-patent exclusivity following approval of a listed drug that contains previously approved active ingredients but is approved in a new dosage, dosage form, route of administration or combination, or for a new use, the approval of which was required to be supported by new clinical trials conducted by or for the sponsor, during which such three year period FDA cannot grant effective approval of an ANDA based on that listed drug. Federal law also provides a period of five years following approval of a drug containing no previously approved active ingredients, during which an

ANDA for a generic equivalent cannot be submitted unless the submission accompanies a challenge to a listed patent, in which case the submission may be made four years following the original product approval.

The first ANDA applicant submitting a substantially complete application certifying that listed patents for a particular product are invalid or not infringed may qualify for a period of 180 days after a court decision of invalidity or non-infringement or after it begins marketing its product, whichever occurs first, during which subsequently submitted ANDAs cannot be granted effective approval. Similar non-patent exclusivity restrictions and patent certification requirements apply to so-called 505(b)(2) NDA applications which rely, in part or in whole, on data generated by or for parties other than the applicant to support an NDA approval.

FDA also imposes a number of complex requirements and restrictions on entities that advertise and promote prescription drugs, which include, among others, standards for and regulations of print and in-person promotion, product sampling, direct-to-consumer advertising, off-label promotion, industry sponsored scientific and educational activities, and promotional activities involving the Internet. The FDA has very broad enforcement authority under the Federal Food, Drug and Cosmetic Act, and failure to abide by FDA requirements can result in penalties and other enforcement actions, including the issuance of warning letters or other letters objecting to violations and directing that deviations from FDA standards be corrected, total or partial suspension of production, and state and federal civil and criminal investigations and prosecutions.

Federal regulations and FDA policies prohibit a sponsor or investigator, or any person acting on behalf of a sponsor or investigator, from representing in a promotional context that an investigational new drug is safe or effective for the purposes for which it is under investigation. Prior to approval of a product candidate, any assertion that one of our product candidates is safe or effective for any purpose or that it is superior to any currently approved product could result in regulatory action by FDA and could delay approval of the product candidate.

A variety of Federal and state laws apply to the sale, marketing and promotion of pharmaceuticals that are paid for, directly or indirectly, by Federal or state health care programs, such as Medicare and Medicaid. The restrictions imposed by these laws are in addition to those imposed by the FDA and corresponding state agencies. Some of these laws significantly restrict or prohibit certain types of sales, marketing and promotional activities by pharmaceutical manufacturers. Violation of these laws can result in significant criminal, civil, and administrative penalties, including imprisonment of individuals, fines and penalties and exclusion or debarment from Federal and state health care and other programs. Many private health insurance companies also prohibit payment to entities that have been sanctioned, excluded, or debarred by Federal agencies. We are also subject to various laws and regulations regarding laboratory practices, the experimental use of animals, and the use and disposal of hazardous or potentially hazardous substances in connection with our research. In each of these areas, as above, the FDA and other agencies have broad regulatory and enforcement powers, including the ability to impose fines and civil penalties, suspend or delay issuance of approvals, seize or recall products, and withdraw approvals, any one or more of which could have a material adverse effect upon us.

#### ***Other Regulations***

We are also subject to regulation by the Occupational Health and Safety Administration and state and federal environmental protection agencies, and to regulation under the Toxic Substances Control Act. We may in the future be subject to additional federal, state or local regulations. The Occupational Health and Safety Administration or these environmental protection agencies may promulgate regulations that may affect our research and development programs. We cannot predict whether any agency will adopt any regulation which could limit or impede our operations.

### **Environmental and Safety Matters**

We use hazardous chemicals, biological agents and various radioactive isotopes and compounds in our research and development activities. Accordingly, we are subject to regulations under federal, state and local laws regarding employee safety, environmental protection and hazardous substance control, and to other present and possible future federal, state and local regulations. We may also incur significant costs complying with environmental laws and regulations adopted in the future.

Also, although we believe our current safety procedures for handling and disposing of hazardous materials comply with federal, state and local laws and regulations, we cannot entirely eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for damages or penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended.

### **Employees**

As of March 3, 2008, we employed 124 full-time employees, consisting of 94 employees in research, development and regulatory affairs and 30 in executive management, administration and facilities. As of the same date, 47 of our employees had a Ph.D. and/or M.D. degree. None of our employees are subject to a collective bargaining agreement. We consider our relationship with our employees to be good.

### **Scientific Advisory Board**

We have established a scientific advisory board consisting of medical professors and industry experts with knowledge of our target markets. Our scientific advisors generally meet once a year as a group to assist us in formulating our research, development and clinical strategies. Some individual scientific advisors consult with and meet informally with us on a more frequent basis. We have entered into consulting agreements with all of our scientific advisors, but they are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. In addition, our scientific advisors may have arrangements with other companies to assist those companies in developing products or technologies that may compete with ours.

### **Corporate Information**

We were incorporated in Delaware in April 1997 as a wholly owned subsidiary of Gensia Sicor Inc., now Sicor Inc., which became an indirect wholly owned subsidiary of Teva Pharmaceutical Industries Limited in January 2004. In December 1997, Sicor assigned to us specified assets and liabilities relating to its then existing business of discovering and developing proprietary pharmaceutical products. Although we established a new business plan, pursued new opportunities and discovered new products and technologies following our inception, many of the assets we obtained in the transfer served as a foundation upon which we built our technologies and know how. In June 1999 we completed a corporate restructuring and management stock purchase in which we became an independent company. We have a wholly owned subsidiary, Aramed, Inc., which was transferred to us by Sicor and does not conduct an active business.

### **Available Information**

We make available free of charge on or through our Internet website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, as soon as practicable after we electronically file these materials with, or furnish them to, the Securities and Exchange Commission. The address of our website is <http://www.mbasis.com>. The information contained in, or that can be accessed through, our website is not part of this annual report on Form 10-K.



**Item 1A. Risk Factors**

*You should consider carefully the following information about the risks described below, together with the other information contained in this annual report on Form 10-K and in our other filings with the Securities and Exchange Commission, before you decide to buy or maintain an investment in our common stock. We believe the risks described below are the risks that are material to us as of the date of this annual report. If any of the following risks actually occur, our business, financial condition, results of operations and future growth prospects would likely be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of the money you paid to buy our common stock.*

**Risks Related to our Business**

***We are dependent on the success of one or more of our current product candidates and we cannot be certain that any of them will receive regulatory approval or be commercialized.***

We have expended significant time, money and effort in the development of our core metabolic disease assets, MB07803 and MB07811, and our non-core liver disease assets, prafefovir and MB07133. Clinical trials conducted to date have provided initial evidence of safety with all of our product candidates and initial evidence of efficacy in certain of our product candidates. However, to date, no pivotal, adequate and well-controlled clinical trials designed to provide clinical and statistically significant proof of efficacy, or to provide sufficient evidence of safety to justify approval, have been completed with any of our product candidates. All of our product candidates will require additional development, including clinical trials as well as further animal studies to evaluate their toxicology, carcinogenicity and pharmacokinetics and optimize their formulation, and regulatory clearances before they can be commercialized. Positive results obtained during early development do not necessarily mean later development will succeed or that regulatory clearances will be obtained. Our product development efforts may not lead to commercial drugs, either because our product candidates fail to be safe and effective or because we have inadequate financial or other resources to pursue our product candidates through the clinical development and approval processes. If any of our product candidates fail to demonstrate safety or efficacy at any time or during any phase of development, we would experience potentially significant delays in, or be required to abandon, development of the product candidate.

We do not anticipate that any of our current product candidates will be eligible to receive regulatory approval and begin commercialization for a number of years, if at all. Even if we were ultimately to receive regulatory approval for these product candidates, we and/or our potential future partners, as applicable, may be unable to commercialize them successfully for a variety of reasons. These include, for example, the availability of alternative treatments, lack of cost effectiveness, the cost of manufacturing the product on a commercial scale and the effect of competition with other drugs. The success of our product candidates may also be limited by the prevalence and severity of any adverse side effects. If we fail to commercialize one or more of our current product candidates, we may be unable to generate sufficient revenues to attain or maintain profitability, and our reputation in our industry and the investment community may be damaged.

***If development of our product candidates does not produce favorable results, we and our collaborators, as applicable, may be unable to commercialize these products.***

To receive regulatory approval for the commercialization of our core metabolic disease assets, MB07803 and MB07811, our non-core liver disease assets, prafefovir and MB07133, or any other product candidates that we may develop, adequate and well-controlled clinical trials must be conducted to demonstrate safety and efficacy in humans to the satisfaction of the FDA in the U.S. and other regulatory agencies elsewhere in the world. In order to support marketing approval, these agencies typically require successful results in one or more Phase 3 clinical trials, which our current product

candidates have not yet reached and may never reach. In addition, regulatory approval of our product candidates may be affected by adverse results in animal studies conducted during clinical development to, among other things, evaluate their toxicology, carcinogenicity and pharmacokinetics and optimize their formulation.

The development process is expensive, can take many years and has an uncertain outcome. Failure can occur at any stage of the process. We may experience numerous unforeseen events during, or as a result of, the development process that could delay or prevent commercialization of our current or future product candidates, including the following:

clinical trials may produce negative or inconclusive results,

animal studies conducted on product candidates during clinical development to, among other things, evaluate their toxicology and pharmacokinetics and optimize their formulation may produce unfavorable results,

patient recruitment and enrollment in clinical trials may be slower than we anticipate,

costs of development may be greater than we anticipate,

our product candidates may cause undesirable side effects that delay or preclude regulatory approval or limit their commercial use or market acceptance if approved,

collaborators who are responsible for development of our product candidates may not devote sufficient resources to these clinical trials or other studies of these candidates or conduct them in a timely manner, or

we may face delays in obtaining regulatory approvals to commence a clinical trial.

Success in early development does not mean that later development will be successful because, for example, product candidates in later-stage clinical trials may fail to demonstrate sufficient safety and efficacy despite having progressed through initial clinical testing. For example, in July 2007, we were informed by Daiichi Sankyo, our collaborative partner on CS-917, that results from a completed Phase 2b clinical trial showed that this product candidate failed to achieve the primary endpoint of the clinical trial despite having successfully achieved the primary endpoints of other earlier clinical trials. In January 2008, we and Daiichi Sankyo agreed to terminate our strategic collaboration on CS-917 and return the rights to this product candidate to us. We do not intend to further develop this product candidate.

Our clinical experience with our product candidates is limited, and to date our product candidates have been tested in less than the number of patients that will likely need to be studied to gain regulatory approval. The data collected from clinical trials with larger patient populations may not demonstrate sufficient safety and efficacy to support regulatory approval of these product candidates. In addition, the requirements for regulatory approval of our product candidates may change, making it more difficult for us to achieve such approval in a timely manner or at all. For example, in March 2008 the FDA released draft guidance regarding clinical trials for product candidates that treat diabetes, which may result in more stringent requirements for the clinical testing and regulatory approval of such product candidates.

We currently do not have strategic collaborations in place for any of our current product candidates. Therefore, in the future, we and/or any potential future collaborative partner will be responsible for establishing the targeted endpoints and goals for development of our product candidates. These targeted endpoints and goals may be inadequate to demonstrate the safety and efficacy levels required for regulatory approvals. Even if we believe data collected during the development of our product candidates are promising, such data may not be sufficient to support marketing approval by the FDA or other regulatory agencies abroad. Further, data generated during

development can be interpreted in different ways, and the FDA or other foreign regulatory agencies may interpret such data in different ways than us or our collaborators. Our failure to adequately demonstrate the safety and efficacy of our product candidates would prevent our receipt of regulatory approval, and ultimately the commercialization of these product candidates.

***We may not be able to enter into collaborations with respect to our non-core assets, pradefovir and MB07133, and certain metabolic disease advanced research programs on acceptable terms, if at all, which would lead to development and commercialization delays.***

Since we do not currently possess the resources necessary to independently develop and commercialize all of the potential product candidates that may be based upon our technologies, including MB07803, MB07811, pradefovir and MB07133, and as a component of our revised strategic plan, we plan to enter into additional collaborative agreements to assist in the development and commercialization of some or all of these product candidates. However, our discussions with potential collaborators may not lead to the establishment of new collaborations on acceptable terms, if at all, or it may take longer than expected to establish new collaborations, leading to development and commercialization delays, which would adversely affect our business.

***Our product candidates may cause undesirable side effects that could delay or prevent their regulatory approval or commercialization or have other significant adverse implications on our business.***

Prior to receiving regulatory approval, undesirable side effects observed in human clinical trials or in supportive animal studies with our product candidates could interrupt, delay or halt their development and could result in the denial of regulatory approval by the FDA or other regulatory authorities for any or all targeted indications or adversely affect the marketability of any such product candidates that receive regulatory approval. In turn, this could eliminate or limit our ability to commercialize our product candidates and generate revenues from their sale.

For example, data from 24-month oral carcinogenicity studies of pradefovir in rats and mice showed that the incidence of rats or mice with tumors was increased in the animals dosed with the highest dose levels tested and was slightly increased at the intermediate dose levels. The low dose levels were considered "no-effect" dose levels in both studies. As a result of numerous factors which may include these findings, we entered into an agreement with Schering and Valeant to terminate our agreements for the development and commercialization of pradefovir, and all commercial rights to pradefovir have been returned to us subject to certain milestone and royalty payments we may be required to make to Valeant should pradefovir be subsequently developed.

Our product candidates could also exhibit adverse interactions with other drugs. For example, in earlier clinical trials conducted by Daiichi Sankyo, CS-917 was associated with incidents of lactic acidosis in two patients when it was combined with metformin in a Phase 1 clinical trial. After extensive analysis, Daiichi Sankyo concluded that these incidents were likely due to significantly increased blood levels of metformin. CS-917 was also associated in a limited number of patients with episodes of hypoglycemia, asymptomatic lactate elevation as well as lactate elevation with clinical symptoms that could be considered signs of lactic acidosis. We are currently conducting clinical trials of our second-generation product candidate for type 2 diabetes, MB07803, which works by the same mechanism as CS-917 and thus may be subject to some or all of the same risks as CS-917. To date, no incidents of lacticemia, lactic acidosis, hypoglycemia or other significant adverse side effects have been observed in clinical trials of MB07803.

The unique nature of our proprietary technologies including HepDirect and NuMimetic may cause undesirable side effects in future clinical trials or supportive animal studies. In addition, our product candidates may have greater or lesser degrees of potential risk of undesirable side effects relative to other product candidates based on the nature of their molecular targets and the various physiological

responses associated with those targets. For example, MB07811 is a product candidate designed to exploit the beneficial hepatic effects of thyroid hormone mimetics while avoiding toxicities related to systemic exposure to these types of compounds. If MB07811 is not successful in this regard, it could be associated with undesirable side effects.

Undesirable side effects involving our product candidates may have other significant adverse implications on our business, for example:

we may be unable to obtain additional financing on acceptable terms, if at all,

our stock price could decline,

our collaborators may ultimately terminate development of our partnered products, may further decide not to develop backup product candidates and may terminate our agreements,

if these agreements were terminated we may determine not to further develop the affected product candidates due to resource constraints and may not be able to establish additional collaborations for their further development on acceptable terms, if at all,

if we were to later continue the development of these product candidates and receive regulatory approval, earlier findings may significantly limit their marketability and thus significantly lower our potential future revenues from their sale,

we may be subject to product liability or stockholder litigation, and

we may be unable to attract and retain key employees.

In addition, if any of our product candidates receive marketing approval and we or others later identify undesirable side effects caused by the product:

regulatory authorities may withdraw their approval of the product, or we may decide to cease marketing and sale of the product voluntarily,

we may be required to change the way the product is administered, conduct additional studies, change the labeling of the product, or change the product's manufacturing facilities, and

our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase the costs and expenses of commercializing the product, which in turn could delay or prevent us from generating significant revenues from the sale of the product.

***We are currently dependent on our collaborations with Merck and Idenix for the development and commercialization of product candidates related to those collaborations, and we may be dependent on future collaborators for the development of our current and future product candidates. Events involving our collaborations with Merck and Idenix, or any future collaborations could prevent us from developing and commercializing our product candidates and achieving or sustaining profitability.***

We have entered into two collaborations with Merck and a collaboration with Idenix. The first collaboration with Merck seeks to develop and commercialize new products for the treatment of hepatitis C infection and the second seeks to develop and commercialize new products to treat type 2 diabetes and potentially other metabolic diseases. Our collaboration with Idenix seeks to develop and commercialize new products for the treatment of hepatitis C infection. Although our collaborations with Merck and Idenix have not yet yielded any product candidates,

should they ultimately be successful, we will be dependent on Merck and/or Idenix, as applicable, for further development and commercialization of any resulting product candidates. In October 2007, the sponsored research term of our collaboration agreement with Idenix was ended upon the first anniversary of the agreement in

accordance with its terms. While the sponsored research portion of our collaboration with Idenix ended, the programs are under evaluation for further development.

We have limited control over the amount and timing of resources that Merck, Idenix or any future collaborators devote to our programs or potential product candidates. These collaborations with us may end or may be terminated or our collaborators may otherwise fail to conduct their collaborative activities successfully and in a timely manner. Further, our collaborators may not develop product candidates that arise out of our collaborative arrangements or devote sufficient resources to the development, manufacture, marketing or sale of these products. In the event that one of our collaborations is terminated, and we believe that the continued development or commercialization of a product candidate or drug compound covered by the collaboration is warranted, we may seek to obtain rights to develop and commercialize the product candidate or drug compound, if we do not already have those rights. We would then determine whether to continue the development or commercialization of the product candidate or drug compound independently or together with a new collaborator. However, in the event that we do not have sufficient resources to independently develop or commercialize the product candidate or drug compound, and we cannot establish a new collaboration on acceptable terms, we would be forced to discontinue its development or commercialization. For example, at this time, we do not intend to independently develop pradefovir or MB07133 and intend to license these product candidates for further development and commercialization.

We and our present and future collaborators may fail to develop or effectively commercialize products or drug compounds covered by our present and future collaborations if:

we do not achieve our objectives under our collaboration agreements,

our product candidates do not meet the primary endpoints of any clinical trials conducted on them or exhibit undesirable side effects,

we are unable to obtain patent protection for the product candidates or proprietary technologies we discover in our collaborations,

we are unable to manage multiple simultaneous product discovery and development collaborations,

our potential collaborators are less willing to expend their resources on our programs due to their focus on other programs or as a result of general market conditions,

our collaborators become competitors of ours or enter into agreements with our competitors,

we or our collaborators encounter regulatory hurdles that prevent commercialization of our product candidates,

we develop products and processes or enter into additional collaborations that conflict with the business objectives of our other collaborators,

consolidation in our target markets limits the number of potential collaborators, or

we are unable to negotiate additional collaboration agreements under terms satisfactory to us.

If we are unable to develop or commercialize our products as a result of the occurrence of any of these events, we may not be able to generate sufficient revenues to achieve or maintain profitability.

***Because our collaborations with Merck and Idenix may involve Merck's or Idenix's proprietary compounds, if Merck or Idenix terminate development of product candidates we may not have the right to pursue development of these product candidates on our own.***

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

The objective of our hepatitis C collaboration with Merck has been to discover product candidates for the treatment of this disease by applying our technology to certain compounds provided by Merck.

The funded research phase of this collaboration has ended. Merck has evaluated and may continue to evaluate the drug compounds discovered under the research phase of the collaboration to determine if one or more will be recommended for clinical development. If Merck so designates a product candidate and then subsequently terminates this collaboration before a defined stage of development of that product candidate, which it may do without cause at any time upon 90 days' advance written notice to us, we will not have any right to develop or commercialize that product candidate. In addition, if this collaboration with Merck terminates and Merck successfully develops products based on these proprietary compounds without applying our technology, we will not be entitled to milestone payments or royalties with respect to those products.

Our agreement with Merck to develop and commercialize new products to treat type 2 diabetes and potentially other metabolic diseases may include the development of compounds owned or controlled by Merck. Accordingly, if Merck terminates this collaboration, it may prove difficult for us to continue development of such compounds. Similarly, our agreement with Idenix to develop and commercialize new products to treat hepatitis C infection may include the development of compounds owned or controlled by Idenix. In October 2007, the sponsored research term of our collaboration agreement with Idenix ended upon the first anniversary of the agreement in accordance with its terms. While Idenix may not choose to develop the compounds discovered during the research term, should it do so and then decide to terminate this collaboration, it may prove difficult for us to continue development of such compounds.

***Conflicts may arise between us and any of our collaborators that could delay or prevent the development or commercialization of our product candidates.***

Conflicts may arise between our collaborators and us, such as conflicts concerning the interpretation of clinical data, the achievement of milestones or the ownership of intellectual property developed during the collaboration. If any conflicts arise with Merck, Idenix or any future collaborators, they may act in their self-interest, which may be adverse to our best interests. Any such disagreement between us and a collaborator could result in one or more of the following, each of which could delay or prevent the development or commercialization of our product candidates, and in turn prevent us from generating sufficient revenues to achieve or maintain profitability:

unwillingness on the part of a collaborator to pay us research funding, milestone payments or royalties we believe are due to us under our collaboration agreement,

uncertainty regarding ownership of intellectual property rights arising from our collaborative activities, which could prevent us from entering into additional collaborations or independently pursuing the development and/or commercialization of product candidates, or disagreements with our collaborators regarding the protection of intellectual property rights,

unwillingness on the part of a collaborator to keep us informed regarding the progress of its development and commercialization activities or to permit public disclosure of the results of those activities, or

slowing or cessation of a collaborator's development or commercialization efforts with respect to our product candidates.

***Our efforts to discover product candidates beyond our current product candidates may not succeed, and any product candidates we recommend for clinical development may not actually begin clinical trials.***

We intend to use our proprietary technologies and our knowledge and expertise to develop and commercialize novel drugs to address some of the world's most widespread and costly chronic diseases. Our goal is to expand our core metabolic disease clinical development pipeline by continuing to develop and move additional new drug compounds into clinical development. However, the process of



researching and discovering drug compounds is expensive, time-consuming and unpredictable. Data from our current research programs may not support the clinical development of our lead compounds or other compounds from these programs, and we may not identify any additional drug compounds suitable for recommendation for clinical development. Moreover, any drug compounds we recommend for clinical development may not demonstrate, through preclinical testing, indications of safety and potential efficacy, that such drug compounds warrant advancement into clinical trials. Such findings would potentially impede our ability to maintain or expand our clinical development pipeline. Our ability to identify new drug compounds and advance them into clinical development also depends upon our ability to fund our research and development operations, and we cannot be certain that additional funding will be available on acceptable terms, or at all.

***Delays in the commencement or completion of clinical trials could result in increased costs to us and delay our ability to generate significant revenues.***

Delays in the commencement or completion of clinical trials could significantly impact our product development costs. We do not know whether planned clinical trials will begin on time or be completed on schedule, if at all. The commencement of clinical trials can be delayed for a variety of reasons, including delays related to:

obtaining regulatory approval to commence a clinical trial,

reaching agreement on acceptable terms with prospective contract research organizations and clinical trial sites,

manufacturing sufficient quantities of a product candidate or other materials necessary to conduct the clinical trial,

obtaining institutional review board approval to conduct a clinical trial at a prospective site,

recruiting and enrolling patients to participate in a clinical trial, and

the failure of our collaborators to adequately resource our product candidates due to their focus on other programs or as a result of general market conditions.

In addition, once a clinical trial has begun, it may be suspended or terminated by us, our collaborators, the FDA or other regulatory authorities due to a number of factors, including:

failure to conduct the clinical trial in accordance with regulatory requirements or clinical protocols,

inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold,

unforeseen safety issues, or

lack of adequate funding to continue the clinical trial.

If we experience significant delays in the commencement or completion of clinical testing, our product development costs may increase, we may lose any competitive advantage associated with early market entry and our ability to generate significant revenues may be delayed. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of a product candidate.

***We rely on third parties in connection with the development of our product candidates. If these third parties do not successfully meet their obligations under our agreements, we may not be able to obtain regulatory approval for or commercialize our product candidates.***

We rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories, to assist in the development of MB07803 and MB07811 and intend to rely on similar organizations to assist in the development of any other future product candidates that we may develop for which a collaborator is not responsible for development. At this time, we do not intend to independently develop pradefovir or MB07133 and intend to license these product candidates for further development and commercialization. We may rely on strategic collaborators for the development of our core metabolic disease assets, MB07803 and MB07811, in the future. If successful in entering into these future collaborations and license agreements, we will be dependent upon our collaborative partners and licensees for the further development and commercialization of these product candidates. Although our collaborations with Merck and Idenix have not yet yielded product candidates, should they be successful, we will be dependent on Merck and/or Idenix, as applicable, to conduct the development of any resulting product candidates. If Merck, Idenix or these other third parties do not successfully meet their obligations under our agreements, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to applicable protocols or for other reasons, clinical trials or other studies may be extended, delayed or terminated, and these product candidates may not receive regulatory approval or be successfully commercialized.

***Because our product candidates, research programs and collaborative efforts depend on our proprietary technologies, adverse events affecting our proprietary technologies may delay or prevent the commercialization of our product candidates.***

We used our NuMimetic technology to identify MB07803. We used our HepDirect technology to discover pradefovir, MB07811 and MB07133, and have applied it in certain other programs as well. We intend to use these and future proprietary technologies to expand our product pipeline in the future. We may also leverage our HepDirect and other liver-targeting technology through strategic alliances and collaborations with other companies, such as our hepatitis C collaborations with Merck and Idenix in which we applied our technology to certain Merck and Idenix compounds. Our proprietary technologies are subject to many of the same risks as our product candidates, including risks related to:

obtaining and maintaining patent and trade secret protection for these technologies,

avoiding infringement of the proprietary rights of third parties,

the development of competing technologies by others, and

in HepDirect's case, the safety and effectiveness of this technology in humans.

Because certain of our product candidates and research programs are dependent on our proprietary technologies, adverse events affecting our proprietary technologies may in turn delay or prevent the development or commercialization of our product candidates, which could impede our ability to generate revenues and achieve or maintain profitability.

***Our product candidates are subject to extensive regulation, which can be costly and time consuming, cause unanticipated delays or prevent the receipt of the required approvals to commercialize our product candidates.***

The clinical development, manufacturing, labeling, storage, record-keeping, advertising, promotion, export, marketing and distribution of our product candidates are subject to extensive regulation by the FDA and other regulatory agencies in the U.S. and by comparable governmental authorities in foreign markets. In the U.S., neither we, nor our collaborators, are permitted to market our product candidates until we or our collaborators receive approval of an NDA from the FDA or receive similar approvals

abroad. The process of obtaining these approvals is expensive, often takes many years, and can vary substantially based upon the type, complexity and novelty of the product candidates involved. Approval policies or regulations may change. In addition, as a company, we have not previously filed NDAs with the FDA or filed similar applications with other foreign regulatory agencies. This lack of experience may impede our ability to obtain FDA or other foreign regulatory agency approval in a timely manner, if at all, for our product candidates for which development and commercialization is our responsibility.

Despite the time and expense invested, regulatory approval is never guaranteed. The FDA or other foreign regulatory agencies can delay, limit or deny approval of a product candidate for many reasons, including:

a product candidate may not be safe and effective,

FDA or other foreign regulatory agency officials may not find the data from preclinical testing and clinical trials generated during development sufficient,

the FDA or other foreign regulatory agency may not approve of our third-party manufacturers' processes or facilities, or

the FDA or other foreign regulatory agency may change its approval policies or adopt new regulations.

Any delay in obtaining, or inability to obtain, these approvals would prevent us from commercializing our product candidates.

***Even if any of our product candidates receive regulatory approval, our product candidates may still face future development and regulatory difficulties.***

If any of our product candidates receive regulatory approval, the FDA or other foreign regulatory agencies may still impose significant restrictions on the indicated uses or marketing of the product candidates or impose ongoing requirements for potentially costly post-approval studies. In addition, regulatory agencies subject a product, its manufacturer and the manufacturer's facilities to continual review and periodic inspections. If a regulatory agency discovers previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions on that product, our collaborators or us, including requiring withdrawal of the product from the market. Our product candidates will also be subject to ongoing FDA and other foreign regulatory agency requirements for the labeling, packaging, storage, advertising, promotion, record-keeping and submission of safety and other post-market information on the drug. If our product candidates fail to comply with applicable regulatory requirements, a regulatory agency may:

issue warning letters or other notices of possible violations,

impose civil or criminal penalties or seek disgorgement of revenue or profits,

suspend regulatory approval,

suspend any ongoing clinical trials,

refuse to approve pending applications or supplements to approved applications filed by us or our collaborators,

impose restrictions on operations, including costly new manufacturing requirements, or

seize or detain products or require a product recall.

In order to market any products outside of the U.S., we and our collaborators must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and

efficacy. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from that required to obtain FDA approval. The regulatory approval process in other countries may include all of the risks regarding FDA approval in the U.S. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others. Failure to obtain regulatory approval in other countries or any delay or setback in obtaining such approval could have the same adverse impact regarding FDA approval in the U.S., including the risk that our product candidates may not be approved for all indications requested, which could limit the uses of our product candidates and adversely impact potential royalties and product sales, and that such approval may be subject to limitations on the indicated uses for which the product may be marketed or require costly, post-marketing follow-up studies.

If we and our collaborators fail to comply with applicable foreign regulatory requirements, we and our collaborators may be subject to fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

***If our competitors have products that are approved faster, marketed more effectively or demonstrated to be more effective than ours, our commercial opportunity will be reduced or eliminated.***

The biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face competition from many different sources, including commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies and private and public research institutions. Due to the high demand for treatments for liver and metabolic diseases, research is intense and new treatments are being sought out and developed by our competitors.

We are aware of many competitive products currently marketed or under development that are used to treat some of the diseases we have targeted. If MB07803 is ultimately determined safe and effective and approved for marketing, it may compete for market share with established therapies from a number of competitors, including large pharmaceutical companies. Such marketed products include, but are not limited to the following classes:

metformin, which is a member of the biguanide drug class, related to guanidine and currently is the most widely prescribed first line therapy for type 2 diabetes,

sulfonylureas, which increase the secretion of insulin by the pancreas, thereby lowering the level of the sugar glucose in the blood,

insulins, which mimic insulin, the naturally occurring hormone made by the pancreas to control blood glucose levels,

PPARs, which improve insulin sensitivity by activating certain genes involved in fat synthesis and carbohydrate metabolism,

incretin mimetics, which lower glucose levels by increasing the levels of certain naturally occurring hormones from the pancreas, including glucagon-like peptide-1, or GLP-1, a peptide that facilitates the response of the pancreas and liver to fluctuations in glucose levels by its action on pancreatic beta and alpha cells. This drug class includes dipeptidyl peptidase IV, or DPP-IV inhibitors, and BYETTA® (exenatide) injection. DPP-IV is an enzyme in the bloodstream that cleaves and inactivates GLP-1. Inhibition of DPP-IV thus increases the half-life of endogenous GLP-1 by preventing cleavage and inactivation of GLP-1. BYETTA is an injectable medication that exhibits many of the same glucose regulating actions of GLP-1. The overall effect of drugs in this class is to enhance glucose-dependent insulin secretion and suppress inappropriate glucagon secretion,

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

alpha-glucosidase inhibitors, which decrease the absorption of carbohydrates from the intestine, resulting in a slower and lower rise in blood glucose throughout the day,

glinides, which stimulate the pancreas' beta-cells to produce insulin, and

combination therapies, which combines metformin with members of several of the above-mentioned classes, particularly sulfonylureas and PPARs.

Metformin is a drug that inhibits liver glucose production like MB07803 but does so through an unknown mechanism. Because it does not cause weight gain, metformin is often prescribed as a first line therapy to obese patients with type 2 diabetes, who are reported to comprise more than 90% of patients newly diagnosed with type 2 diabetes. Generic forms of metformin have recently become available. Accordingly, unless MB07803 demonstrates significant benefits when compared to metformin or demonstrates that it can be used in the patient population who do not tolerate and/or adequately respond to metformin treatment, the price required to effectively compete with the generic form of metformin may be so low that it may limit the market's potential or make it uneconomical to market MB07803. In addition, many companies are developing novel therapies that target diabetes. These companies may develop and introduce products competitive with or superior to MB07803.

If MB07811 is ultimately determined safe and effective and approved for marketing, it would compete with products marketed by several large pharmaceutical companies that currently comprise a large share of the hyperlipidemia market. Major classes of hyperlipidemia drugs include, but are not limited to:

statins, which reduce serum cholesterol levels by inhibiting a key enzyme involved in the biosynthesis of cholesterol,

fibrates, which reduce the amount of cholesterol and triglycerides (fatty substances) in blood,

nicotinic acid derivatives, which lower cholesterol, triglycerides and low density lipoproteins and increase high density lipoproteins,

CAIs, which inhibit the absorption of dietary and biliary cholesterol,

bile acid sequestrants, which bind with cholesterol-containing bile acids in the intestines and remove them in bowel movements, and

statin combination therapies, which combine statins with members of the above-mentioned classes, particularly CAIs.

Several large pharmaceutical companies are also developing novel therapies that target hyperlipidemia. These companies may develop and introduce products competitive with or superior to MB07811. Lipitor (atorvastatin; a statin marketed by Pfizer) is currently one of the best selling prescription medicines. In addition, generic statins (cholesterol-reducers) have recently been approved in the major pharmaceutical markets and would also compete with MB07811.

If pradeфовir is ultimately determined safe and effective and approved for marketing, it may compete for market share with established therapies from a number of competitors, including large pharmaceutical companies. Such marketed products include, but are not limited to the following classes:

interferons, which mimic interferon, the naturally occurring infection-fighting immune substance produced by the body,

nucleoside analogues, which are chemically engineered nucleoside compounds that are converted inside cells into other compounds that are structurally similar to the building blocks of DNA and RNA that interfere with the replication of HBV, and



## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

nucleotide analogues, which are chemically engineered nucleotide compounds that are converted inside cells into other compounds that are structurally similar to the building blocks of DNA and RNA that interfere with the replication of HBV.

A competitor to pradefovir may be Hepsera (adefovir dipivoxil), which is a nucleotide analogue currently marketed in the U.S. and Europe by Gilead Sciences, Inc. Pradefovir and Hepsera are prodrugs of the same active drug, and therefore may directly compete. In order to effectively compete with Hepsera, pradefovir may have to be significantly more beneficial or less expensive than Hepsera. In addition, marketed products approved to treat HIV infections are being evaluated for their effectiveness in treating hepatitis B infections.

Nexavar (sorafenib), a chemotherapy approved for treating kidney cancer, received FDA approval in November, 2007 for the treatment of primary liver cancer. This follows the European Medicines Agency's, or EMEA, decision in October of the same year to approve Nexavar in the same indication for Europe. Nexavar is now the only drug approved for primary liver cancer in the United States or Europe.

In addition, companies are developing therapies for other solid tumors which may be efficacious in treating primary liver cancer. These companies may develop and introduce products competitive with or superior to MB07133.

In addition, many other companies are developing products for the treatment of the diseases we are targeting and if successful, these products could compete with our products. If we receive approval to market and sell any of our product candidates, we may compete with these companies and their products as well as others in varying stages of development.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, clinical trials, regulatory approvals and marketing approved products than we do. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Our competitors may succeed in developing technologies and therapies that are more effective, better tolerated or less costly than any which we are developing, or that would render our product candidates obsolete and noncompetitive. Our competitors may succeed in obtaining approvals from the FDA and foreign regulatory authorities for their products sooner than we do for ours. We will also face competition from these third parties in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, and in acquiring and in-licensing technologies and products complementary to our programs or advantageous to our business.

***We do not have internal manufacturing capabilities, and if we fail to develop and maintain supply relationships with collaborators or other third-party manufacturers, we may be unable to develop or commercialize our products.***

Our ability to develop and commercialize our products depends in part on our ability to manufacture, or arrange for collaborators or other third parties to manufacture, our products at a competitive cost, in accordance with regulatory requirements and in sufficient quantities for development and eventual commercialization. We have relied on a number of suppliers to manufacture sufficient quantities of MB07803 and MB07811 for use in clinical trials during development. Although our suppliers have manufactured other companies' products on a commercial scale, we have not yet determined if they are capable of manufacturing our products on a commercial scale. We, our current and potential future collaborators and third-party manufacturers may encounter difficulties with the small- and large-scale formulation and manufacturing processes required to manufacture our product candidates, resulting in delays in our clinical trials development and regulatory submissions, in the commercialization of our product candidates or, if any of our product candidates is approved, in the



recall or withdrawal of the product from the market. Further, development of large-scale manufacturing processes may require additional validation studies, which the FDA and other foreign regulatory agencies must review and approve. Our inability to enter into or maintain agreements with collaborators or capable third-party manufacturers on acceptable terms could delay or prevent the commercialization of our products, which would adversely affect our ability to generate revenues and could prevent us from achieving or maintaining profitability.

We currently expect that in any future development activities related to MB07803 and MB07811, we will rely on our current suppliers to manufacture these compounds. However, we do not have long-term supply agreements with these third parties, and we may not be able to enter into new supply agreements with them in a timely manner or on acceptable terms, if at all. These third parties may also be subject to capacity constraints that would cause them to limit the amount of these compounds that we can purchase. While we believe alternative sources to manufacture these compounds are readily available, in the event we have to seek such alternative sources we will incur costs associated with identifying and qualifying one or more alternate suppliers. In addition, any resulting interruption or delay we experience in the supply of MB07803 or MB07811 may impede the development of these compounds.

In addition, we, our collaborators or other third-party manufacturers of our products must comply with current good manufacturing practices, or CGMP, requirements enforced by the FDA and other foreign regulatory agencies through their facilities inspection programs. These requirements include quality control, quality assurance and the maintenance of records and documentation. In addition, product manufacturing facilities in California are subject to licensing requirements of the California Department of Health Services and may be inspected by the California Department of Health Services, and other applicable regulatory authorities, at any time. We, our collaborators or other third-party manufacturers of our products may be unable to comply with these CGMP requirements and with other FDA, state and foreign regulatory requirements. We have little control over third-party manufacturers' compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval.

***If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market our product candidates, we may be unable to generate significant revenues.***

We do not have a sales and marketing organization, and we have no experience as a company in the sales, marketing and distribution of pharmaceutical products. Although our hepatitis C and metabolic disease collaborations with Merck have not yet yielded product candidates, should they be successful, Merck will be responsible for worldwide marketing and commercialization of any resulting product candidates (subject to, in the case of our metabolic disease collaboration, our option to co-promote the product in the U.S. with certain financial assistance from Merck). Similarly, should our hepatitis C collaboration with Idenix be successful, Idenix will be responsible for worldwide marketing and commercialization of any resulting product candidates. In order to co-promote any of these products, or to commercialize MB07803, MB07811, pradeфовir, MB07133 or any future product candidates for which we retain commercialization rights, we may be required to develop our sales, marketing and distribution capabilities, or make arrangements with a third party to perform these services. Even though we may receive financial assistance from Merck if we exercise our U.S. co-promotion option under the metabolic disease collaboration, developing a sales force for any resulting product or any product resulting from any of our other product candidates is expensive and time consuming and could delay any product launch. We may be unable to establish and manage an effective sales force in a timely or cost-effective manner, if at all, and any sales force we do establish may not be capable of generating sufficient demand for our product candidates. To the extent that we enter into arrangements with collaborators or other third parties to perform sales and marketing services, our product revenues are likely to be lower than if we directly marketed and sold our product candidates. If we are unable to establish adequate sales and marketing capabilities, independently or with others, we may not be able to generate significant revenues and may not become profitable.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

*The commercial success of our product candidates depends upon their market acceptance among physicians, patients, healthcare payors and the medical community.*

Even if our product candidates obtain regulatory approval, our products, if any, may not gain market acceptance among physicians, patients, healthcare payors and the medical community. The degree of market acceptance of any of our approved product candidates will depend on a number of factors, including:

our ability to provide acceptable evidence of safety and efficacy,

relative convenience and ease of administration,

the prevalence and severity of any adverse side effects,

restrictions on use in combination with other products,

availability of alternative treatments,

pricing and cost effectiveness assuming either competitive or potential premium pricing requirements, based on the profile of our product candidates and target markets,

effectiveness of our or our partners' sales and marketing strategy, and

our ability to obtain sufficient third-party coverage or reimbursement.

*We are subject to uncertainty relating to health care reform measures and reimbursement policies which, if not favorable to our product candidates, could hinder or prevent our product candidates' commercial success.*

The continuing efforts of the government, insurance companies, managed care organizations and other payers of health care costs to contain or reduce costs of health care may adversely affect:

our ability to set a price we believe is fair for our products,

our ability to generate revenues and achieve or maintain profitability,

the future revenues and profitability of our potential customers, suppliers and collaborators, and

the availability of capital.

In certain foreign markets, the pricing of prescription drugs is subject to government control. In the U.S., given recent federal and state government initiatives directed at lowering the total cost of health care, Congress and state legislatures will likely continue to focus on health care reform, the cost of prescription drugs and the reform of the Medicare and Medicaid systems. For example, in January 2007, the House of Representatives passed the Medicare Prescription Drug Price Negotiation Act of 2007. The bill requires the federal government (specifically the Department of Health and Human Services) to negotiate with drug companies over the price of drugs for Medicare participants. In addition, the Medicare Prescription Drug, Improvement and Modernization Act of 2003 provides a Medicare prescription drug benefit that began in 2006 and mandates other reforms. While we cannot predict the full outcome of the implementation of these legislations, it is possible that the new Medicare prescription drug benefit, which will be managed by private health insurers and other managed care organizations, will result in decreased reimbursement for prescription drugs, which may further exacerbate industry-wide pressure to reduce prescription drug prices. This could harm our ability to market our products and generate revenues. It is also possible that other similar proposals will be adopted.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

Our ability to commercialize our product candidates successfully will depend in part on the extent to which governmental authorities, private health insurers and other organizations establish appropriate coverage and reimbursement levels for the cost of our products and related treatments. Third-party payors including state governments are increasingly challenging the prices charged for medical products

and services. Also, the trend toward managed health care in the U.S., which could significantly influence the purchase of health care services and products, as well as legislative proposals to reform health care or reduce government insurance programs, may result in lower prices for our product candidates or exclusion of our product candidates from coverage and reimbursement programs. The cost containment measures that health care payors and providers are instituting and the effect of any health care reform could significantly reduce our revenues from the sale of any approved product.

***We may need to decrease the size of our organization, and we may experience difficulties in managing those organizational changes.***

Since we became an independent company in 1999, we have increased the number of our full-time employees from 50 to 124 as of March 3, 2008. We may need to decrease the number of our full-time employees in the future in response to adverse business events. Reducing our workforce may lead to additional unanticipated attrition. If our future staffing is inadequate because of additional unanticipated attrition or because we failed to retain the staffing level required to accomplish our business objectives we may be delayed or unable to continue the development or commercialization of our product candidates, which could impede our ability to generate revenues and achieve or maintain profitability.

***If we fail to attract and keep key management and scientific personnel, we may be unable to successfully develop or commercialize our product candidates.***

Our success depends on our continued ability to attract, retain and motivate highly qualified management and scientific personnel. The loss of the services of certain principal members of our management or scientific staff could delay or prevent the commercialization of our product candidates. We employ these individuals on an "at-will" basis and their employment can be terminated by us or them at any time, for any reason and with or without notice, subject to the terms of their stock restriction agreements and severance agreements.

Competition for qualified personnel in the biotechnology field is intense. We will need to hire additional personnel as we establish and/or expand our sales, manufacturing, research and development activities in the future. We may not be able to attract and retain quality personnel on acceptable terms given the competition for such personnel among biotechnology, pharmaceutical and other companies.

We have established a scientific advisory board, the members of which assist us in formulating our research, development and clinical strategies. These scientific advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. In addition, our scientific advisors may have arrangements with other companies to assist those companies in developing products or technologies that may compete with ours.

#### **Risks Related to our Finances and Capital Requirements**

***We will need substantial additional funding and may be unable to raise capital when needed, which would force us to delay, reduce or eliminate our research and development programs or commercialization efforts and affect our ability to continue as a going concern.***

We intend to use our existing cash reserves, proceeds received in March 2008 from our venture debt facility, proceeds from our ongoing collaboration with Merck, our Committed Equity Financing Facility, or CEFF, and proceeds from other planned financing and business development activities to execute our revised strategic plan through 2008. Under our revised strategic plan we will need to secure additional cash proceeds through future strategic collaborations and the CEFF or other financing sources to fund certain studies on the MB07803 and MB07811 programs in 2008. In the event we are not able to generate sufficient financing through the use of our CEFF or other planned financing and business development activities we have the ability and intent to, and will be required to, delay, scale

back or eliminate some or all of our research or development programs and other outlays of cash in order to meet our cash requirements through 2008. Additionally, we may be required to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose. Alternatively, we may determine that seeking additional resources through traditional financing transactions may be appropriate to achieve certain key value-driving development milestones. No assurances can be made that additional funding, through any resources including our CEFF, will be available when needed. Failure to obtain adequate financing and to curtail or delay cash expenditures adequately will have a significant negative impact on our future operations. Because we do not anticipate that we will generate significant continuing revenues for several years, if at all, we will need to raise substantial additional capital to finance our operations in the future. Our additional funding requirements will depend on, and could increase significantly as a result of, many factors, including:

the rate of progress and cost of our clinical trials and other research and development activities,

the scope, prioritization and number of clinical development and research programs we pursue,

the terms and timing of any collaborative, licensing and other arrangements that we may establish,

the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights,

the costs and timing of regulatory approvals,

the costs of establishing or contracting for sales and marketing capabilities, and

the effect of competing technological and market developments.

Until we can generate significant continuing revenues, if ever, we expect to satisfy our future cash needs through public or private equity offerings, debt financings, grants or corporate collaboration and licensing arrangements, as well as through interest income earned on cash balances.

We cannot be certain that additional funding will be available on acceptable terms, or at all. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate one or more of our research and development programs or our commercialization efforts and we may be unable to continue as a going concern.

***We have a history of net losses, which we expect to continue for the foreseeable future, and we are unable to predict when we will become profitable, if ever.***

We have incurred net losses from our inception. As of December 31, 2007, we had an accumulated deficit of approximately \$150 million. While we are unable at this time to determine whether our net losses will increase or decrease in the future, we expect to continue to incur net losses during the next several years as we conduct operations. Because of the numerous risks and uncertainties associated with our product development efforts, we are unable to predict when we will become profitable, if ever.

***We currently lack a significant continuing revenue source and may not become or remain profitable.***

Our ability to become and remain profitable depends upon our ability to generate continuing revenues. To date, our product candidates and strategic collaborations have not generated any significant revenues, other than one-time or time-limited payments associated with our collaborations such as milestone payments and option fees. Our ability to generate significant continuing revenues depends on a number of factors, including:

successful completion of ongoing development activities for our product candidates,



## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

achievement of regulatory approval for our product candidates,

successful completion of our current and future strategic collaborations, and

successful sales, manufacturing, distribution and marketing of our products.

We do not anticipate that we will generate significant continuing revenues for several years. If we are unable to eventually generate significant continuing revenues, we will not become or remain profitable, and we may be unable to continue our operations.

***Raising additional funds by issuing securities or through collaboration and licensing arrangements will cause dilution to existing stockholders, restrict our operations or require us to relinquish proprietary rights.***

We may raise additional funds through public or private equity offerings, our CEFF, corporate collaboration and licensing arrangements, debt financings or grants. For example, we have an effective shelf registration statement on file with the Securities and Exchange Commission which allow us to issue shares of our common stock and warrants to purchase our common stock in the future for an aggregate initial offering price of up to \$75 million, subject to certain limitations relating to the aggregate market value of our common stock held by non-affiliates. We have also filed a registration statement with the Securities and Exchange Commission covering the resale of shares issuable under the CEFF though to date, no shares have been issued under this resale registration statement. We may sell additional securities from time to time in one or more offerings in amounts, at prices and on terms that we will determine at the time of the offering. To the extent that we raise additional capital by issuing equity securities, pursuant to our effective shelf registration statements or otherwise, our existing stockholders' ownership will be diluted.

Any debt financing we enter into may involve covenants that restrict our operations. These restrictive covenants may include limitations on additional borrowing, specific restrictions on the use of our assets as well as prohibitions on our ability to create liens, pay dividends, redeem our stock or make investments. In addition, if we raise additional funds through collaboration and licensing arrangements, it may be necessary to relinquish potentially valuable rights to our potential products or proprietary technologies, or grant licenses on terms that are not favorable to us.

***Our quarterly operating results and stock price may fluctuate significantly.***

We expect our operating results to be subject to quarterly fluctuations. The revenues we generate, if any, and our operating results will be affected by numerous factors, including:

the development status of our product candidates, including results of our clinical trials and other studies,

our recommendation of additional drug compounds for clinical development,

our addition or termination of research programs or funding support,

variations in the level of expenses related to our product candidates or research programs,

our execution of collaborative, licensing or other arrangements, and the timing of payments we may make or receive under these arrangements, and

changes in the use assumptions or the use of different valuation methods in the application of SFAS No. 123R in future periods.

Quarterly fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

*Our CEFF may not be available to us if we elect to make a draw down, may require us to make additional "blackout" or other payments to an institutional investor and may result in dilution to our stockholders.*

We have entered into a CEFF with an institutional investor that entitles us to sell and obligates the investor to purchase, from time to time over a period of up to 36 months which commenced in December 2006, shares of our common stock at a discount of up to 10% for cash consideration up to an aggregate of \$50.0 million, subject to specified conditions and restrictions. The investor will not be obligated to purchase shares under the CEFF unless specified conditions are met, which include a minimum price for our common stock; a minimum amount of our market capitalization, the accuracy of representations and warranties made to the investor; compliance with laws; and the effectiveness of a registration statement registering for resale the shares of common stock to be issued in connection with the CEFF. In addition, among other termination rights, the investor is permitted to terminate the CEFF by providing written notice to us within 10 business days after it obtains actual knowledge that an event has occurred resulting in a material and adverse effect on our business, operations, properties or financial condition (subject to specified exceptions, including conditions or events that are reasonably expected to occur in the ordinary course of our business). If we are unable to access funds through the CEFF, or if the investor terminates the CEFF, we may be unable to access capital on favorable terms, or at all.

We are entitled, in certain circumstances, to deliver a "blackout" notice to the investor to suspend the use of the prospectus covering the shares of common stock issued in connection with the CEFF and prohibit the investor from selling shares under that prospectus for a certain period of time. If we deliver a blackout notice in the 15 trading days following the settlement of a draw down, or if the registration statement covering the resale of the shares of common stock to be issued in connection with the CEFF is not effective in circumstances not permitted by our registration rights agreement with the investor, then we must make a payment to the investor, or issue the investor additional shares in lieu of this payment, calculated on the basis of a specified number of shares held by the investor immediately prior to the blackout period and the change in the market price of our common stock during the period in which the use of the resale registration statement is suspended. If the trading price of our common stock declines during a suspension of the resale registration statement, the blackout or other payment could be significant.

Should we sell shares to the investor under the CEFF, or issue shares in lieu of a blackout payment, it will have a dilutive effect on the holdings of our current stockholders.

#### **Risks Related to our Intellectual Property**

*Our success depends upon our ability to protect our intellectual property, including the proprietary technologies and compounds used in our business.*

Our commercial success depends on obtaining and maintaining patent protection and/or trade secret protection of our product candidates, proprietary technologies and their uses, as well as successfully defending any patents that issue against third-party challenges. We may only be able to protect our product candidates, proprietary technologies and their uses from unauthorized use by third parties to the extent that valid and enforceable patents or trade secrets cover them.

The filing, prosecution and defense of patents at pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the U.S. The biotechnology patent situation outside the U.S. is even more uncertain. We may be particularly affected by this because we expect that pradefovir and MB07133, if approved, will be marketed in foreign countries with high incidences of HBV and primary liver cancer, respectively. Decisions or actions regarding patent filing and/or changes in either the



patent laws or in interpretations of patent laws in the U.S. and other countries may diminish the value of our intellectual property.

Decisions or actions regarding patent filing are complex and we may not be successful in protecting our products from competition. Patent positions for products are highly uncertain and involve complex legal and factual questions which may ultimately be decided to the detriment of our products' competitive positions' in the U.S. and these other countries. We may not be able to develop patentable products or processes in the U.S. and these other countries, and may not be able to obtain patents from pending applications. Even if patent claims are allowed in the U.S. and these other countries, the claims may not issue, or in the event of issuance, may not be sufficient to protect the technology owned by or licensed to us. Any patents or patent rights that we obtain in the U.S. and other countries may be circumvented, challenged or invalidated by our competitors. In addition, we are dependent on outside patent firms for advice and action regarding our efforts to secure patents. Should these firms fail to take appropriate action to secure or enforce our patents in a timely manner, or should they provide us with incorrect or inappropriate advice it could be detrimental to our patent positions.

Accordingly, we cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents in the U.S. and other countries.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

we might not have been the first to make the inventions covered by each of our pending patent applications and issued patents,

we might not have been the first to file patent applications for these inventions,

others may independently develop similar or alternative technologies or duplicate any of our technologies,

it is possible that none of our pending patent applications will result in issued patents,

our issued patents may not provide a basis for commercially viable products, may not provide us with any competitive advantages, or may be challenged by third parties,

our issued patents may not be valid or enforceable,

we may not develop additional proprietary technologies that are patentable, or

the patents of others may have an adverse effect on our business.

Proprietary trade secrets and unpatented know-how are also very important to our business. Although we have taken steps to protect our trade secrets and unpatented know-how, including entering into proprietary information and inventions agreements with our employees and consultants and entering into confidentiality agreements with other third parties to whom we disclose our proprietary information, third parties may still obtain this information without our knowledge and consent. Enforcing a claim that a third party illegally obtained and is using our trade secrets or unpatented know-how is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the U.S. may be less willing to protect this information. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how.

*If we are sued for infringing intellectual property rights of third parties, it will be costly and time consuming, and an unfavorable outcome in that litigation would have a material adverse effect on our business.*

Our commercial success depends upon our ability and the ability of our collaborators to develop, manufacture, market and sell our product candidates and use our proprietary technologies without infringing the proprietary rights of third parties. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we and our collaborators are developing products. Because patent applications can take many years to issue, there may be currently pending applications, unknown to us, which may later result in issued patents that our product candidates or proprietary technologies may infringe. We have not conducted a complete search of existing patents to identify existing patents that our product candidates or proprietary technologies may inadvertently infringe.

We may be exposed to future litigation by the companies holding these patents or other third parties based on claims that our product candidates and/or proprietary technologies infringe their intellectual property rights. If one of these patents was found to cover our product candidates, proprietary technologies or their uses, we or our collaborators could be required to pay damages and could be unable to commercialize our product candidates or use our proprietary technologies unless we or they obtained a license to the patent. In addition, while we are not currently subject to pending litigation nor are we aware of any threatened litigation, third parties may contact us or our collaborators in the ordinary course of business to bring certain patents to our attention. We and our collaborators evaluate all such communications on a case-by-case basis to assess whether such patents cover our product candidates or proprietary technologies and if so, whether to seek a license from such third parties. A license may not be available to us or our collaborators on acceptable terms, if at all.

There is a substantial amount of litigation involving patent and other intellectual property rights in the biotechnology and biopharmaceutical industries generally. If a third party claims that we or our collaborators infringe on its technology, we may face a number of issues, including:

infringement and other intellectual property claims which, with or without merit, may be expensive and time-consuming to litigate and may divert our management's attention from our core business,

substantial damages for infringement, including treble damages and attorneys' fees, as well as damages for products developed using allegedly infringing drug discovery tools or methods, which we may have to pay if a court decides that the product or proprietary technology at issue infringes on or violates the third party's rights,

a court prohibiting us from selling or licensing the product or using the proprietary technology unless the third party licenses its technology to us, which it is not required to do,

if a license is available from the third party, we may have to pay substantial royalties, fees and/or grant cross licenses to our technology, and

redesigning our products or processes so they do not infringe, which may not be possible or may require substantial funds and time.

We have conducted searches of U.S. and foreign patents, but cannot guarantee that the searches were comprehensive and therefore whether any of our product candidates or the methods of using, making or identifying our product candidates infringe the patents searched, or that other patents do not exist that cover our product candidates or these methods. There may also be pending patent applications that are unknown to us and may prevent us from marketing our product candidates. Other product candidates that we may develop, either internally or in collaboration with others, could be subject to similar delays and uncertainties.

*Existing patents and patent applications covering adefovir or prodrugs of adefovir in the U.S. and foreign countries may prevent the commercialization of pradefovir in the future.*

Our product candidate pradefovir is a prodrug of adefovir. A third party, Gilead, has rights to another product called Hepsera that is a non-liver specific prodrug of adefovir. We are aware of third party patents and patent applications in the U.S. and in European and other foreign countries with claims to prodrugs of adefovir. These patents are scheduled to expire in September 2011 overseas and in 2014 in the U.S. Although we do not believe that any valid claim covers pradefovir, we cannot guarantee this. If it is determined that patent claims are valid and cover pradefovir, we may not be able to commercialize pradefovir in such countries, including those in Europe. Further, we are aware that a patent term extension of one of these prodrug patents has been granted in multiple European countries based on the regulatory approval of Hepsera thereby extending protection of Hepsera in those countries to September 2016. Additional third party patents covering Hepsera or adefovir may exist, and may expire later than our expected date of regulatory approval in the country where the patent is in force.

#### **Risks Related to Other Legal Matters**

*We may incur significant costs complying with environmental laws and regulations.*

We use hazardous materials, including chemicals, biological agents and radioactive isotopes and compounds that could be dangerous to human health and safety or the environment. As appropriate, we store these materials and wastes resulting from their use at our facility pending their ultimate use or disposal. We currently contract with a third party to dispose of these materials and wastes. We are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials and wastes. We may also incur significant costs complying with environmental laws and regulations adopted in the future.

*We may incur substantial liabilities from any product liability claims if our insurance coverage for those claims is inadequate.*

We face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials, and will face an even greater risk if we sell our product candidates commercially. An individual may bring a liability claim against us if one of our product candidates causes, or merely appears to have caused, an injury. If we cannot successfully defend ourselves against the product liability claim, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

decreased demand for our product candidates,

injury to our reputation,

withdrawal of clinical trial participants,

costs of related litigation,

substantial monetary awards to patients or other claimants,

loss of revenues, and

the inability to commercialize our product candidates.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

We have product liability insurance that covers our clinical trials, up to an annual aggregate limit of \$10 million. We intend to expand our insurance coverage to include the sale of commercial products if marketing approval is obtained for any of our product candidates. However, insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost and we may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise.

*If we use biological and hazardous materials in a manner that causes injury, we may be liable for damages.*

Our research and development and manufacturing activities involve the use of biological and hazardous materials. Although we believe our safety procedures for handling and disposing of these materials comply with federal, state and local laws and regulations, we cannot entirely eliminate the risk of accidental injury or contamination from the use, storage, handling or disposal of these materials. If one of our employees was accidentally injured from the use, storage, handling or disposal of these materials, the medical costs related to his or her treatment would be covered by our workers' compensation insurance policy. While our property and casualty and general liability insurance policies specifically exclude coverage for damages and fines arising from biological or hazardous waste exposure or contamination, we do carry separate pollution legal liability coverage that is intended to cover third party claims for bodily injury, property damage and remediation costs. However, in the event of contamination or injury, we could be held liable for damages or penalized with fines in an amount exceeding our insurance and/or resources.

### **Risks Related to the Securities Markets and Investment in our Common Stock**

*Market volatility may affect our stock price and the value of your investment.*

The market price for our common stock has been and is likely to continue to be volatile. In addition, the market price of our common stock may fluctuate significantly in response to a number of factors, most of which we cannot control, including:

changes in the regulatory status of our product candidates, including the status and results of our development activities,

establishment of new collaborative arrangements,

events affecting Merck, Idenix or any future collaborators,

announcements of new products or technologies, commercial relationships or other events by us or our competitors,

regulatory developments in the U.S. and foreign countries,

fluctuations in stock market prices and trading volumes of similar companies,

variations in our quarterly operating results,

changes in securities analysts' estimates of our financial performance,

changes in accounting principles,

issuances of new equity securities by us, pursuant to our effective shelf registration statements or otherwise,

sales of large blocks of our common stock, including sales by our executive officers, directors and significant stockholders,

additions or departures of key personnel, and



discussion of us or our stock price by the financial and scientific press and in online investor communities.

***Anti-takeover 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 amended and restated certificate of incorporation and bylaws may delay or prevent an acquisition of us or a change in our management. These provisions include a classified board of directors, a prohibition on actions by written consent of our stockholders, and the ability of our board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. Although we believe these provisions collectively provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if the offer may be considered beneficial by some stockholders. 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, which is responsible for appointing the members of our management.

***We incur costs associated with regulatory compliance, and these costs could be significant.***

There are numerous regulatory requirements for public companies, including the provisions of the Sarbanes-Oxley Act of 2002 and rules adopted or proposed by the Securities and Exchange Commission and by the Nasdaq Stock Market. Section 404 requires management to report on, and our independent auditors to attest to, our internal controls. These laws and regulations could make it more difficult or more costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. The impact of these events could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers. We are presently evaluating and monitoring developments with respect to these laws and regulations and cannot predict or estimate the amount or timing of additional costs we may incur to respond to their requirements. Compliance with these rules could also result in continued diversion of management's time and attention, which could be disruptive to normal business operations. If we do not satisfactorily or timely comply with these requirements, possible consequences could include sanction or investigation by regulatory authorities such as the Securities and Exchange Commission or the Nasdaq Stock Market; fines and penalties; incomplete or late filing of our periodic reports, including our annual report on Form 10-K; or civil or criminal liability. Our stock price and business could also be adversely affected.

***If our executive officers, directors and largest stockholders choose to act together, they may be able to control our operations and act in a manner that advances their best interests and not necessarily those of other stockholders.***

Our executive officers, directors and holders of 5% or more of our outstanding common stock, beneficially owned approximately 67% of our common stock as of December 31, 2007. As a result, these stockholders, acting together, are able to control all matters requiring approval by our stockholders, including the election of directors and the approval of mergers or other business combination transactions. The interests of this group of stockholders may not always coincide with our interests or the interests of other stockholders, and they may act in a manner that advances their best interests and not necessarily those of other stockholders.

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

A large portion of our shares are held by a small number of persons and investment funds. In addition, these persons and funds hold warrants to purchase 3,307,339 shares of common stock that, if exercised, will result in these additional shares becoming available for sale. Moreover, several of our stockholders and warrant holders have rights, subject to some conditions, to require us to file registration statements covering the unregistered shares they currently hold or may acquire upon exercise of warrants, or to include these shares in registration statements that we may file for ourselves or other stockholders. Under the CEFF, an institutional investor is committed to purchase up to \$50 million of our common stock over a 36 month period which commenced in December 2006, subject to certain conditions. Sales by these current and potential future stockholders or warrant holders of a substantial number of shares could significantly reduce the market price of our common stock.

**Item 1B. Unresolved Staff Comments**

Not applicable.

**Item 2. Properties**

We believe that our currently leased and occupied facilities are well maintained, in good operating condition and are sufficient for our current needs. The following table is a summary of our currently leased and occupied facilities:

Leased Property Location	Square Feet	Use	Lease Expiration Date
La Jolla, California	82,000	Research, development and administrative	October 2015(1 )
Ann Arbor, Michigan	2,900	Development	December 2008

(1) We have options to extend the lease for two renewal periods of five years each.

**Item 3. Legal Proceedings**

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

**Item 4. Submission of Matters to a Vote of Security Holders**

Not applicable.

## PART II

## Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

## Market Information

Our common stock is traded on the Nasdaq Stock Market under the symbol MBRX. The following table sets forth the high and low sales prices for our common stock as reported on the Nasdaq Stock Market for the periods indicated.

	<u>High</u>	<u>Low</u>
<b>Year Ended December 31, 2007</b>		
Fourth Quarter	\$ 3.33	\$ 2.35
Third Quarter	\$ 7.15	\$ 2.65
Second Quarter	\$ 8.64	\$ 6.94
First Quarter	\$ 8.10	\$ 6.57
	<u>High</u>	<u>Low</u>
<b>Year Ended December 31, 2006</b>		
Fourth Quarter	\$ 8.39	\$ 5.15
Third Quarter	\$ 8.29	\$ 5.05
Second Quarter	\$ 9.30	\$ 7.45
First Quarter	\$ 9.79	\$ 7.66

As of March 3, 2008, there were 99 holders of record of our common stock.

## Dividend Policy

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future.

## Equity Compensation Plan Information

The following table provides certain information as of December 31, 2007, with respect to all of our equity compensation plans in effect on that date.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by stockholders(1)	6,869,805	\$ 6.26	2,143,863
Equity compensation plans not approved by stockholders(2)			
<b>Total</b>	<b>6,869,805</b>	<b>\$ 6.26</b>	<b>2,143,863</b>

(1) Includes our Amended and Restated 2001 Equity Incentive Plan, our 2004 Non-Employee Directors' Stock Option Plan and our 2004 Employee Stock Purchase Plan. 864,824 shares under column (c) are attributable to our 2004 Employee Stock Purchase Plan.

(2) As of December 31, 2007, we did not have any equity compensation plans that were not approved by our stockholders.





**Performance Graph**

*The material in this section is not "soliciting material," is not deemed "filed" with the Securities and Exchange Commission, and is not to be incorporated by reference into any filing of Metabasis under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.*

The following graph compares the cumulative 42-month total return to stockholders on our common stock relative to the cumulative total returns of the Nasdaq Composite index and the Nasdaq Biotechnology index. The graph assumes all dividends have been reinvested (to date, we have not declared any dividends). The stock price performance included in the graph is not necessarily indicative of future stock price performance.

**COMPARISON OF 42 MONTH CUMULATIVE TOTAL RETURN\*  
Among Metabasis Therapeutics, Inc., The NASDAQ Composite Index  
And The NASDAQ Biotechnology Index**

---

\*

\$100 invested on 6/16/04 in stock or on 5/31/04 in index, including reinvestment of dividends. Fiscal year ending December 31.

**Item 6. Selected Financial Data**

The statement of operations data and balance sheet data presented below should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the financial statements and related notes appearing elsewhere in this annual report on Form 10-K.

	Years Ended December 31,				
	2007	2006	2005	2004	2003
(In thousands, except per share amounts)					
<b>Statements of Operations Data:</b>					
Revenue	\$ 9,019	\$ 4,386	\$ 3,771	\$ 6,837	\$ 9,124
Total operating expenses	53,357	41,195	28,438	22,112	18,507
Loss from operations	(44,338)	(36,809)	(24,667)	(15,275)	(9,383)
Other income (expense), net	2,539	3,541	1,087	303	(46)
Net loss(1)	(41,799)	(33,268)	(23,580)	(14,972)	(9,429)
Preferred stock deemed dividend(2)					(24,900)
Net loss applicable to common stockholders	\$ (41,799)	\$ (33,268)	\$ (23,580)	\$ (14,972)	\$ (34,329)
<b>Basic and diluted net loss per share(1)</b>					
Historical	\$ (1.37)	\$ (1.15)	\$ (1.20)	\$ (1.49)	\$ (23.84)
Proforma				\$ (0.98)	\$ (3.74)
<b>Shares used to compute basic and diluted net loss per share</b>					
Historical	30,587	29,019	19,706	10,034	1,440
Proforma				15,254	9,187

(1) The shares used to compute pro forma basic net loss per share represent the historical weighted average common shares outstanding adjusted for weighted average unvested common shares subject to repurchase totaling 418,000 and 291,000 for the years ended December 31, 2004 and 2003, respectively. The shares used to compute pro forma diluted net loss per share represent the historical weighted average common shares outstanding adjusted for the effect of conversion of preferred stock totaling 5,220,000 and 7,747,000 for the years ended December 31, 2004 and 2003, respectively.

(2) Our Series E preferred stock financing, which closed in October 2003, involved the sale of our Series E preferred stock at a price per share below the initial public offering price of our common stock contemplated in our 2004 initial public filing. Accordingly, pursuant to Emerging Issues Task Force, or EITF, 98-5, *Accounting for Convertible Securities with Beneficial Conversion Features*, in 2003 we recorded a deemed dividend on our Series E preferred stock of \$24.9 million, which was the difference between the gross proceeds from our Series E preferred stock financing and the underlying value of the conversion shares (adjusted for a conversion price adjustment feature and limited to the proceeds allocated to the convertible instrument). The \$24.9 million deemed dividend was

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

entirely recognized as an adjustment to net loss applicable to common stockholders since our Series E preferred stock was convertible, at any time, at the option of the holder. In accordance with EITF 00-27, *Application of Issue No. 98-5 to Certain Convertible Instruments*, we

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

calculated the deemed dividend of \$24.9 million using the most favorable conversion price of \$3.12 per conversion share.

As of December 31,

	2007	2006	2005	2004	2003
--	------	------	------	------	------

(In thousands)

### Balance Sheet Data:

Cash, cash equivalents and securities available-for-sale	\$ 42,438	\$ 77,923	\$ 66,893	\$ 43,855	\$ 25,257
Working capital(1)	32,068	68,877	60,146	40,906	22,342
Total assets	50,123	85,855	73,878	47,860	29,110
Long-term obligations (including current portion)(1)	8,586	7,332	3,504	2,230	1,824
Accumulated deficit	(150,012)	(108,213)	(74,945)	(51,365)	(36,393)
Total stockholders' equity	32,101	68,138	59,582	41,864	23,437

(1)

The 2006 balance sheet includes an immaterial reclassification of current liabilities to long-term obligations to conform to current year presentation. The additional reclassification did not have an impact to total assets, total liabilities or net cash used in operating or investing activities for the period presented.

### Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

*You should read the following discussion and analysis together with our audited financial statements and the notes to those statements included elsewhere in this annual report on Form 10-K. This discussion contains forward-looking statements that involve risks and uncertainties. See "Forward-Looking Statements" in Part I, Item 1 of this annual report on Form 10-K.*

#### Overview

We are a biopharmaceutical company focused on discovering, developing and commercializing novel drugs by applying our proprietary technologies, scientific expertise and unique capabilities for targeting the liver and liver pathways. We have established a broad pipeline of product candidates and advanced research programs targeting large markets with significant unmet needs. Our product pipeline includes product candidates and advanced research programs for the treatment of metabolic diseases such as diabetes and hyperlipidemia, which we refer to as our "core assets," as well as product candidates and advanced research programs for the treatment of liver diseases such as hepatitis and primary liver cancer, which we refer to as our "non-core assets." All of our product candidates were developed internally using our proprietary technologies.

We currently have four product candidates at the clinical stage of development. These product candidates include our core metabolic disease product candidates, MB07803 and MB07811, which are being developed as potential treatments for type 2 diabetes and hyperlipidemia, respectively, and our non-core liver disease product candidates, prafefovir and MB07133, which have been developed as potential treatments for hepatitis B and primary liver cancer, respectively.

#### Recent Events

In January 2008, we announced interim results from a rising multiple-dose Phase 1b clinical trial that was designed to evaluate the safety and tolerability of MB07811 in healthy volunteers with modestly elevated LDL cholesterol. This ongoing trial indicated that MB07811 was safe and well tolerated at the first four doses studied. This has allowed us to continue increasing the dose and the dosing of a fifth dose cohort was completed successfully and a sixth group of patients is currently

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

underway. Although not the primary end-point of the study, we also evaluated the efficacy of MB07811 in the first four dose cohorts (each cohort included eight volunteers, two on placebo and six who received MB07811). While these observations should be considered preliminary, the results were encouraging with clinically-relevant reductions in LDL cholesterol and TG levels observed relative to the changes seen in patients treated with placebo. We expect to complete this study in 2008.

In the third quarter of 2007, we announced that our lead metabolic disease product candidate for treating type 2 diabetes, CS-917, failed to significantly lower the placebo-adjusted level of HbA1c, a measure of glucose load, at the doses tested, in a Phase 2b clinical trial conducted by our former development partner on CS-917, Daiichi Sankyo. Further clinical evaluation of CS-917 was discontinued and in January 2008 we and Daiichi Sankyo agreed to terminate our strategic collaboration and all rights to this product candidate were returned to us.

Subsequent analysis of the data from the Phase 2b study showed that CS-917 significantly lowered both hemoglobin A1c and fasting plasma glucose in certain patient sub-populations over the three-month dosing period evaluated. These results confirmed the product candidate's mechanism of action and were consistent with the efficacy seen in previous Phase 2a clinical trials. Further, our analysis indicated that concerns raised in prior clinical trials regarding CS-917's tolerability may have led to it being under dosed by Daiichi Sankyo at the 50 and 100 mg doses evaluated. This under dosing, combined with CS-917's previously identified tendency to produce variable active drug levels from patient to patient, may have led to its failure to achieve the primary efficacy endpoint of this Phase 2b clinical trial. While the trial's primary efficacy endpoint was not met, CS-917 was determined to be safe and well-tolerated in this Phase 2b clinical trial at the doses tested.

We have designed our second generation FBPase inhibitor, MB07803, with certain improvements that we believe have the potential to address the shortcomings seen to date with CS-917, including those that may have contributed to its failure to achieve the above described Phase 2b efficacy endpoint. These improvements include improved oral bioavailability, metabolic stability and once-daily dosing, which we believe could lead to better tolerability and improved efficacy. We believe that results from our currently ongoing Phase 2a clinical trial of MB07803 may provide initial evidence of its improved profile relative to CS-917. Because we believe that MB07803 has a superior product profile and is now approximately at the same stage of clinical development as CS-917, we have decided to concentrate our future clinical development efforts related to FBPase inhibitors on MB07803 and not CS-917, even though we now possess full worldwide development and commercialization rights to both compounds. We are currently independently developing MB07803.

In addition, in September 2007 we entered into an agreement with Schering and Valeant to terminate our agreements for the development and commercialization of pradefovir, our product candidate for the treatment of hepatitis B. In connection with this agreement, all rights to pradefovir were transferred back to us subject to certain milestone and royalty payments we may be required to make to Valeant should this product candidate be subsequently developed. These agreements were terminated as a result of numerous factors, which may include recently reported adverse 24-month oral carcinogenicity studies of pradefovir in rats and mice, which we are currently evaluating. At this time, we do not intend to independently develop pradefovir and intend to license this product candidate for further development and commercialization, pending the outcome of our aforementioned evaluation.

### *Revised Strategic Plan*

As a result of certain of these events, we re-evaluated our business strategy and revised our strategic plan. Under our revised strategic plan we will focus our internal resources primarily on our clinical and advanced research core metabolic disease programs. This includes funding the further clinical evaluation of our core assets, MB07803 and MB07811, with a focus on achieving key milestones. Continued development of these core assets thereafter will require significant resources.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

Therefore, we plan to establish strategic collaborations for these core assets at appropriate times to secure additional resources, accelerate progress and share risk. In addition, we plan to advance additional metabolic disease product candidates discovered by our research group into clinical development either independently, or potentially with current or future strategic collaborators.

In order to reduce future expenses and to minimize the potential dilution associated with financing internal development, we intend to license prafefovir and MB07133 for further development and commercialization.

Our revised strategic plan has the potential to significantly reduce current and future expenses and to provide additional financial resources by:

selectively funding only our core assets,

licensing or selling our non-core assets,

seeking to offset current and future advanced research and clinical costs via additional strategic collaborations on our core advanced research and clinical programs, and

utilizing our existing financing facilities, such as the CEFF and venture debt.

We believe that these measures, if successful, along with our existing resources will be sufficient to execute our revised strategic plan.

### *History of Losses, Prior Funding*

We have incurred annual net losses since inception. As of December 31, 2007, our accumulated deficit was approximately \$150 million. We expect to incur losses for the next several years as we:

continue to develop our current and future core metabolic disease clinical development candidates,

participate in the commercialization of our product candidates, if any, that receive regulatory approval and for which we retain commercialization rights, and

continue and potentially expand our research and development programs.

We have a limited history of operations and, to date, we have not generated any product revenues. In addition to our initial public offering in June 2004, our private placement of common stock and warrants in October 2005 and our registered direct offering of common stock in March 2006, we have financed our operations and internal growth through private placements of preferred stock as well as direct payments of sponsored research funding, license fees, milestone payments, equity investments from collaborative partners and, to a lesser extent, the sale of common stock through our stockholder approved equity incentive plans.

### *Commercial, Manufacturing Rights, Risks*

We currently do not have strategic collaborations in place related to our core assets, MB07803 or MB07811, and we intend to license our non-core assets, prafefovir and MB07133. We retain worldwide commercialization rights to all of the compounds that we have generated from our past and current research programs, with the exception of any potential future product candidates covered by our collaborations with Merck and Idenix. Our potential future agreements with strategic collaborators may include joint marketing or promotion arrangements which may allow us to eventually co-market one or more of our product candidates through our own sales force or with a co-promotion partner. Alternatively, we may grant exclusive marketing rights to our collaborators in exchange for up-front fees, milestones and royalties on future sales, if any.





We will rely on our collaborators or third-party manufacturers to produce sufficient quantities of our product candidates for clinical studies and large-scale commercialization upon their approval. Since we do not currently possess the resources necessary to independently develop and commercialize all of the potential product candidates that may be based upon our technologies, we plan to enter into additional collaborative agreements to assist in the development and commercialization of some or all of our product candidates. However, our discussions with potential collaborators may not lead to the establishment of new collaborations on acceptable terms, if at all, or it may take longer than expected to establish new collaborations, leading to development and commercialization delays.

Our business is subject to significant risks, including the risks inherent in our ongoing clinical trials and the regulatory review and approval process, the results of our research and development efforts, reliance on third parties for the development and commercialization of our product candidates, competition from other products and uncertainties associated with obtaining and enforcing patent rights.

## Research and Development

Our research and development expenses consist primarily of cash and stock-based compensation and other expenses for research and development personnel, costs associated with the development and clinical trials of our product candidates, facility costs, supplies and materials, costs for consultants and related contract research and depreciation. We charge all research and development expenses to operations as they are incurred.

Our development activities are focused on the clinical development of our core metabolic disease assets, MB07803 and MB07811. Our activities related to our non-core liver disease assets, pradeфовir and MB07133, are currently limited to planning, consultation, design and other efforts preparatory to their potential future clinical development by licensees. In addition, our research activities include work on a variety of compounds in our other advanced research programs. We are responsible for all costs incurred for our product candidates and our advanced research programs with the exception of the AMPK program partnered with Merck and the hepatitis C programs partnered with Merck and Idenix.

Our AMPK collaboration with Merck seeks to develop and commercialize new products to treat type 2 diabetes and potentially other metabolic diseases. Under the terms of our AMPK collaboration agreement with Merck, we have received approximately \$10.8 million in cumulative sponsored research and license fees funding through December 31, 2007 and are entitled to receive an additional \$525,000 of funding through the remaining sponsored research term ending in June 2008.

Our collaborations with Merck and Idenix seek to develop and commercialize new products for treating hepatitis C infection. Our efforts and internal costs related to the hepatitis C collaboration with Merck ceased upon completion of its research term in December 2005. Under the terms of the Merck agreement, we have received approximately \$3.2 million in cumulative license fees and sponsored research funding through December 31, 2005. Our efforts and internal costs related to the hepatitis C collaboration with Idenix ceased upon completion of its research term in October 2007. Under the terms of this agreement, we have received approximately \$3.4 million in cumulative license fees and sponsored research funding through December 31, 2007.

The funded research phase of the hepatitis C collaborations are completed. Merck is currently evaluating certain candidate compounds discovered during the collaboration to determine if one or more will be recommended for clinical development. Idenix is currently evaluating this program for further development. Merck and Idenix are solely responsible for conducting and funding all development work for compounds resulting from these collaborations and for commercializing any resulting products. If a product is successfully developed, we will receive substantial milestone payments as well as receive a portion of the revenue from sales of a drug in the form of a royalty on net sales.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

At this time, due to the risks inherent in the clinical trial process and given the early stage of development of our product candidates and lead compounds from our research programs, we are unable to estimate with any certainty the costs we will incur in the continued development of our product candidates for commercialization. Other than costs for outsourced services associated with our clinical programs, we generally do not track our research and development expenses by project; rather, we track such expenses by the type of cost incurred. Due to these same factors, we are unable to determine the anticipated completion dates for our current research and development projects. However, we expect our research and development costs to be substantial and to increase as we continue the development of our core assets, as well as continue to expand our research programs.

Generally, Phase 1 clinical trials can be expected to last from 6 to 18 months, Phase 2 clinical trials can be expected to last from 12 to 24 months and Phase 3 clinical trials can be expected to last from 18 to 36 months. However, clinical development timelines vary widely, as do the total costs of clinical trials and the likelihood of success. Although we are currently focused primarily on advancing MB07803 and MB07811 through clinical development, we anticipate that we will make determinations as to which research and development projects to pursue and how much funding to direct to each project on an ongoing basis in response to the scientific and clinical success of each product candidate, our ongoing assessment of its market potential and consideration of our available financial resources.

The lengthy process of seeking regulatory approvals for our product candidates, and the compliance with applicable regulations, require the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals could cause our research and development expenditures to increase and, in turn, have a material unfavorable effect on our results of operations. We cannot be certain when or if any net cash inflow due to sales of any of our current product candidates will commence.

### **General and Administrative**

General and administrative expenses consist primarily of salaries, stock-based compensation and other related costs for personnel in executive, finance, accounting, business development, investor relations, information systems, legal and human resource functions. Other costs include facility costs not otherwise included in research and development expenses, depreciation and professional fees for legal and accounting services.

### **Other Income, Net**

Other income, net includes interest earned on our cash, cash equivalents and securities available-for-sale, net of interest expense.

### **Critical Accounting Policies**

Our discussion and analysis of our financial condition and results of operations are 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 us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. We review our estimates on an on-going basis. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. We believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our financial statements.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

*Revenue Recognition.* Our revenue recognition policies are in accordance with Securities and Exchange Commission Staff Accounting Bulletin, or SAB, No. 104, *Revenue Recognition* and EITF Issue 00-21, *Revenue Arrangements with Multiple Deliverables*. Our agreements generally contain multiple elements, including access to our proprietary technologies and research and development services. Payments under our collaborations are generally made in the form of up-front license fees, milestone payments and downstream royalties. All fees are nonrefundable. Revenue from milestones is recognized when earned, provided that:

- 1) the milestone event is substantive and its achievability was not reasonably assured at the inception of the agreement, and
- 2) collaborator funding, if any, of our performance obligations after the milestone achievement will continue at a level comparable to before the milestone achievement.

If both of these criteria are not met, the milestone payment is recognized over the remaining minimum period of our performance obligations under the agreement. Upfront, nonrefundable fees under our collaborations are recognized over the period the related services are provided. Nonrefundable upfront fees not associated with our future performance are recognized when received. Amounts received for sponsored research funding are recognized as revenues as the services are performed. Amounts received for sponsored research funding for a specific number of full-time researchers are recognized as revenue as the services are provided, as long as the amounts received are not refundable regardless of the results of the research project.

*Clinical Trial Expenses.* Our clinical trials are often conducted under contracts with multiple research institutions and clinical research organizations that conduct and manage clinical trials on our behalf. The financial terms of these agreements are subject to negotiation and vary from contract to contract and may result in uneven payment flows. Generally, these agreements set forth the scope of work to be performed at a fixed fee or unit price. Payments under the contracts depend on factors such as the successful enrollment of patients or the completion of clinical trial milestones. Expenses related to clinical trials generally are accrued based on contracted amounts applied to the actual level of patient enrollment and activity according to the protocol. Other incidental costs related to patient enrollment are accrued when known. If contracted amounts are modified based upon changes in the clinical trial protocol or scope of work to be performed, we modify our accruals accordingly on a prospective basis.

*Stock-Based Compensation.* We grant equity based awards under three stockholder-approved share-based compensation plans. We may grant options and restricted stock awards to employees, directors and consultants under our Amended and Restated 2001 Equity Incentive Plan. We also grant awards to non-employee directors under our 2004 Non-Employee Directors' Stock Option Plan. All of our employees are eligible to participate in our 2004 Employee Stock Purchase Plan which provides a means for employees to purchase common stock at a discount through payroll deductions. The benefits provided under all of these plans are subject to the provisions of revised Statement of Financial Accounting Standards, or SFAS, No. 123R, *Share-Based Payment*, which we adopted effective January 1, 2006. We elected to use the modified prospective application in adopting SFAS No. 123R and therefore have not restated results for prior periods. The valuation provisions of SFAS No. 123R apply to new awards and to awards that are outstanding on the adoption date and subsequently modified or cancelled.

Our results of operations for fiscal 2007 and 2006 were impacted by the recognition of non-cash expense related to the fair value of our share-based compensation awards. Share-based compensation expense recognized as a result of adoption of SFAS No. 123R for the year ended December 31, 2007 and 2006 was \$5.0 million and \$3.7 million, respectively. We had a deferred stock compensation balance of \$3.3 million at December 31, 2005 for options previously issued with an exercise price less than the fair market value of the shares on the date of grant which was eliminated against additional

paid-in-capital as a result of adoption of SFAS No. 123R. As of December 31, 2007, we had approximately \$7.9 million of unrecognized compensation expense which we expect to recognize over a weighted average period of 2.6 years.

We estimate the fair value of stock options granted using the Black-Scholes Merton, or Black-Scholes option valuation model. This fair value is then amortized over the requisite service periods of the awards. The Black-Scholes option valuation model requires the input of subjective assumptions, including the option's expected life and price volatility of the underlying stock. Expected volatility is based on the weighted average volatility of our stock factoring in daily share price observations and the historical price volatility of certain peers within our industry sector. In computing expected volatility, the length of the historical period used is equal to the length of the expected term of the option and the share purchase right. The expected life of employee stock options represents the average of the contractual term of the options and the weighted average vesting period, as permitted under the simplified method, under SAB No. 107.

As stock-based compensation expense is based on awards ultimately expected to vest, it has been reduced for estimated forfeitures. SFAS No. 123R requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based on historical experience. We may elect to use different assumptions under the Black-Scholes option valuation model in the future, which could materially affect our net loss and net loss per share. In our pro forma information required under SFAS No. 123, *Accounting for Stock-Based Compensation*, for the periods prior to fiscal 2006, we accounted for forfeitures as they occurred.

### **Recently Issued Accounting Pronouncements**

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*. This standard defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles and expands disclosures about fair value measurements. This statement is effective for financial statements issued for fiscal years beginning after November 15, 2007 (beginning with our 2008 fiscal year), although earlier application is encouraged. We are in the process of determining the effect, if any, the adoption of SFAS No. 157 will have on our results of operations or financial position.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities, including an amendment of FASB Statement No. 115*. SFAS No. 159 expands the use of fair value accounting but does not affect existing standards that require assets or liabilities to be carried at fair value. Under SFAS No. 159, a company may elect to use fair value to measure accounts and loans receivable, available-for-sale and held-to-maturity securities, equity method investments, accounts payable, guarantees and issued debt. Other eligible items include firm commitments for financial instruments that otherwise would not be recognized at inception and non-cash warranty obligations where a warrantor is permitted to pay a third party to provide the warranty goods or services. If the use of fair value is elected, any upfront costs and fees related to the item must be recognized in earnings and cannot be deferred, such as debt issuance costs. The fair value election is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. At the adoption date, unrealized gains and losses on existing items for which fair value has been elected are reported as a cumulative adjustment to beginning retained earnings. Subsequent to the adoption of SFAS No. 159, changes in fair value are recognized in earnings. SFAS No. 159 is effective for fiscal years beginning after November 15, 2007 (beginning with our 2008 fiscal year). We currently are determining whether fair value accounting is appropriate for any of our eligible items and cannot estimate the impact, if any, that SFAS No. 159 will have on our results of operations and financial condition.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

In June 2007, the EITF issued EITF Issue No. 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to be Used in Future Research and Development Activities*. The consensus requires companies to defer and capitalize prepaid, nonrefundable research and development payments to third parties over the period that the research and development activities are performed or the services are provided, subject to an assessment of recoverability. EITF Issue No. 07-3 is effective for new contracts entered into in fiscal years beginning after December 15, 2007, including interim periods within those fiscal years. We do not expect the adoption of EITF Issue No. 07-3 to have a material impact on our financial statements.

In November 2007, the EITF issued EITF Issue No. 07-1, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property*. Companies may enter into arrangements with other companies to jointly develop, manufacture, distribute, and market a product. Often the activities associated with these arrangements are conducted by the collaborators without the creation of a separate legal entity (that is, the arrangement is operated as a "virtual joint venture"). The arrangements generally provide that the collaborators will share, based on contractually defined calculations, the profits or losses from the associated activities. Periodically, the collaborators share financial information related to product revenues generated (if any) and costs incurred that may trigger a sharing payment for the combined profits or losses. The consensus requires collaborators in such an arrangement to present the result of activities for which they act as the principal on a gross basis and report any payments received from (made to) other collaborators based on other applicable GAAP or, in the absence of other applicable GAAP, based on analogy to authoritative accounting literature or a reasonable, rational, and consistently applied accounting policy election. EITF Issue No. 07-1 is effective for collaborative arrangements in place at the beginning of the annual period beginning after December 15, 2008. We are in the process of determining the effect, if any, the adoption of EITF Issue No. 07-1 will have on our financial statements.

### Results of Operations

#### *Comparison of the Years Ended December 31, 2007 and 2006*

**Revenues.** Revenues were \$9.0 million for the year ended December 31, 2007, compared with \$4.4 million for the year ended December 31, 2006. The \$4.6 million increase was mainly due to increased license fee and sponsored research revenues as a result of a \$2.8 million increase in revenues from our hepatitis C collaboration with Idenix and the \$1.8 million up-front license fee received from Schering in connection with the collaboration agreement for the development of pradeфовir. Absent any changes to our existing collaborations with Merck or Idenix and if we are unable to generate significant or additional revenues from new strategic collaborations on our non core assets or research programs, we expect a decrease in sponsored research and license revenues in 2008 compared to 2007 as the sponsored research portion of our agreement with Idenix ended in October 2007, our collaboration with Schering for the development of pradeфовir was terminated in September 2007 and the sponsored research portion of our AMPK collaboration with Merck is scheduled to be completed in June 2008.

**Research and Development Expenses.** Research and development expenses were \$40.9 million for the year ended December 31, 2007, compared with \$29.9 million for the year ended December 31, 2006. The \$11.0 million increase was mainly due to increased spending of \$6.0 million in clinical development expense for MB07803, MB07811 and MB07133, an increase of \$3.5 million in payroll and related benefits as a result of a higher average number of employees in 2007, a \$1.2 million increase in stock-based compensation costs and \$300,000 in increased occupancy costs and depreciation expense. We expect costs in research and development in 2008 to continue at approximately the same rate as in 2007 as we continue to advance MB07803 and MB07811 through clinical development.

**General and Administrative Expenses.** General and administrative expenses were \$12.4 million for the year ended December 31, 2007, compared with \$11.3 million for the year ended December 31,

2006. The \$1.1 million increase primarily relates to an increase of \$800,000 in increased payroll and related benefits as a result of a higher average number of employees in 2007, an increase of \$200,000 in occupancy related costs and depreciation expense, and increased stock-based compensation expense of \$100,000 as a result of additional grants made during fiscal 2007. We expect general and administrative expenses in 2008 to continue at approximately the same rate as in 2007.

*Net Interest Income.* Net interest income was \$2.5 million for the year ended December 31, 2007, compared to net interest income of \$3.5 million for the year ended December 31, 2006. The \$1.0 million decrease was due to lower interest income as a result of decreasing average cash balances for the twelve months ended December 31, 2007 as compared to the same period in 2006. Our average cash balances were higher in 2006 as compared to 2007 due to the net proceeds from our March 2006 stock offering.

*Comparison of the Years Ended December 31, 2006 and 2005*

*Revenues.* Revenues were \$4.4 million for the year ended December 31, 2006, compared with \$3.8 million for the year ended December 31, 2005. The \$600,000 increase was mainly due to increased license fee and sponsored research revenues of approximately \$1.8 million from our AMPK collaboration with Merck, which began in the second half of 2005. This increase was partially offset by a decrease of \$1.4 million in sponsored research revenues from our hepatitis C collaboration with Merck, the research portion of which was completed in 2005.

*Research and Development Expenses.* Research and development expenses were \$29.9 million for the year ended December 31, 2006, compared with \$21.3 million for the year ended December 31, 2005. The \$8.6 million increase was mainly due to increased spending of \$3.2 million in payroll and related benefits as a result of a higher average number of employees in 2006, a \$2.9 million increase in clinical development expense for MB07803, MB07133 and MB07811, a \$1.7 million increase in occupancy costs related to our new facility, increased travel, supplies and insurance expense and an increase of \$800,000 in stock-based compensation expense.

*General and Administrative Expenses.* General and administrative expenses were \$11.3 million for the year ended December 31, 2006, compared with \$7.2 million for the year ended December 31, 2005. The \$4.1 million increase primarily relates to an increase of \$1.3 million in professional services related to legal costs associated with patent and corporate related matters and consulting services, increased stock-based compensation expense of \$1.2 million as a result of the implementation of SFAS No. 123R, higher payroll and related benefits costs of \$800,000 as a result of a higher average number of employees in 2006 and increased travel, occupancy and public company costs of \$800,000.

*Net Interest Income.* Net interest income was \$3.5 million for the year ended December 31, 2006, compared to net interest income of \$1.1 million for the year ended December 31, 2005. The \$2.4 million increase was due to increased interest income as a result of higher average cash balances for the twelve months ended December 31, 2006 as compared to the same period in 2005 as well as increased yields on investments. Our average cash balances were higher in 2006 as compared to 2005 due to the net proceeds from our October 2005 and March 2006 stock offerings.

**Liquidity and Capital Resources**

Since our inception, we have funded our operations primarily with \$55.8 million in private equity financings and \$107.5 million in net proceeds from our initial public offering in June 2004, a private placement of common stock and warrants in October 2005 and a registered direct offering of common stock in March 2006.

In April 2007, we filed an additional shelf registration statement to increase the amount of common stock and warrants available for issuance under our existing shelf registration statement by

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

approximately \$40 million to a total of \$75 million, subject to certain limitations relating to the aggregate market value of our common stock held by non-affiliates. The additional shelf registration statement was declared effective in May 2007.

We have entered into a CEFF with an institutional investor, under the terms of which, the investor is committed to providing us up to \$50 million in funding from time to time for a period up to 36 months that commenced in December 2006 through the purchase of newly-issued shares of our common stock. In February 2008, the CEFF was amended to reduce the minimum market capitalization required to permit a draw down and to eliminate certain termination rights maintained by the investor, among other things. Under the amended CEFF, we may access capital, subject to certain conditions, under this facility in tranches of up to the lesser of \$10 million or:

1.0% of our market capitalization if, at the time of the draw down of such tranche, our market capitalization equals or exceeds \$53 million but is less than \$100 million,

1.25% of our market capitalization if, at the time of the draw down of such tranche, our market capitalization equals or exceeds \$100 million but is less than \$175 million, and

1.5% of our market capitalization if, at the time of the draw down of such tranche, our market capitalization equals or exceeds \$175 million.

If our market capitalization is less than \$53 million, we will not have access to this capital.

The investor will purchase shares of our common stock pursuant to the CEFF at discounts ranging from 6% to 10%, depending on the average market price of our common stock during an eight-day pricing period, provided that the minimum acceptable purchase price for any shares to be issued to the investor during the eight-day pricing period is determined by the higher of \$1.75 or 90% of our share price the day before the commencement of each draw down. Pursuant to the agreement we filed a registration statement with the Securities and Exchange Commission for the resale of the shares of common stock issuable in connection with the CEFF and the shares of common stock underlying the warrant issued in connection with this transaction, which became effective on December 22, 2006.

In March 2006, we raised approximately \$40.0 million in gross proceeds in a registered direct offering involving the sale of approximately 4.9 million shares of common stock at a price of \$8.10 per share. Placement agency fees and other offering expenses were approximately \$2.7 million.

In October 2005, we raised gross proceeds of approximately \$41.3 million in a private placement of common stock and the concurrent issuance of warrants for the purchase of common stock. Placement agent fees and other offering expenses were approximately \$2.3 million. Under the terms of the financing, we sold 7.0 million shares of common stock at \$5.86 per share, the closing bid price for our common stock immediately preceding the entering into of the binding agreement for the transaction. We also issued warrants to purchase approximately 2.5 million shares of our common stock at an exercise price of \$6.74 per share. At the closing, investors in the financing paid an additional purchase price equal to \$0.125 per each share issuable upon exercise of the warrants.

In June 2004, we completed an initial public offering of our common stock in which we sold approximately 5.0 million shares of common stock for proceeds of \$30.6 million, net of underwriting discounts and commissions and offering expenses. In July 2004, the underwriters exercised their over-allotment option, resulting in the sale of an additional 75,000 shares of common stock, which resulted in proceeds of \$0.5 million, net of underwriting discounts and commissions.

Additionally, we have received cumulative proceeds from collaborative arrangements with strategic partners for the development of certain core assets, non-core assets, for the application of our technologies on third-party programs and to a lesser extent from Small Business Innovation Research, or SBIR, grant funding totaling approximately \$29.3 million through December 31, 2007.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

As of December 31, 2007, we had \$42.4 million in cash and cash equivalents and securities available-for-sale as compared to \$77.9 million as of December 31, 2006, a decrease of \$35.5 million. The decrease is primarily a result of net cash used in operations of \$36.4 million offset by \$900,000 of net cash flows provided by financing activities.

As of December 31, 2007, we have financed through leases and loans the purchase of equipment and leasehold improvements totaling approximately \$12.4 million, of which \$6.0 million was outstanding at that date. The loans are collateralized with the purchased equipment, bear interest at rates ranging from approximately 8.0% to 12.85%, and are due in monthly installments through October 2015. Until additional funding sources are available, we plan to limit the use of our cash reserves for leasehold improvements and capital equipment necessary to support our clinical development efforts and research programs for 2008.

Under our revised strategic plan we will focus our internal resources primarily on our core metabolic disease clinical and advanced research programs. This includes funding the further clinical evaluation of our core assets, MB07803 and MB07811, with a focus on achieving key milestones. Continued development of these core assets thereafter will require significant resources. Therefore, we plan to establish strategic collaborations for these product candidates at appropriate times to secure additional resources, accelerate progress and share risk. In addition, we plan to advance additional metabolic disease product candidates discovered by our research group into clinical development either independently or potentially with current or future strategic collaborators. In order to reduce future expenses and to minimize the potential dilution associated with financing their internal development, we intend to license pradefovir and MB07133 for further development and commercialization.

We intend to use our existing cash reserves, proceeds received in March 2008 from our venture debt facility, proceeds from our ongoing collaboration with Merck, our CEFF and proceeds from other planned financing and business development activities to execute our revised strategic plan through 2008. Under our revised strategic plan we will need to secure additional cash proceeds through future strategic collaborations, the CEFF or other financing sources to fund certain studies on the MB07803 and MB07811 programs in 2008. In the event we are not able to generate sufficient financing through the use of our CEFF or other planned financing and business development activities we have the ability and intent to, and will be required to, delay, scale back or eliminate some or all of our research or development programs and other outlays of cash in order to meet our cash requirements through 2008.

We may not be successful in obtaining additional collaboration agreements, or in receiving milestone or royalty payments under current or future agreements. Additionally, we may be required to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise choose. No assurances can be made that additional funding, through any resources including our CEFF, will be available when needed or that, if available, financing will be obtained on terms favorable to us or our stockholders. To the extent that we raise additional capital by issuing equity securities, our existing stockholders' ownership will be diluted. Any debt financing we enter into may involve covenants that restrict our operations. These restrictive covenants may include limitations on additional borrowing, specific restrictions on the use or sales of our assets as well as prohibitions on our ability to create liens, pay dividends, redeem our stock or make investments. Failure to obtain adequate financing and to curtail or delay cash expenditures adequately will have a significant negative impact on our future operations.



## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

The following summarizes our long-term contractual obligations as of December 31, 2007 (in thousands):

	<u>Total</u>	<u>Less than 1 Year</u>	<u>1 to 3 Years</u>	<u>4 to 5 Years</u>	<u>After 5 Years</u>
Operating leases	\$ 24,589	\$ 2,400	\$ 5,917	\$ 6,454	\$ 9,818
Equipment financing	5,913	2,068	3,263	471	111
Interest on equipment financing	961	492	416	40	13
Purchase commitments	2,127	2,127			
Capital leases	78	23	51	4	
Interest on capital leases	11	6	5		
	<u>\$ 33,679</u>	<u>\$ 7,116</u>	<u>\$ 9,652</u>	<u>\$ 6,969</u>	<u>\$ 9,942</u>

We also enter into agreements with clinical sites and contract research organizations for the conduct of our clinical trials. We will make payments to these sites and organizations based upon the number of patients enrolled and the length of their participation in the clinical trials. In addition, under certain agreements, we may be subject to penalties in the event we prematurely discontinue performance under these agreements. At this time, due to the variability associated with these agreements, we are unable to estimate with certainty the future costs we will incur.

We have entered into employment agreements with our executive officers and certain other key employees that, under certain circumstances, provide for the continuation of salary and certain other benefits if terminated under specified circumstances. These agreements generally expire upon termination for cause or when the Company has met its obligations under these agreements. As of December 31, 2007, no events have occurred resulting in the obligation of any such payments.

Our future capital uses and requirements depend on numerous forward-looking factors. These factors may include but are not limited to the following:

- the rate of progress and cost of our clinical trials and other research and development activities,
- the scope, prioritization and number of clinical development and research programs we pursue,
- the terms and timing of any collaborative, licensing and other arrangements that we may establish,
- the costs of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights,
- the costs and timing of regulatory approvals,
- the costs of establishing or contracting for manufacturing, sales and marketing capabilities, and
- the effect of competing technological and market developments.

### Environmental Risk

Our research and development activities involve the use of biological and hazardous materials. We incurred approximately \$516,000, \$435,000 and \$409,000 for the years ended December 31, 2007, 2006 and 2005, respectively, of costs associated with managing hazardous substances and pollution in ongoing operations.

### Off-Balance Sheet Arrangements

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

As of December 31, 2007, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose

entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. In addition, we do not engage in trading activities involving non-exchange traded contracts. As such, we are not materially exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in these relationships.

#### **Related Party Transactions**

For a description of our related party transactions, see Item 13 of Part III of this annual report on Form 10-K, "Certain Relationships and Related Transactions, and Director Independence."

#### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Our exposure to market risk for changes in interest rates relates primarily to the increase or decrease in the amount of interest income we can earn on our investment portfolio. Our risk associated with fluctuating interest income is limited to our investments in interest rate sensitive financial instruments. Under our current policies, we do not use interest rate derivative instruments to manage this exposure to interest rate changes. We seek to ensure the safety and preservation of our invested principal by limiting default risk, market risk, and reinvestment risk. We mitigate default risk by investing in short-term investment grade securities. We do not invest in auction rate securities. A 100 basis point increase or decrease in interest rates would increase or decrease our current investment balance by approximately \$80,000 annually. While changes in our interest rates may affect the fair value of our investment portfolio, any gains or losses are not recognized in our statement of operations until the investment is sold or if a reduction in fair value is determined to be a permanent impairment.

We do not have any foreign currency or other derivative financial instruments.

Our long-term capital lease obligations bears interest at fixed rates and therefore we do not have significant market risk exposure with respect to these obligations.

#### **Item 8. Financial Statements and Supplementary Data**

The information required to be disclosed herein is incorporated by reference to Item 15 of Part III of this annual report on Form 10-K.

#### **Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures**

Not applicable.

#### **Item 9A. Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable and not absolute assurance of achieving the desired control objectives. In reaching a reasonable level of assurance, management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. In addition, the design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, a control may become inadequate because of changes in conditions, or the

degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

#### **Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures**

As of the end of the period covered by this annual report on Form 10-K, we carried out an evaluation, under the supervision and with the participation of our management, including our chief executive officer and chief financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our chief executive officer and chief financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2007, at the reasonable assurance level.

#### **Changes in Internal Control Over Financial Reporting**

An evaluation was also performed under the supervision and with the participation of our management, including our chief executive officer and chief financial officer, of any change in our internal control over financial reporting that occurred during our last fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. There was no change in our internal control over financial reporting during our latest fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

#### **Management's Report on Internal Control Over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Securities and Exchange Act of 1934, as amended. Under the supervision and with the participation of our management, including our chief executive officer and chief financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2007 based on the framework in *Internal Control Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation under the framework in *Internal Control Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2007.

The effectiveness of our internal control over financial reporting as of December 31, 2007 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which is included herein.

**Report of Independent Registered Public Accounting Firm**

The Board of Directors and Stockholders  
Metabasis Therapeutics, Inc.

We have audited Metabasis Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2007, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Metabasis Therapeutics, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Metabasis Therapeutics, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2007, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the balance sheets as of December 31, 2007 and 2006, and the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2007 of Metabasis Therapeutics, Inc. and our report dated March 14, 2008 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

San Diego, California  
March 14, 2008

**Item 9B. Other Information**

On March 14, 2008, we entered into a Loan and Security Agreement, referred to as the Loan and Security Agreement, with Oxford Finance Corporation, or Oxford, pursuant to which Oxford provided us with a term loan of up to \$5,000,000. A copy of the Loan and Security Agreement is attached as Exhibit 10.34 to this Annual Report on Form 10-K and is incorporated by reference herein.

In connection with the Loan and Security Agreement, on March 14, 2008, we issued to Oxford a warrant to purchase up to 154,639 shares of our common stock, referred to as the Warrant, at an exercise price of \$1.94 per share. A copy of the Warrant is attached as Exhibit 4.12 to this Annual Report on Form 10-K and is incorporated by reference herein. The Warrant was issued in reliance on the exemption from registration contained in Section 4(2) of the Securities Act of 1933, as amended, referred to as the Securities Act, and/or Regulation D, Rule 506 promulgated under the Securities Act, in that the issuance did not involve a public offering.

We are also a party to a Master Security Agreement, dated August 27, 2003, with Oxford, which is attached as Exhibit 10.19 to this Annual Report on Form 10-K and is incorporated by reference herein.

**PART III**

**Item 10. Directors, Executive Officers and Corporate Governance**

The information required by this item will be set forth in the sections entitled "Election of Directors," "Executive Officers" and "Section 16(a) Beneficial Ownership Reporting Compliance" in our definitive proxy statement to be filed with the Securities and Exchange Commission in connection with the Annual Meeting of our Stockholders, or the Proxy Statement, which is expected to be filed not later than 120 days after the end of our fiscal year ended December 31, 2007, and is incorporated in this report by reference.

We have adopted a code of ethics for directors, officers (including our principal executive officer and principal financial and accounting officer) and employees, known as the Code of Business Conduct and Ethics. The Code of Business Conduct and Ethics is available on our website at <http://www.mbasis.com>. If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website, as well as via any other means as required by Nasdaq listing standards or applicable law. Stockholders may request a free copy of the Code of Business Conduct and Ethics from:

Metabasis Therapeutics, Inc.  
Attention: Investor Relations  
11119 North Torrey Pines Road  
La Jolla, CA 92037  
(858) 587-2770  
[Bienfait@mbasis.com](mailto:Bienfait@mbasis.com)

**Item 11. Executive Compensation**

The information required by this item will be set forth in the sections entitled "Compensation of Executive Officers," "Compensation Committee Report" and "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement and is incorporated in this report by reference.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

The information required by this item will be set forth in the sections entitled "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in the Proxy Statement and is incorporated in this report by reference.

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

The information required by this item will be set forth in the sections entitled "Election of Directors" and "Certain Relationships and Related Transactions" in the Proxy Statement and is incorporated in this report by reference.

**Item 14. Principal Accountant Fees and Services**

The information required by this item will be set forth in the section entitled "Ratification of Selection of Independent Registered Public Accounting Firm" in the Proxy Statement and is incorporated in this report by reference.

**PART IV**

**Item 15. Exhibits and Financial Statement Schedules**

(a)

The following documents are filed as part of this report:

1)

The following financial statements of Metabasis Therapeutics, Inc. are included in this report beginning on page F-1 hereto:

Report of Independent Registered Public Accounting Firm

Balance sheets as of December 31, 2007 and 2006

Statements of operations for the years ended December 31, 2007, 2006 and 2005

Statements of stockholders' equity for the years ended December 31, 2007, 2006 and 2005

Statements of cash flows for the years ended December 31, 2007, 2006 and 2005

Notes to financial statements

2)

List of financial statement schedules. All financial statement schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

3)

List of exhibits required by Item 601 of Regulation S-K. See part (b) below.

(b)

Exhibits. The following exhibits are filed as a part of this report:

Exhibit Number	Description
2.1(1)	Asset and Liability Transfer Agreement dated December 17, 1997 between the Company and Gensia Sicor Inc.
2.2(1)	Master Agreement dated June 30, 1999 among the Company, Sicor Inc., Paul K. Laikind, Mark D. Erion and John W. Beck.
3.1(1)	Amended and Restated Certificate of Incorporation of the Company.
3.2(15)	Amended and Restated Bylaws of the Company.
4.1(1)	Form of Common Stock Certificate.
4.2(1)	Form of Stock Purchase Warrant issued to participants in the Company's Series D Preferred Stock financing dated October 18, 2001.
4.3(1)	Form of letter agreement entered into between the Company and its warrant holders.
4.4(1)	Letter agreement dated October 18, 2001 entered into between the Company and Sprout Capital IX, L.P. and its affiliates.
4.5(1)	Amended and Restated Investors' Rights Agreement dated October 28, 2003 between the Company and certain of its stockholders.
4.6(6)	Securities Purchase Agreement dated September 30, 2005, by and among the Company, and the individuals and entities identified on Exhibit A thereto (the " <i>Securities Purchase Agreement</i> ").



Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

Exhibit Number	Description
4.7(6)	Form of Warrant issued pursuant to the Securities Purchase Agreement.
4.8(12)	Common Stock Purchase Agreement dated November 2, 2006 between the Company and Kingsbridge Capital Limited.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

- 4.9(19) Amendment to Common Stock Purchase Agreement, dated February 15, 2008, by and between the Company and Kingsbridge Capital Limited.
- 4.10(13) Registration Rights Agreement dated November 2, 2006 between the Company and Kingsbridge Capital Limited.
- 4.11(19) Amended and Restated Warrant dated February 15, 2008 issued by the Company to Kingsbridge Capital Limited.
- 4.12 Warrant to Purchase Shares of Common Stock dated March 14, 2008 issued by the Company to Oxford Finance Corporation.
  - 10.1(1) Form of Indemnity Agreement.
  - 10.2(16) Amended and Restated 2001 Equity Incentive Plan and Form of Stock Option Agreement thereunder.
  - 10.3(17) 2004 Non-Employee Directors' Stock Option Plan and Form of Stock Option Agreement thereunder.
  - 10.4(16) 2004 Employee Stock Purchase Plan and Form of Offering Document thereunder.
  - 10.5(1) Employment offer letter dated March 17, 1998 between the Company and John W. Beck.
  - 10.6(1) Employment offer letter dated March 31, 2002 between the Company and Edgardo Baracchini.
  - 10.7(1) Employment offer letter dated September 15, 2005 between the Company and Howard Foyt.
  - 10.8(1) Addendum to Employment offer letter dated November 7, 2005 between the Company and Howard Foyt.
  - 10.9(1) Stock Restriction Agreement dated June 30, 2003 between the Company and Paul K. Laikind.
  - 10.10(1) Stock Restriction Agreement dated June 30, 2003 between the Company and Mark D. Erion.
  - 10.11(1) Stock Restriction Agreement dated June 30, 2003 between the Company and John W. Beck.
  - 10.12(18) Severance Agreement dated April 27, 2007 between the Company and Edgardo Baracchini.
  - 10.13(7) Amended and Restated Severance Agreement dated July 19, 2006 between the Company and Paul K. Laikind.
  - 10.14(18) First Amendment dated April 27, 2007 to Amended and Restated Severance Agreement dated July 19, 2006 between the Company and Paul K. Laikind.
  - 10.15(18) Severance Agreement dated April 27, 2007 between the Company and Mark D. Erion.
  - 10.16(18) Severance Agreement dated April 27, 2007 between the Company and John W. Beck.
  - 10.17(18) Severance Agreement dated April 27, 2007 between the Company and Howard Foyt.
  - 10.18(1) License Agreement dated June 30, 1999 between the Company and Sicor Inc.
  - 10.19(1) Master Security Agreement dated August 27, 2003 between the Company and Oxford Finance Corporation.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

- 10.20(1)\* Exclusive License and Research Collaboration Agreement dated December 23, 2003 between the Company and Merck & Co., Inc.
  - 10.21(3) Lease Agreement dated December 21, 2004 between the Company and CarrAmerica Realty, L.P.
  - 10.22(4)\* Amendment dated January 21, 2005 to Exclusive License and Research Collaboration Agreement dated December 23, 2003 between the Company and Merck & Co., Inc.
  - 10.23(5)\* License and Collaboration Agreement dated June 22, 2005 between the Company and Merck & Co., Inc.
  - 10.24(8)\* Amendment dated August 29, 2005 to Exclusive License and Research Collaboration Agreement dated December 23, 2003 between the Company and Merck & Co., Inc.
  - 10.25(8)\* Amendment dated November 2, 2005 to Exclusive License and Research Collaboration Agreement dated December 23, 2003 between the Company and Merck & Co., Inc.
  - 10.26(9)\* Amendment dated May 1, 2006 to Exclusive License and Research Collaboration Agreement dated December 23, 2003 between the Company and Merck & Co., Inc.
  - 10.27(10) Amendment dated May 16, 2006 to Lease Agreement dated December 21, 2004 between the Company and CarrAmerica Realty, L.P.
  - 10.28(11) Offer Letter dated September 12, 2006 by and between the Company and David F. Hale.
  - 10.29(16)\* Exclusive License and Research Collaboration Agreement dated October 24, 2006 by and between the Company and Idenix Pharmaceuticals, Inc.
  - 10.30(2) Assignment and Assumption Agreement dated December 13, 2006 by and among the Company, Valeant Research & Development and Schering Corporation.
  - 10.31(17) Metabasis Employee Incentive Compensation Plan.
  - 10.32 Termination Agreement by and between Valeant Pharmaceuticals North America, Schering Corporation and the Company dated September 19, 2007.
  - 10.33 Termination Agreement by and between Daiichi Sankyo Company, Ltd. and the Company dated January 30, 2008.
  - 10.34 Loan and Security Agreement dated March 14, 2008 between the Company and Oxford Finance Corporation.
  - 21.1(1) Subsidiaries of the Company.
  - 23.1 Consent of Independent Registered Public Accounting Firm.
  - 31.1 Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
  - 31.2 Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
  - 32 Certifications of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 

Indicates management contract or compensatory plan.

\*

Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

## Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

- (1) Incorporated by reference to the Company's Registration Statement on Form S-1 (No. 333-112437), originally filed on February 3, 2004.
- (2) Incorporated by reference to Exhibit 10.35 to the Valeant Pharmaceuticals International Annual Report on Form 10-K for the fiscal year ended December 31, 2006.
- (3) Incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on December 23, 2004.
- (4) Incorporated by reference to Exhibit 10.27 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2005.
- (5) Incorporated by reference to Exhibit 10.28 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2005.
- (6) Incorporated by reference to the Company's Current Report on Form 8-K filed on October 5, 2005.
- (7) Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 25, 2006.
- (8) Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2005.
- (9) Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
- (10) Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2006.
- (11) Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 12, 2006.
- (12) Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 2, 2006.
- (13) Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on November 2, 2006.
- (14) Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on November 2, 2006.
- (15) Incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on October 2, 2007.
- (16) Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2006.
- (17) Incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007.
- (18) Incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2007.
- (19) Incorporated by reference to the Company's Current Report on Form 8-K filed on February 15, 2008.





Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

/s/ WILLIAM R. ROHN

Director

March 17, 2008

William R. Rohn

/s/ GEORGE SCHREINER

Director

March 17, 2008

George Schreiner, M.D., Ph.D.

80

**METABASIS THERAPEUTICS, INC.**

**INDEX TO FINANCIAL STATEMENTS**

Report of Independent Registered Public Accounting Firm	F-2
Balance Sheets as of December 31, 2007 and 2006	F-3
Statements of Operations for the years ended December 31, 2007, 2006 and 2005	F-4
Statements of Stockholders' Equity for the years ended December 31, 2007, 2006 and 2005	F-5
Statements of Cash Flows for the years ended December 31, 2007, 2006 and 2005	F-6
Notes to Financial Statements	F-7



**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Stockholders  
Metabasis Therapeutics, Inc.

We have audited the accompanying balance sheets of Metabasis Therapeutics, Inc. as of December 31, 2007 and 2006, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2007. 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as 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 Metabasis Therapeutics, Inc. at December 31, 2007 and 2006, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2007, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 3 to the financial statements, Metabasis Therapeutics, Inc. changed its method of accounting for share-based payments in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004) on January 1, 2006.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Metabasis Therapeutics, Inc.'s internal control over financial reporting as of December 31, 2007, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 14, 2008 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

San Diego, California  
March 14, 2008

F-2

---

## METABASIS THERAPEUTICS, INC.

## BALANCE SHEETS

(in thousands, except par value data)

	December 31, 2007	December 31, 2006
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 14,141	\$ 12,052
Securities available-for-sale	28,297	65,871
Trade accounts receivable	61	187
Prepays and other current assets	1,096	1,303
<b>Total current assets</b>	<b>43,595</b>	<b>79,413</b>
Property and equipment, net	6,356	6,263
Other assets	172	179
<b>Total assets</b>	<b>\$ 50,123</b>	<b>\$ 85,855</b>
<b>Liabilities and stockholders' equity</b>		
Current liabilities:		
Accounts payable	\$ 802	\$ 1,053
Accrued compensation	3,181	2,222
Accrued liabilities	4,132	2,288
Deferred revenue, current portion	1,321	3,192
Current portion of long-term debt	2,068	1,761
Current portion of capital lease obligations	23	20
<b>Total current liabilities</b>	<b>11,527</b>	<b>10,536</b>
Deferred revenue, net of current portion		1,630
Deferred rent	2,595	1,566
Long-term debt	3,845	3,908
Capital lease obligations, net of current portion	55	77
<b>Total liabilities</b>	<b>18,022</b>	<b>17,717</b>
Stockholders' equity:		
Preferred stock, \$0.001 par value; 5,000 shares authorized at December 31, 2007 and December 31, 2006, no shares issued or outstanding		
Common stock, \$0.001 par value; 100,000 shares authorized at December 31, 2007 and December 31, 2006; 30,754 and 30,493 shares issued and outstanding at December 31, 2007 and December 31, 2006, respectively	31	30
Additional paid-in capital	182,003	176,298
Accumulated deficit	(150,012)	(108,213)
Accumulated other comprehensive loss	79	23
<b>Total stockholders' equity</b>	<b>32,101</b>	<b>68,138</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 50,123</b>	<b>\$ 85,855</b>

See accompanying notes.



## METABASIS THERAPEUTICS, INC.

## BALANCE SHEETS

(in thousands, except par value data)

## METABASIS THERAPEUTICS, INC.

## STATEMENTS OF OPERATIONS

(in thousands, except per share data)

	Years Ended December 31,		
	2007	2006	2005
<b>Revenues:</b>			
License fees	\$ 5,301	\$ 1,984	\$ 871
Sponsored research	3,398	2,210	2,493
Other revenue	320	192	407
<b>Total revenues</b>	<b>9,019</b>	<b>4,386</b>	<b>3,771</b>
<b>Operating expenses:</b>			
Research and development	40,915	29,945	21,252
General and administrative	12,442	11,250	7,186
<b>Total operating expenses</b>	<b>53,357</b>	<b>41,195</b>	<b>28,438</b>
Loss from operations	(44,338)	(36,809)	(24,667)
<b>Other income (expense):</b>			
Interest income	3,095	3,932	1,297
Interest expense	(556)	(391)	(210)
<b>Total other income</b>	<b>2,539</b>	<b>3,541</b>	<b>1,087</b>
<b>Net loss</b>	<b>\$ (41,799)</b>	<b>\$ (33,268)</b>	<b>\$ (23,580)</b>
Basic and diluted net loss per share	\$ (1.37)	\$ (1.15)	\$ (1.20)
Shares used to compute basic and diluted net loss per share	30,587	29,019	19,706

See accompanying notes.

## METABASIS THERAPEUTICS, INC.

## STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands)

	Common Stock		Additional Paid-In Capital	Deferred Compensation	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2004	18,169	\$ 18	\$ 98,602	\$ (5,337)	\$ (51,365)	\$ (54)	41,864
Net loss					(23,580)		(23,580)
Net comprehensive loss							(23,580)
Issuance of common stock in private placement offering, net of offering costs of \$2,280	7,000	7	39,039				39,046
Issuance of common stock for option exercises	40		54				54
Issuance of stock options for services			65				65
Issuance of common stock pursuant to the Employee Stock Purchase Plan	104		280				280
Repurchase of unvested common stock			(20)				(20)
Adjustment to deferred compensation for cancellation of options			(198)	198			
Amortization of deferred employee stock-based compensation				1,695			1,695
Amortization of deferred compensation from tendered shares subject to vesting				178			178
Balance at December 31, 2005	25,313	\$ 25	\$ 137,822	\$ (3,266)	\$ (74,945)	\$ (54)	59,582
Net loss					(33,268)		(33,268)
Unrealized gain on short-term investments						77	77
Net comprehensive loss							(33,191)
Issuance of common stock in registered direct offering, net of offering costs of \$2,696	4,938	5	37,299				37,304
Issuance of common stock for option exercises	44		95				95
Issuance of common stock pursuant to the Employee Stock Purchase Plan	198		603				603
Reclass of deferred compensation Stock-based compensation			(3,266)	3,266			
			3,745				3,745
Balance at December 31, 2006	30,493	\$ 30	\$ 176,298	\$	\$ (108,213)	\$ 23	68,138
Net loss					(41,799)		(41,799)
Unrealized gain on short-term investments						56	56
Net comprehensive loss							(41,743)
Issuance of common stock for option exercises	48		71				71
	206	1	599				600

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

	<u>Common Stock</u>				<u>Accumulated Other Comprehensive Income (Loss)</u>						
Issuance of common stock pursuant to the Employee Stock Purchase Plan											
Exercise of series C preferred warrants											
Stock-based compensation	7		5,035					5,035			
Balance at December 31, 2007	30,754	\$	31	\$	182,003	\$	(150,012)	\$	79	\$	32,101

See accompanying notes.

F-5

## METABASIS THERAPEUTICS, INC.

## STATEMENTS OF STOCKHOLDERS' EQUITY (Continued)

(in thousands)

## METABASIS THERAPEUTICS, INC.

## STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended December 31,		
	2007	2006	2005
<b>Operating activities</b>			
Net loss	\$ (41,799)	\$ (33,268)	\$ (23,580)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	5,035	3,745	1,938
Depreciation and amortization	2,028	1,602	915
Deferred rent	1,029	1,236	263
Amortization of discount and premium on securities available-for-sale	(2,220)	(925)	526
Loss on disposal of assets	153	29	
Change in operating assets and liabilities:			
Trade accounts receivable	126	12	(403)
Other current assets	207	667	(115)
Other assets	7	(27)	(152)
Deferred revenue	(3,501)	167	4,655
Accounts payable	(251)	(692)	881
Accrued compensation and other liabilities	2,803	118	1,559
Net cash flows used in operating activities	(36,383)	(27,336)	(13,513)
<b>Investing activities</b>			
Purchases of securities available-for-sale	(78,358)	(134,752)	(36,785)
Sales/maturities of securities available-for-sale	118,208	104,179	34,897
Purchases of property and equipment	(2,274)	(3,230)	(3,220)
Net cash flows provided by (used in) investing activities	37,576	(33,803)	(5,108)
<b>Financing activities</b>			
Issuance of common stock, net	671	38,002	39,380
Principal payments on debt and capital lease obligations	(1,965)	(1,486)	(870)
Proceeds received from debt and capital lease obligations	2,190	4,078	1,807
Repurchase unvested common stock			(20)
Net cash flows provided by financing activities	896	40,594	40,297
Increase (decrease) in cash and cash equivalents	2,089	(20,545)	21,676
Cash and cash equivalents at beginning of year	12,052	32,597	10,921
Cash and cash equivalents at end of period	\$ 14,141	\$ 12,052	\$ 32,597
<b>Supplemental disclosure of cash flow information:</b>			
Interest paid	\$ 556	\$ 405	\$ 205

## Supplemental schedule of noncash investing and financing activities:

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

	Years Ended December 31,		
	2020	2019	2018
Disposal of assets	\$ 4,563	\$	\$
Net-share settlement of warrant	\$ 56	\$	\$
Unrealized gain on short-term investments	\$ 56	\$ 77	\$
Reclass of deferred compensation	\$	\$ 3,266	\$
Fair value of warrant issued in connection with the Committed Equity Financing Facility	\$	\$ 1,098	\$
Adjustment to deferred compensation for cancellation of options	\$	\$	\$ 198

See accompanying notes.

F-6



**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**1. Organization and Basis of Presentation**

Metabasis Therapeutics, Inc. ("Metabasis" or the "Company") is a biopharmaceutical company focused on the discovery, development and commercialization of novel drugs by applying our proprietary technologies, scientific expertise and unique capabilities for targeting the liver and liver pathways.

Certain prior year amounts have been reclassified to be consistent with current year presentation. In fiscal 2007 the Company revised its allocation rates used for classifying various occupancy costs as general and administrative and research and development operating expenses. The revision of these allocation rates were a result of the Company's relocation into new corporate offices in the fourth quarter of 2005. Consequently, a total of \$360,000 of occupancy costs for the twelve months ended December 31, 2006 were reclassified from research and development to general and administrative operating costs to reflect the impact of the revised allocation rates. There is no impact on retained earnings, total operating expenses, net cash used for operating activities, net loss or earnings per share as a result of the classification of these costs. In addition, the Company recorded an immaterial reclassification of other long-term liabilities to current liabilities within its prior year balance sheet to conform to current year presentation. The additional reclassification did not have an impact to total assets, total liabilities or net cash used in operating or investing activities for the period presented herein.

**2. Strategic Plan**

As a result of recent events, the Company re-evaluated its business strategy and revised its strategic plan. The Company's revised strategic plan has the potential to significantly reduce current and future expenses and to provide additional financial resources by:

selectively funding only its metabolic disease programs,

licensing or selling its liver disease-related programs,

seeking to offset current and future advanced research and clinical costs via additional strategic collaborations on its metabolic disease advanced research and clinical programs, and

utilizing existing financing facilities, such as the Committed Equity Financing Facility ("CEFF") and venture debt.

The Company intends to use its existing cash reserves, proceeds received in March 2008 from a venture debt facility, proceeds from its ongoing collaboration with Merck, the CEFF and proceeds from other planned financing and business development activities to execute its revised strategic plan through 2008. Under the revised strategic plan the Company will need to secure additional cash proceeds through future strategic collaborations and the CEFF or other financing sources to fund certain studies on the MB07803 and MB07811 programs in 2008. In the event the Company is not able to generate sufficient financing through the use of the CEFF or other planned financing or business development activities the Company has the ability and intent to, and will be required to, delay, scale back or eliminate some or all of its research or development programs and other outlays of cash in order to meet its cash requirements through 2008. Additionally, the Company may be required to relinquish greater or all rights to product candidates at an earlier stage of development or on less favorable terms than the Company would otherwise choose. No assurances can be made that additional funding, through any resources including the CEFF, will be available when needed. Failure to obtain adequate financing and to curtail or delay cash expenditures adequately will have a significant negative impact on the Company's future operations.

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**3. Summary of Significant Accounting Policies**

*Use of Estimates*

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

*Cash and Cash Equivalents*

Cash and cash equivalents consist of cash and highly liquid instruments with original maturities of three months or less when purchased.

*Securities Available-For-Sale*

Short-term investments are classified as available-for-sale and are carried at fair value, with unrealized gains and losses reported in stockholders' equity. The amortized cost of debt securities in this category is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in interest income. Realized gains and losses and declines in value judged to be other-than-temporary, if any, on available-for-sale securities are included in other income. The cost of securities sold is based on the specific-identification method. Interest and dividends on securities classified as available-for-sale are included in interest income.

*Fair Value of Financial Instruments*

The carrying amount of cash and cash equivalents, securities available-for-sale, accounts receivable, accounts payable, accrued liabilities and deferred revenue are considered to be representative of their respective fair values because of the short-term nature of those instruments. Based on the borrowing rates currently available to the Company for loans with similar terms, management believes the fair value of the long-term obligations approximate their carrying value.

*Concentration of Credit Risks*

Financial instruments that potentially subject the Company to a significant concentration of credit risk consist primarily of cash and cash equivalents and securities available-for-sale. The Company invests its excess cash in U.S. government securities, asset backed securities and debt instruments of financial institutions and corporations with strong credit ratings. The Company does not invest in auction rate securities. The Company has established guidelines relative to diversification of its cash investments and their maturities that are intended to secure safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates and changes in the Company's operations and financial position. To date, the Company has not experienced any impairment losses on its cash equivalents or securities available-for-sale.

*Property and Equipment*

Property and equipment is carried at cost less accumulated depreciation. Depreciation is computed on the straight-line method and depending on asset classification, over a period of three to five years. Leasehold improvements are amortized over the estimated useful life of the asset or the lease term, whichever is shorter.

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**3. Summary of Significant Accounting Policies (Continued)**

***Impairment of Long-Lived Assets***

The Company assesses potential impairment to its long-lived assets in accordance with Statement of Financial Accounting Standards ("SFAS") No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*, when there is evidence that events or changes in circumstances indicate that the carrying amount of an asset may not be recovered.

***Revenue Recognition***

The Company's revenue recognition policies are in accordance with the Staff Accounting Bulletin ("SAB") No. 104, *Revenue Recognition*, and Emerging Issues Task Force ("EITF") Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. The Company's revenues are primarily related to collaborations with pharmaceutical companies. The Company's agreements generally contain multiple elements, including access to proprietary technologies and research and development services. Payments under collaborations are generally made in the form of up-front license fees, milestone payments and downstream royalties. All fees are nonrefundable. Upfront, nonrefundable fees under the Company's collaborations and advance payments for sponsored research, which are in excess of amounts earned are classified as deferred revenue and are recognized as income over the period of performance obligation. Nonrefundable upfront fees, which do not require the Company's continuing involvement, or which do not contain future performance obligations, are recognized when received.

Amounts received for sponsored research funding are recognized as revenues as the services are performed. These agreements are on a best-efforts basis and do not require scientific achievement as a performance obligation and provide for payment to be made when costs are incurred or the services are performed.

Revenue from milestones is recognized when earned, provided that (i) the milestone event is substantive and its achievability was not reasonably assured at the inception of the agreement, and (ii) collaborator funding (if any) of the Company's performance obligations after the milestone achievement will continue at a level comparable to before the milestone achievement. If both of these criteria are not met, the milestone payment is recognized as revenue over the remaining minimum period of the Company's performance obligations under the agreement.

***Research and Development***

All costs of research and development, including those incurred in relation to the Company's collaborative agreements, are expensed in the period incurred. Research and development costs primarily consist of salaries and related expenses for personnel, stock-based compensation expense, outside service providers, facilities costs, fees paid to consultants, professional services, travel costs, dues and subscriptions, depreciation and materials used in clinical trials and research and development. The Company reviews and accrues clinical trials expenses based on work performed, which relies on estimates of total costs incurred based on completion of patient studies and other events. The Company follows this method since reasonably dependable estimates of the costs applicable to various stages of a research agreement or clinical trial can be made. Accrued clinical development costs are subject to revisions as trials progress to completion. Revisions are charged to expense in the period in which the facts that give rise to the revision become known.

METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

**3. Summary of Significant Accounting Policies (Continued)**

***Stock-Based Compensation***

In March 2005, the Securities and Exchange Commission ("SEC") issued SAB No. 107, *Share-Based Payments*, which provides guidance on the implementation of SFAS No. 123R. The Company applied the principles of SAB No. 107 in conjunction with its adoption of SFAS No. 123R.

The Company adopted SFAS No. 123R effective January 1, 2006, using the modified-prospective transition method. Under this transition method, compensation expense under both the Amended and Restated 2001 Equity Incentive Plan ("Equity Incentive Plan") and the 2004 Non-Employee Directors' Stock Option Plan ("Directors' Stock Option Plan") are recognized based on the grant date fair value estimated in accordance with the provisions of SFAS No. 123R for all new grants effective January 1, 2006, and for options granted prior to but not vested as of December 31, 2005, compensation is recognized based on the grant date fair value as estimated in accordance with SFAS No. 123. Compensation expense is recognized over the requisite service period which is typically the period over which the stock-based compensation awards vest. Compensation expense under the 2004 Employee Stock Purchase Plan ("Employee Stock Purchase Plan") will be recognized based on the fair value on the date that the purchase rights were granted in accordance with the provisions of SFAS No. 123R for all new grants effective January 1, 2006, and for share purchase rights granted prior to but not vested as of December 31, 2005, and will be recognized over the remaining period of each grant's respective offering period. Compensation expense is reduced for estimated forfeitures. Forfeitures are estimated at the time of grant for option awards and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

The Employee Stock Purchase Plan permits for the modification of the original rate of contribution an employee elects upon enrollment. The Company accounts for each increase from the original rate of contribution, during an offering period, as a modification of the original award and recognizes the incremental change in compensation expense as a result of the change in fair value from the modification. The incremental effect to stock compensation as a result of modifications to these awards during the twelve months ended December 31, 2007 and 2006, was immaterial.

The Company accounts for stock options granted to non-employees for acquiring, or in conjunction with selling, goods and services in accordance with SFAS No. 123 and EITF No. 96-18, *Accounting For Equity Instruments That Are Issued To Other Than Employees For Acquiring, Or In Conjunction With Selling, Goods Or Services*, and accordingly recognizes as expense the estimated fair value of such options as calculated using the Black-Scholes option-pricing model. The fair value is remeasured during the service period and is amortized over the vesting period of each option or the recipient's contractual arrangement, if shorter.

***Comprehensive Income (Loss)***

SFAS No. 130, *Reporting Comprehensive Income*, requires that all components of comprehensive income (loss), including net loss, be reported in the financial statements in the period in which they are recognized. Comprehensive income (loss) is defined as the change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company's other comprehensive income (loss) for December 31, 2007, 2006 and 2005 consisted of unrealized gains and losses on available-for-sale securities and is reported in stockholders' equity.

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 3. Summary of Significant Accounting Policies (Continued)

*Net Loss Per Share*

The Company calculated net loss per share in accordance with SFAS No. 128, *Earnings Per Share*. Basic earnings per share ("EPS") is calculated by dividing the net loss by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted EPS is computed by dividing the net loss by the weighted average number of common share equivalents outstanding for the period determined using the treasury-stock method. For purposes of this calculation, common stock subject to repurchase by the Company, options, and warrants are considered to be common stock equivalents and are only included in the calculation of diluted earnings per share when their effect is dilutive. The total number of shares issuable upon exercise of stock options and warrants excluded from the calculation of diluted earnings per share since they are anti-dilutive were 6,869,805, 6,694,740 and 5,202,846 in 2007, 2006 and 2005, respectively.

	Years Ended December 31,		
	2007	2006	2005
	(in thousands, except per share amounts)		
<b>Actual:</b>			
<i>Numerator:</i>			
Net loss	\$ (41,799)	\$ (33,268)	\$ (23,580)
<i>Denominator:</i>			
Weighted average common shares	30,587	29,152	19,981
Weighted average unvested common shares subject to repurchase		(133)	(275)
Denominator for basic and diluted net loss per share	30,587	29,019	19,706
Basic and diluted net loss per share	\$ (1.37)	\$ (1.15)	\$ (1.20)

*Warrants*

The Company has issued warrants to purchase its shares of common stock in connection with financing arrangements. Generally, the warrants have been provided as additional consideration to an investor for the purchase of the Company's common stock, or the commitment to purchase common stock in the future, through a structured offering. The terms of the warrants vary, but generally include an exercise price equal to a specific premium over the value of the common stock at the time of the warrant issuance. The warrant holder may elect to exercise the warrants by physical settlement or net-share settlement.

The Company accounts for these financial instruments in accordance with SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity*, and if and when applicable, EITF Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to and Potentially Settled in a Company's Own Stock*. Where the instrument qualifies as a freestanding financial instrument and does not represent an obligation or where the monetary value of the instrument changes in the same direction as the shares of common stock, the Company will assess the terms of the instrument against the criteria within EITF Issue No. 00-19 to determine the appropriate classification as equity or a liability. As of December 31, 2007, all warrants issued are classified as equity.

METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

**3. Summary of Significant Accounting Policies (Continued)**

*Recent Accounting Pronouncements*

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*. This standard defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. This statement is effective for financial statements issued for fiscal years beginning after November 15, 2007 (beginning with the Company's 2008 fiscal year), although earlier application is encouraged. The Company is in the process of determining the effect, if any, the adoption of SFAS No. 157 will have on its financial statements.

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment to FASB Statement No. 115*. SFAS No. 159 allows certain financial assets and liabilities to be recognized, at the Company's election, at fair market value, with any gains or losses for the period recorded in the statement of income. SFAS No. 159 includes available-for-sales securities in the assets eligible for this treatment. Currently, the Company records the gains or losses for the period in comprehensive income and in the equity section of the balance sheet. SFAS No. 159 is effective for fiscal years beginning after November 15, 2007, and interim periods in those fiscal years. The Company does not expect the adoption of SFAS No. 159 to have a material impact on its financial statements.

In June 2007, the EITF issued EITF Issue No. 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to be Used in Future Research and Development Activities*. The consensus requires companies to defer and capitalize prepaid, nonrefundable research and development payments to third parties over the period that the research and development activities are performed or the services are provided, subject to an assessment of recoverability. EITF Issue No. 07-3 is effective for new contracts entered into in fiscal years beginning after December 15, 2007, including interim periods within those fiscal years. The Company does not expect the adoption of EITF Issue No. 07-3 to have a material impact on its financial statements.

In November 2007, the EITF issued EITF Issue No. 07-1, *Accounting for Collaborative Arrangements Related to the Development and Commercialization of Intellectual Property*. Companies may enter into arrangements with other companies to jointly develop, manufacture, distribute, and market a product. Often the activities associated with these arrangements are conducted by the collaborators without the creation of a separate legal entity (that is, the arrangement is operated as a "virtual joint venture"). The arrangements generally provide that the collaborators will share, based on contractually defined calculations, the profits or losses from the associated activities. Periodically, the collaborators share financial information related to product revenues generated (if any) and costs incurred that may trigger a sharing payment for the combined profits or losses. The consensus requires collaborators in such an arrangement to present the result of activities for which they act as the principal on a gross basis and report any payments received from (made to) other collaborators based on other applicable GAAP or, in the absence of other applicable GAAP, based on analogy to authoritative accounting literature or a reasonable, rational, and consistently applied accounting policy election. EITF Issue No. 07-1 is effective for collaborative arrangements in place at the beginning of the annual period beginning after December 15, 2008. The Company is in the process of determining the effect, if any, the adoption of EITF Issue No. 07-1 will have on its financial statements.

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 4. Stock-Based Compensation

*The Equity Plans*

The Company maintains three shareholder-approved share-based compensation plans that are subject to the requirements of SFAS No. 123R. The Equity Incentive Plan provides for the grant of stock options and restricted stock to officers, directors and employees of, and consultants and advisors to, the Company. The Directors' Stock Option Plan provides for the grant of non-statutory stock options to non-employee directors. The Employee Stock Purchase Plan provides a means by which employees may purchase common stock at a discount through payroll deductions and is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Internal Revenue Code ("IRC").

Grants under the Equity Incentive Plan and the Directors' Stock Option Plan are primarily in the form of options that allow a grantee to purchase a fixed number of shares of the Company's common stock at a fixed exercise price equal to the market price of the shares at the date of the grant. Grants under the Equity Incentive Plan are "incentive stock option grants" or "non-qualified stock option grants" if they are granted to employees and "non-qualified stock option grants" if granted to non-employees. Grants under the Directors' Stock Option Plan are "non-qualified stock option grants." Options under both the Equity Incentive Plan and the Directors' Stock Option Plan may vest on a single date or in tranches over a period of time, but normally they do not vest unless the grantee is still employed by or a director of the Company on the vesting date. Options under the Equity Incentive Plan generally vest over a four year period: 1/4<sup>th</sup> on the first year anniversary of the date of grant and in equal monthly installments over the remaining three years and expire ten years from the date of grant. Options under the Directors' Stock Option Plan generally vest from one to three years, and expire ten years from the date of grant. The Company made no modifications to outstanding options with respect to vesting periods or exercise prices prior to adopting SFAS No. 123R. Rights to purchase shares under the Employee Stock Purchase Plan allow participating employees to purchase stock at a discount during offering periods of 6, 12, 18 or 24 months with purchases occurring every six months.

*SFAS No. 123R Compensation Expense*

In accordance with SFAS No. 123R, the Company recognized share-based compensation expense for all three plans as follows (in thousands):

	<b>December 31,</b>	
	<b>2007</b>	<b>2006</b>
Stock-based compensation expense:		
Research and development	\$ 3,118	\$ 1,936
General and administrative	1,917	1,809
Total stock-based compensation expense	\$ 5,035	\$ 3,745
Net effect on net loss	\$ 5,035	\$ 3,745
Effect on loss per share:		
Basic and diluted	\$ 0.16	\$ 0.13

Compensation expense for all options granted under the Equity Incentive Plan and the Directors' Stock Option Plan during the twelve-month period ended December 31, 2007 was recognized on a straight-line basis over the vesting period of each grant, net of estimated forfeitures.

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 4. Stock-Based Compensation (Continued)

The estimated fair value of the options and share purchase rights granted during 2006 and in prior years was calculated using a Black-Scholes model. The following summarizes the assumptions used in the Black-Scholes model:

	December 31, 2007	
	Equity Incentive Plan and Directors' Stock Option Plan	Employee Stock Purchase Plan
Risk-free interest rate(1)	4.5%	4.7%
Volatility(2)	72.1%	69.7%
Dividend yield(3)	0.0%	0.0%
Expected Life(4)	5.8 years	1.3 years
Weighted average fair value at date of grant	\$4.51	\$3.03

  

	December 31, 2006	
	Equity Incentive Plan and Directors' Stock Option Plan	Employee Stock Purchase Plan
Risk-free interest rate(1)	4.7%	4.7%
Volatility(2)	69.0%	67.5%
Dividend yield(3)	0.0%	0.0%
Expected Life(4)	6 years	1.3 years
Weighted average fair value at date of grant	\$4.84	\$2.11

- (1) The risk-free interest rate is based on U.S. Treasury debt securities with maturities close to the expected term of the option and the share purchase right.
- (2) Expected volatility is based on the weighted average volatility of the Company's stock factoring in daily share price observations and the historical price volatility of certain peers within the Company's industry sector. In computing expected volatility, the length of the historical period used is equal to the length of the expected term of the option and the share purchase right.
- (3) No cash dividends have been declared on the Company's common stock since the Company's inception, and the Company currently does not anticipate paying cash dividends over the expected term of the option and the share purchase right.
- (4) The expected life of employee stock options represents the average of the contractual term of the options and the weighted average vesting period, as permitted under the simplified method, under SAB No. 107.

As of December 31, 2007, the Company had approximately \$7.9 million of unrecognized stock-based compensation expense of which \$7.4 million related to stock options under the Equity Incentive Plan and the Directors' Stock Option Plan and \$467,000 related to share purchase rights under the Employee Stock Purchase Plan. The expense is expected to be recognized on a straight-line basis over a weighted average period of approximately 2.63 years.





## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 4. Stock-Based Compensation (Continued)

*Equity Plan Activity*

The following is a summary of stock option activity under the Equity Incentive Plan and the Directors' Stock Option Plan as of December 31, 2006, and changes during the twelve months ended December 31, 2007 (in thousands, except per share data):

	Outstanding Options		Unvested Options	
	Number of Options	Weighted Average Exercise Price	Number of Options	Weighted Average Fair Value Price Per Share
Outstanding at December 31, 2006	2,638	\$ 5.58	1,620	\$ 5.07
Granted	1,193	\$ 6.84	1,193	\$ 4.51
Exercised	(48)	\$ 1.50		\$ 0.00
Vested		\$ 0.00	(780)	\$ 5.59
Canceled	(221)	\$ 6.90	(167)	\$ 4.02
Outstanding at December 31, 2007	3,562	\$ 5.97	1,866	\$ 4.63
Exercisable at December 31, 2007	1,696	\$ 4.70		

The total intrinsic value of options exercised during the twelve months ended December 31, 2007 and 2006 were \$220,000 and \$254,000, respectively. The total fair value of shares vested during the twelve months ended December 31, 2007 and 2006 were \$4.4 million and \$2.2 million, respectively.

The following is a breakdown of the options outstanding as of December 31, 2007 (in thousands, except per share data and contractual life data):

Ranges of Exercise Prices	Options Outstanding			Options Vested and Exercisable	
	Number of Options	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number of Options	Weighted Average Exercise Price
\$0.30 to \$2.00	660	5.4	\$ 1.41	649	\$ 1.41
\$2.01 to \$4.00	368	7.8	\$ 2.87	179	\$ 2.78
\$4.01 to \$6.00	262	6.8	\$ 5.66	152	\$ 5.61
\$6.01 to \$8.00	1,425	8.5	\$ 7.39	319	\$ 7.22
\$8.01 to \$9.22	847	8.2	\$ 8.58	397	\$ 8.58
Total	3,562	7.7	\$ 5.97	1,696	\$ 4.70

The aggregate intrinsic value of stock options exercisable and outstanding as of December 31, 2007 were \$1.1 million, respectively. The weighted average contractual life for options exercisable as of December 31, 2007 was 6.3 years.



## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 4. Stock-Based Compensation (Continued)

*Prior to the Adoption of SFAS No. 123R*

Prior to January 1, 2006, the Company accounted for its stock-based compensation plans under Accounting Principles Board ("APB") Opinion No. 25. In accordance with APB Opinion No. 25, the Company recognized no compensation expense for incentive stock option grants where the exercise price was equal to the market price on the date of grant. For options issued with an exercise price less than the fair market value of the shares at the date of grant, the Company recognized the difference between the exercise price and fair market value as compensation expense in accordance with APB Opinion No. 25. Compensation expense was recognized and amortized on a straight-line basis over the vesting period of the related options, generally four years. The Company had a deferred stock compensation balance of \$3.3 million at December 31, 2005 for options previously issued with an exercise price less than the fair market value of the shares on the date of grant. Upon adoption of SFAS No. 123R, deferred stock compensation was eliminated against additional paid-in-capital.

Prior to January 1, 2006, the Company provided pro forma disclosure amounts in accordance with SFAS No. 123, as amended by SFAS No. 148, *Accounting for Stock-Based Compensation Transition and Disclosure*. In the Company's pro forma information required under SFAS No. 123 for periods prior to the fiscal year ended 2006, the Company accounted for forfeitures as they occurred. The fair value of these options was estimated at the date of grant using the Black-Scholes model with the following weighted average assumptions used for option grants:

	<b>Year Ended December 31, 2005</b>
Risk-free interest rate	4.4%
Dividend yield	0.0%
Volatility factor	70.0%
Weighted average life in years	6.3
Weighted average fair value at date of grant	\$ 2.38

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 SFAS No. 123R to stock-based employee compensation in the prior fiscal year 2005 (in thousands, except per share data):

	<b>Year Ended December 31, 2005</b>
Net loss applicable to common stockholders as reported	\$ (23,580)
Add: Stock-based employee compensation expense included in reported net loss	1,695
Deduct: Stock-based employee compensation expense determined under fair value method	(2,459)
Pro forma net loss	\$ (24,344)
Basic and diluted net loss per share as reported	\$ (1.20)
Pro forma basic and diluted net loss per share	\$ (1.24)

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 5. Balance Sheet Details

*Securities Available-For-Sale*

Securities available-for-sale consisted of the following (in thousands):

	December 31, 2007			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Corporate debt securities	\$ 21,268	\$ 73	\$	\$ 21,341
Asset-backed securities	6,950	6		6,956
<b>Total</b>	<b>\$ 28,218</b>	<b>\$ 79</b>	<b>\$</b>	<b>\$ 28,297</b>

  

	December 31, 2006			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Corporate debt securities	\$ 55,074	\$ 22	\$ (1)	\$ 55,095
Mortgage-backed securities	10,774	2		10,776
<b>Total</b>	<b>\$ 65,848</b>	<b>\$ 24</b>	<b>\$ (1)</b>	<b>\$ 65,871</b>

Gross realized gains and losses on available-for-sale securities were immaterial during the years ended December 31, 2007, 2006 and 2005. All realized gains and losses are reclassified out of other comprehensive income (loss) in the period recognized. Proceeds from the sale of short-term investments totaled \$118.2 million, \$104.2 million and \$35.4 million for the years ended December 31, 2007, 2006 and 2005, respectively. All available-for-sale securities at December 31, 2007 have a contractual maturity of one year or less.

Investments considered to be temporarily impaired at December 31, 2007 are immaterial. There are no investments held at December 31, 2007, which are considered to be temporarily impaired beyond 12 months. The Company regularly monitors and evaluates the realizable value of its marketable securities. When assessing marketable securities for other-than-temporary declines in value, the Company considers such factors as, among other things, how significant the decline in value is as a percentage of the original cost, how long the market value of the investment has been less than its original cost and the market in general.

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 5. Balance Sheet Details (Continued)

*Property and Equipment*

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

	December 31,	
	2007	2006
Laboratory equipment	\$ 8,972	\$ 9,849
Computers and electronics	1,903	3,117
Leasehold improvements	1,356	1,120
Office furniture and fixtures	600	1,197
Construction in progress	160	150
	<u>12,991</u>	<u>15,433</u>
Less: accumulated depreciation and amortization	(6,635)	(9,170)
	<u>\$ 6,356</u>	<u>\$ 6,263</u>

Depreciation and amortization expense, which include assets held under capital leases, was \$2.0 million, \$1.6 million and \$910,000 for the years ended December 31, 2007, 2006 and 2005, respectively. Assets held under capital leases and equipment loans totaled approximately \$6.0 million and \$5.8 million at December 31, 2007 and 2006, respectively.

The Company recorded \$4.7 million of asset disposals resulting in a loss of \$153,000 for the twelve months ended December 31, 2007. The Company recorded \$29,000 in loss on disposals for the twelve months ended December 31, 2006 and none for the twelve months ended December 31, 2005.

*Accrued Liabilities and Accrued Compensation*

Accrued liabilities and accrued compensation consisted of the following (in thousands):

	December 31,	
	2007	2006
Accrued development expenses	\$ 3,241	\$ 1,464
Accrued legal and patent fees	216	203
Other accrued liabilities	675	621
	<u>\$ 4,132</u>	<u>\$ 2,288</u>
Accrued employee benefits	\$ 1,914	\$ 1,053
Accrued bonuses	1,267	1,169
	<u>\$ 3,181</u>	<u>\$ 2,222</u>

## 6. Commitments and Contingencies

*Lease Commitments*

Edgar Filing: METABASIS THERAPEUTICS INC - Form 10-K

The Company leases its office and research facilities and certain laboratory and electronic equipment under operating and capital lease agreements, which expire at varying dates through 2015.

F-18

---

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**6. Commitments and Contingencies (Continued)**

In September 2007, the Company entered into an operating lease agreement pursuant to which the Company leased approximately 2,900 square feet of office space in Ann Arbor, Michigan. The lease expires on December 31, 2008.

In December 2004, the Company entered into an operating lease agreement pursuant to which the Company leased approximately 82,000 square feet of real estate space in La Jolla, California consisting of laboratory and office space. The lease commenced in October 2005 and has an initial term of 10 years unless extended or sooner terminated. The Company has options to extend the lease for two renewal periods of five years each. The Company's aggregate lease payments through 2015 will be \$24.4 million. The facility lease provides for various forms of rent abatement during the first 48 months of the lease and annual rent increases of 3.0%. The difference between the straight-line expense over the term of the lease and actual amounts paid are recorded as deferred rent. Prior to October 2005, the Company leased its office and research facilities under a different operating lease.

Rent expense was approximately \$2.8 million for the years ended December 31, 2007 and 2006 and \$1.4 million in the year ended December 31, 2005.

***Debt***

In August 2003, the Company entered into a \$1.4 million equipment loan agreement with a financing company. This agreement was subsequently amended two times to increase the amount available to \$7.6 million. The proceeds are used to finance lab equipment, computer and electronic equipment and furniture, which serve as collateral under the loan. As of December 31, 2007, the Company has utilized the total amount available under the equipment loan agreement. Each borrowing is payable over 48 months with the interest rate fixed at the funding date of each borrowing ranging from 8.62% to 10.96%. The weighted average interest rate in 2007 was 9%. The outstanding balance of this loan is \$5.7 million and \$5.4 million at December 31, 2007 and 2006, respectively.

In connection with the facility lease, which commenced in October 2005, the Company agreed to a \$300,000 loan for tenant improvements. The term of the loan corresponds to the initial 10 year term of the lease. The interest rate is 8.0% per annum. The outstanding balance of this loan is \$254,000 and



## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 6. Commitments and Contingencies (Continued)

\$276,000 at December 31, 2007 and 2006, respectively. Payment schedules for commitment and contractual obligations at December 31, 2007, are as follows (in thousands):

	<u>Capital Leases</u>	<u>Equipment Financing</u>	<u>Operating Leases</u>
2008	\$ 29	\$ 2,560	\$ 2,401
2009	29	2,303	2,813
2010	27	1,376	3,104
2011	4	467	3,178
2012		44	3,276
Thereafter		124	9,817
	<u>89</u>	<u>6,874</u>	<u>\$ 24,589</u>
Less amount representing interest	<u>(11)</u>	<u>(961)</u>	
Present value of net minimum payments	78	5,913	
Less current portion	<u>(23)</u>	<u>(2,068)</u>	
Long-term debt and capital lease obligations	<u>\$ 55</u>	<u>\$ 3,845</u>	

The Company also has open purchase orders from time to time for the purchase of capital expenditures, consulting services, subscriptions and materials. Obligations under these open purchase orders totaled \$2.1 million at December 31, 2007. These purchase commitments expire at varying dates through December 31, 2008.

*Executive Severance Agreements*

The Company has entered into employment agreements with our executive officers and certain other key employees that, under certain circumstances, provide for the continuation of salary and certain other benefits if terminated under specified circumstances.

These agreements generally expire upon termination for cause or when the Company has met its obligations under these agreements. As of December 31, 2007, no events have occurred resulting in the obligation of any such payments.

*Clinical Development Agreements*

The Company has entered into agreements with various vendors for the research and clinical development of its product candidates, which are generally cancelable at the option of the Company at any time. Under the terms of these agreements, the vendors provide a variety of services including conducting preclinical development research, manufacturing clinical compounds, enrolling patients, recruiting patients, monitoring studies, data analysis and regulatory filing assistance. Payments under these agreements typically include fees for services and reimbursement of expenses. In addition, under certain agreements, we are subject to penalties in the event we prematurely discontinue performance under these agreements.

METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

**7. Collaborative Research and Development Agreements**

*Merck*

In June 2005, the Company entered into a collaboration agreement with Merck & Co. ("Merck"), to research, develop and commercialize novel small molecule therapeutics with the potential to treat type 2 diabetes, and potentially other metabolic diseases, by activating an enzyme in the liver called AMP-activated Protein Kinase. As part of this collaboration, Merck paid an initial non-refundable license fee of \$5.0 million in July 2005 and will provide research support funding of a minimum of \$2.1 million each year during the three year research term. The three year research term is subject to renewal for one additional year by mutual agreement of the Company and Merck. The Company's level of research activities, and the minimum research support funding, may be increased during the term upon mutual agreement of both parties. Merck is also obligated to pay milestone payments if specified preclinical and clinical development and regulatory events occur and pay royalties on sales of any product resulting from this collaboration. As of December 31, 2007, the Company has not achieved any developmental milestones and thus, no payments have been received for milestones from Merck. The Company would also have the option to co-promote any such product in the United States. If all preclinical and clinical milestones are achieved on multiple indications, and including the \$5.0 million initial, non-refundable license fee and the minimum \$6.3 million in research support funding, the Company may be entitled to payments which total up to \$74.3 million, plus royalties. Merck is solely responsible for conducting and funding all development work for compounds resulting from this collaboration. Under the agreement, the Company recognized revenue of \$3.8 million for the years ended December 31, 2007 and 2006 and \$1.9 million for the year ended December 31, 2005. Deferred revenue of \$1.3 million is reflected on the balance sheet as of December 31, 2007, relating to this agreement.

In December 2003, the Company entered into a non-exclusive collaboration agreement with Merck to discover new treatments for hepatitis C. The research term of the collaboration was initially for one year and in January 2005, was extended for an additional year through December 2005. At the same time, the scope of the technology that the Company applies to the Merck compounds was expanded. As part of this collaboration, Merck paid an upfront fee of \$500,000 which was recognized as revenue over the initial one-year term of the agreement and paid research support totaling \$2.7 million during 2004 and 2005. Revenue recognized under the agreement was zero for the years ended December 31, 2007 and 2006 and \$1.4 million for the year ended December 31, 2005. Merck is also obligated to pay preclinical and clinical milestone payments if specified development and regulatory events occur and royalties on sales of products resulting from the collaboration. If all preclinical and clinical milestones are achieved, and including the \$500,000 upfront fee, the \$2.7 million in research support, the Company may be entitled to payments which total up to \$25.3 million, plus royalties. Merck is currently evaluating certain candidate compounds discovered during the collaboration to determine if one or more will be recommended for clinical development. Merck is solely responsible for conducting and funding all development work for compounds resulting from the collaboration and for commercializing any resulting products.

*Idenix*

In October 2006, the Company entered into a non-exclusive collaboration agreement with Idenix Pharmaceuticals, Inc. ("Idenix") to apply its HepDirect technology to certain Idenix lead compounds with the goal of improving the safety and efficacy of these compounds for the treatment of hepatitis C. The agreement provided for up to two years of sponsored research. In addition, Idenix had the option

METABASIS THERAPEUTICS, INC.

NOTES TO FINANCIAL STATEMENTS (Continued)

**7. Collaborative Research and Development Agreements (Continued)**

to terminate the research term upon the first anniversary of the effective date of the agreement or upon the achievement of certain research and clinical development milestones during the research term. As part of this collaboration, Idenix paid us an initial, non-refundable license fee of \$2.0 million in November 2006 and agreed to provide us research funding of up to \$1.7 million per year during the research term. If all preclinical and clinical milestones are achieved, then including the \$2.0 million initial, non-refundable license fee and the minimum \$1.7 million in research support funding, we may be entitled to payments which total up to \$68.8 million, plus royalties. In October 2007, the sponsored research term of our collaboration agreement ended upon the first anniversary of the agreement. While the sponsored research portion of the collaboration has ended, the research program is under evaluation for further development. The remaining rights and obligations of the agreement remain in effect.

*Daiichi Sankyo*

In April 1997, the Company entered into a multi-year research, development and commercialization agreement with Daiichi Sankyo Company, Ltd., ("Daiichi Sankyo") to develop novel FBPase inhibitors for the treatment of diabetes. The research period ended in April 2002. Daiichi Sankyo was responsible for funding the clinical development of compounds selected for development under the agreement. Daiichi Sankyo had the right to select compounds discovered during the discovery period and was responsible for conducting and funding the clinical development of any compound selected for development. Daiichi Sankyo selected CS-917 as a clinical candidate in 1999 and completed the clinical trials through Phase 2b in the third quarter of 2007. The results of the Phase 2b clinical trial indicated CS-917 failed to achieve the trial's primary endpoint. As a result, the Company and Daiichi Sankyo agreed to terminate the collaboration agreement and return all rights and data related to this product candidate to the Company in January 2008. During the term of the collaboration agreement, the Company achieved three developmental milestones triggering a total of \$6.5 million in payments, none of which were received in 2007, 2006 or 2005.

*Valeant*

In October 2001, the Company entered into a development and license agreement with Valeant Pharmaceuticals International ("Valeant") for the development and commercialization of pradefovir for the treatment of hepatitis type B. Under the agreement, Valeant was granted exclusive worldwide rights to develop and commercialize pradefovir. As of December 31, 2007, the Company had achieved developmental milestones triggering a total of \$2.0 million in payments from Valeant. The first milestone was earned in April 2003 and the second milestone was earned in July 2004.

*Schering-Plough*

In January 2007, Valeant assigned its rights, interests and obligations under the development and license agreement to Schering-Plough ("Schering"), and further granted Schering a license to its intellectual property related to pradefovir. Concurrently, the Company and Schering entered into an amended and restated development and license agreement for the continued future development and commercialization of pradefovir. Under the amended and restated development and license agreement and pursuant to Valeant's assignment, Schering was granted exclusive worldwide rights to develop and commercialize pradefovir during the term of the agreement. The Company received a non-refundable license fee of \$1.8 million in January 2007 from Schering.

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**7. Collaborative Research and Development Agreements (Continued)**

In September 2007, the Company, Schering and Valeant entered into an agreement to terminate the agreements for the development and commercialization of pradeфовir. These agreements were terminated as a result of numerous factors, which may include recently reported adverse 24-month oral carcinogenicity studies of pradeфовir in rats and mice. The Company will not receive any additional payments related to these agreements and all rights to pradeфовir have been returned to the Company, subject to certain milestone and royalty payments the Company may be required to make to Valeant should this product candidate be subsequently developed.

**8. Committed Equity Financing Facility**

In November 2006, the Company entered into a CEFF with an institutional investor. Under the terms of the agreement the investor is committed to providing the Company up to \$50 million in funding, or up to a maximum of 6,046,071 of shares of common stock, over a three-year term through the purchase of newly-issued shares of the Company's common stock. In February 2008, the CEFF was amended to reduce the minimum market capitalization required to permit a draw down and to eliminate certain termination rights maintained by the investor, among other things. The Company may access capital under the CEFF in tranches of up to the lesser of \$10 million or from between 1.0% to 1.5% of the Company's market capitalization at the time of the draw down of such tranche, subject to certain conditions. The investor will purchase shares of the Company's common stock pursuant to the CEFF at discounts ranging from 6% to 10%, depending on the average market price of the common stock during the eight-day pricing period, provided that the minimum acceptable purchase price for any shares to be issued to the investor during the eight-day pricing period is determined by the higher of \$1.75 or 90% of the Company's share price the day before the commencement of each draw down. In accordance with SFAS No. 133 *Implementation Issue A6*, the Company determined the option to sell shares of the Company's common stock does not qualify as a derivative as the notional amount, the sales price of the stock, is variable and therefore undeterminable. In addition, this arrangement does not require a minimum number of shares to be sold and is restricted to a maximum number of shares to be sold.

The Company issued a warrant to the investor to purchase up to 260,000 shares of common stock at an exercise price of \$9.26 which represents a 30% premium over the average of the closing prices of the Company's common stock during the 5 days preceding the signing of the agreement. In connection with the amendment of the CEFF, the warrant was cancelled and replaced with a new warrant for 260,000 shares of common stock at an exercise price of \$4.76. The warrant will become exercisable after the six-month anniversary of the effective date of the agreement and will remain exercisable, subject to certain exceptions, until November 2, 2011. In accordance with EITF Issue No. 00-19, the warrant met all criteria within the guidance providing for the classification of this financial instrument as equity. The fair value of this warrant, totaling \$1.1 million, was determined using the Black-Scholes model using the following assumptions: risk-free interest rates of 4.84%; dividend yield of 0%; expected volatility of 74%; and a term of 5.5 years. The net effect of recording the fair value to equity is zero at December 31, 2007 and 2006.

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**8. Committed Equity Financing Facility (Continued)**

The Company filed a registration statement with the SEC for the resale of the shares of common stock issuable in connection with the CEFF and the shares of common stock underlying the warrant in accordance with a registration rights agreement entered into concurrently with the above agreements. The registration rights agreement maintains penalty and "make-whole" provisions in the event the registration statement does not become effective within an allotted time frame and where the investor may be restricted, due to "black out periods", from trading shares of the Company's common stock purchased pursuant to the CEFF or by the exercise of the warrant. In accordance with SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, and EITF Issue No. 00-19-2, *Accounting for Registration Payment Arrangements*, the Company accounts for these provisions under SFAS No.5, *Accounting for Contingencies*, and will record the fair value of the liability in the event such a penalty is measurable and probable. As of December 31, 2007, an effective registration statement was filed with the SEC and the Company had not utilized this financial instrument.

**9. Stockholders' Equity**

***Common Stock***

In March 2006, the Company raised approximately \$40.0 million in gross proceeds in a registered direct offering involving the sale of approximately 4.9 million shares of common stock at a price of \$8.10 per share. Placement agency fees and other offering expenses were approximately \$2.7 million. These shares were offered pursuant to an effective registration statement that the Company had previously filed with the SEC.

In October 2005, the Company raised gross proceeds of approximately \$41.3 million in a private placement of common stock and the concurrent issuance of warrants for the purchase of common stock. Placement fees and other expenses were approximately \$2.3 million. Under the terms of the financing, the Company sold 7.0 million shares of common stock at \$5.86 per share, the closing bid price for the Company's common stock immediately preceding the entering into of the binding agreement for the transaction.

***Warrants***

Warrants were issued in connection with the Company's CEFF (see Note 8).

In conjunction with the October 2005 private placement offering, the Company issued warrants to purchase approximately 2.5 million shares of its common stock at an exercise price of \$6.74 per share. At the closing of the private placement offering, investors in the financing paid an additional price equal to \$0.125 per each share issuable upon exercise of the warrants which can be exercised until September 30, 2010.

In conjunction with the 2001 Series D Preferred offering, the Company sold warrants to the Series D investors to purchase 3.5 million shares of Series D Preferred at a purchase price of \$0.01 per warrant resulting in proceeds of approximately \$35,000. The stock purchase warrants have an exercise price of \$8.69 per share and can be exercised until the earlier of October 18, 2008, or after the Company's common stock trades on a securities exchange or the Nasdaq Stock Market and the average closing price of such common stock over any consecutive 20-trading day period equals or exceeds \$27.34 (adjusted to reflect subsequent stock dividends, stock splits or recapitalizations). The cash

**METABASIS THERAPEUTICS, INC.**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**9. Stockholders' Equity (Continued)**

exercise of these warrants would result in the issuance of 597,339 shares of the Company's common stock.

In conjunction with the 2000 Series C Preferred offering, the Company sold warrants to the Series C investors to purchase 4.5 million shares of Series C Preferred at a purchase price of \$0.01 per warrant resulting in proceeds of approximately \$45,000. The stock purchase warrants had an exercise price of \$6.08 per share and expired December 31, 2007 with only 7,406 shares issued as a result of exercises during 2007.

***Equity Incentive Plan***

On June 21, 2004, the Company authorized 2,213,995 shares of its common stock for issuance upon exercise of options or restricted stock granted under the Equity Incentive Plan. Approximately 1,000,000, 915,000 and 619,000 shares were added to the Equity Incentive Plan on January 1, 2007, 2006 and 2005, respectively, pursuant to an "evergreen" provision contained in the Equity Incentive Plan. The Equity Incentive Plan provides for the grant of stock options and restricted stock to officers, directors, and employees of, and consultants and advisors to, the Company. Options under the Equity Incentive Plan may be designated as incentive stock options or non-statutory stock options, generally vest over four years and expire ten years from the date of grant. In addition, incentive stock options may not be granted at prices less than 100% of the fair value on the date of grant. The number of vested options available for exercise as of December 31, 2007 and 2006 were approximately 1,483,000 and 834,000, respectively.

There were zero and 9,000 shares of common stock, originally issued pursuant to option exercises, outstanding at December 31, 2007 and 2006, respectively, that were subject to repurchase by the Company.

***Directors' Stock Option Plan***

On June 21, 2004, the Company authorized 300,000 shares of its common stock for issuance upon exercise of options or restricted stock granted under the Directors' Stock Option Plan. On January 1, 2007, 2006 and 2005, 100,000 shares were added to the plan pursuant to an "evergreen" provision contained in the Directors' Stock Option Plan. The Directors' Stock Option Plan provides for the grant of stock options and restricted stock to directors of the Company. Options under the Directors' Stock Option Plan are designated as non-statutory stock options, generally vest from one to two years, and expire ten years from the date of grant. In addition, options granted under the Directors' Stock Option Plan may not be granted at prices less than 100% of the fair value on the date of grant. The number of vested options available for exercise as of December 31, 2007 and 2006 were approximately 213,000 and 188,000, respectively.

***Employee Stock Purchase Plan***

On June 21, 2004, the Company authorized 500,000 shares of its common stock for issuance under the Employee Stock Purchase Plan. Approximately 375,000, 305,000 and 206,000 shares were added to the plan on January 1, 2007, 2006 and 2005, respectively, pursuant to an "evergreen" provision contained in the Employee Stock Purchase Plan. The Employee Stock Purchase Plan provides for all eligible employees to purchase shares of common stock at 85% of the lower of the fair market value on the first day of each two year offering period or any purchase date during such offering period

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 9. Stockholders' Equity (Continued)

(generally held every six months during such period). Employees may authorize the Company to withhold up to 15% of their total compensation during each six-month purchase period, subject to certain limitations to pay for the Employee Stock Purchase Plan shares. The following shares were issued under the Employee Stock Purchase Plan during the year ending December 31:

	Number of Shares Purchased	Weighted Average Price	Total Proceeds
2007	205,941	\$ 2.91	\$ 599,366
2006	198,158	\$ 3.04	602,961
2005	104,551	\$ 2.67	279,369
	<u>508,650</u>		<u>\$ 1,481,696</u>

*Shares Reserved For Future Issuance*

The following shares of common stock were reserved for future issuance at December 31, 2007 (in thousands):

Warrants to purchase shares in conjunction with private placement	2,450,000
Warrants to purchase shares in conjunction with Series D Preferred	597,339
Warrants to purchase shares in conjunction with the CEFF	260,000
Common stock options:	
Granted and outstanding	3,562,466
Reserved for future issuance	1,279,039
Employee stock purchase plan	864,824
	<u>9,013,668</u>

## 10. Income Taxes

On July 13, 2006, the FASB issued FIN No. 48 an interpretation of SFAS No. 109, *Accounting for Income Taxes*, to create a single model to address accounting for uncertainty in tax positions. FIN No. 48 clarifies the accounting for income taxes by prescribing a minimum recognition threshold in which a tax position be reached before financial statement recognition. FIN No. 48 also provides guidance on derecognition, measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition. FIN No. 48 is effective for fiscal years beginning after December 15, 2006. The Company adopted FIN No. 48 as of January 1, 2007, as required. The adoption of this guidance did not have a material impact on the Company's results of operations or financial position.

At December 31, 2007, the Company had net deferred tax assets of \$11.7 million. These deferred tax assets are primarily comprised of capitalized research and development costs, deferred revenue, deferred rent and stock-based compensation expense. Due to uncertainties surrounding the Company's ability to generate future taxable income to realize these assets, a full valuation has been established to offset the net deferred tax asset. Additionally, the future utilization of the Company's net operating loss ("NOL") and research and development credit ("R&D Credit") carryforwards to offset future taxable income may be subject to an annual limitation as a result of ownership changes that may have occurred previously or that could occur in the future pursuant to IRC Sections 382 and 383. The Company has

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 10. Income Taxes (Continued)

not yet determined whether such an ownership change has occurred. Until an analysis has been completed, the Company has removed the deferred tax assets associated with these carryforwards from its deferred tax asset schedule and has recorded a corresponding decrease to their valuation allowance. When a Section 382 and 383 analysis is completed, the Company plans to update its unrecognized tax benefits under FIN No. 48. The Company has not completed a study to assess whether an ownership change has occurred or whether there have been multiple ownership changes since the Company's formation due to the complexity and cost associated with such a study, and the fact that there may be additional such ownership changes in the future.

Due to the existence of the valuation allowance, future changes in our unrecognized tax benefits will not impact the Company's effective tax rate. The Company is subject to taxation in the U.S. and state jurisdictions. The Company's tax years for 1999 and forward are subject to examination by the U.S. and California tax authorities due to the carryforward of unutilized net operating losses and research and development credits. The Company is currently not under examination by any taxing authorities.

The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. During the twelve months ended December 31, 2007, the Company did not recognize any interest or penalties. Upon adoption of FIN No. 48 on January 1, 2007, the Company did not record any interest or penalties.

Significant components of the Company's deferred tax assets as of December 31, 2007 and 2006 are shown below (in thousands). A valuation allowance of \$11.7 million and \$46.6 million has been established at December 31, 2007 and 2006 respectively, to offset the net deferred tax assets as realization is uncertain.

	December 31,	
	2007	2006
Deferred tax assets:		
Capitalized R&D	\$ 8,654	\$
Deferred revenue	538	1,964
Net operating loss carryforwards		37,406
Research and development credits		5,890
Other, net	2,498	1,403
Total deferred tax assets	11,690	46,663
Deferred tax liabilities:		
Deferred compensation	9	(28)
Valuation allowance for deferred tax assets	(11,699)	(46,635)
Net deferred assets	\$	\$

At December 31, 2007, the Company had federal and California NOL carryforwards of \$110.2 million and \$108.1 million, respectively, which begin to expire in 2019 and 2009, respectively, unless previously utilized, and federal and state R&D Credit carryforwards of \$5.0 million and \$4.3 million, respectively. The federal R&D Credit carryforwards begin to expire in 2019 and the state R&D Credit carryforwards do not expire.



## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

**10. Income Taxes (Continued)**

Pursuant to IRC Sections 382 and 383, use of our net operating loss and credit carry forwards may be limited because of a cumulative change in ownership of more than 50%, which may have occurred or may occur in the future. As of December 31, 2007 the Company has not yet completed a Section 382 or 383 analysis of the deferred tax assets for net operating loss and research and development credit carryovers. As such, these amounts and the offsetting valuation allowance have been removed from the Company's deferred tax assets as noted above.

The provision for income taxes on earnings subject to income taxes differs from the statutory Federal rate at December 31, 2007, 2006 and 2005, due to the following (in thousands):

	2007	2006	2005
Federal income taxes at 35%	\$ (14,630)	\$ (11,644)	\$ (8,253)
State income tax, net of Federal benefit	(2,156)	(1,751)	(1,268)
Tax effect on non-deductible expenses and credits	1,195	(305)	(556)
Increase in valuation allowance(1)	15,591	13,700	10,077
	\$	\$	\$

(1)

The removal of the valuation allowance related to the net operating losses and research and development credits is not included in the increase in the valuation allowance. See above for explanation.

**11. Employee Benefit Plan**

The Company established a defined contribution employee retirement plan (the "401(k) Plan") effective January 1, 1999, conforming to Section 401(k) of the IRC. All full-time employees (as defined in the 401(k) Plan) may elect to have a portion of their salary deducted and contributed to the 401(k) Plan up to the maximum allowable limitations of the IRC, which may be matched by the Company in an amount determined by the Board of Directors. In 2007, the Board of Directors authorized a matching contribution up to 25% of employee contributions, subject to certain limitations, totaling \$255,000 for the twelve months ended December 31, 2007. Plan administration costs totaled \$6,875, \$6,850 and \$6,500 for the years ended December 31, 2007, 2006 and 2005, respectively.

**12. Related Party Transactions**

In June 1999, the Company entered into an agreement with Sicom called the Master Agreement under which, among other things, the Company agreed to pay Sicom a 2% royalty on sales of products that are covered by a claim of an issued, valid and unexpired patent or a patent application, that was in existence or based on any discoveries or inventions in existence as of the Company's restructuring, and 10% on any royalties the Company receives from licenses of these patents, patent applications, discoveries or inventions. The Company also agreed to pay Sicom a 1% royalty on sales of products that use, contain or are based on the Company's trade secrets, know-how and other proprietary rights in existence as of the Company's restructuring that are not covered by the 2% royalty, and 5% of any royalties the Company receives from licenses of these trade secrets, know-how and other proprietary rights that are not covered by the 10% royalty. Some of the Company's current product candidates and drug compounds from our research programs may be subject to these royalty provisions. The

## METABASIS THERAPEUTICS, INC.

## NOTES TO FINANCIAL STATEMENTS (Continued)

## 12. Related Party Transactions (Continued)

determination of any potential obligations will be assessed at the time such products are commercially available.

## 13. Subsequent Events

On March 14, 2008, the Company entered into a Loan and Security Agreement with Oxford Finance Corporation ("Oxford"), pursuant to which Oxford provided the Company with a term loan of up to \$5,000,000. In connection with the Loan and Security Agreement, the Company issued to Oxford a warrant to purchase up to 154,639 shares of the Company's common stock at an exercise price of \$1.94 per share.

## 14. Summary of Quarterly Financial Data (Unaudited)

The following is a summary of the quarterly results of operations for the years ended December 31, 2007 and 2006 (in thousands, except for net loss per share data):

	Quarters Ended				Year Ended Dec 31(1)
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	
<b>2007</b>					
Revenue	\$ 3,426	\$ 1,604	\$ 2,653	\$ 1,336	\$ 9,019
Research and development	9,506	11,065	10,866	9,478	40,915
General and administrative	3,264	3,186	2,834	3,158	12,442
Total operating expenses	12,770	14,251	13,700	12,636	53,357
Net loss attributable to common stockholders	(8,505)	(11,935)	(10,480)	(10,879)	(41,799)
Basic and diluted net loss per share:	\$ (0.28)	\$ (0.40)	\$ (0.34)	\$ (0.35)	\$ (1.37)
<b>2006</b>					
Revenue	\$ 973	\$ 942	\$ 1,055	\$ 1,416	\$ 4,386
Research and development(2)	6,706	6,738	7,614	8,887	29,945
General and administrative(2)	2,333	2,807	2,880	3,230	11,250
Total operating expenses	9,039	9,545	10,494	12,117	41,195
Net loss attributable to common stockholders	(7,466)	(7,645)	(8,410)	(9,747)	(33,268)
Basic and diluted net loss per share:	\$ (0.30)	\$ (0.25)	\$ (0.28)	\$ (0.32)	\$ (1.15)

(1) The sum of the four quarters may not necessarily agree to the year total due to rounding within a quarter.

(2) Approximately \$.08, \$.08, \$.1, and \$.09 related to occupancy costs were reclassified from research and development to general and administrative for the first, second, third and fourth quarters of 2006, respectively.

QuickLinks

TABLE OF CONTENTS

PART I

Item 1. Business

Item 1A. Risk Factors

Risks Related to our Business

Risks Related to our Finances and Capital Requirements

Risks Related to our Intellectual Property

Risks Related to Other Legal Matters

Item 1B. Unresolved Staff Comments

Item 2. Properties

Item 3. Legal Proceedings

Item 4. Submission of Matters to a Vote of Security Holders

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Item 6. Selected Financial Data

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Item 8. Financial Statements and Supplementary Data

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures

Item 9A. Controls and Procedures

Report of Independent Registered Public Accounting Firm

Item 9B. Other Information

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Item 11. Executive Compensation

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Item 13. Certain Relationships and Related Transactions, and Director Independence

Item 14. Principal Accountant Fees and Services

PART IV

Item 15. Exhibits and Financial Statement Schedules

SIGNATURES

METABASIS THERAPEUTICS, INC. INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

METABASIS THERAPEUTICS, INC. BALANCE SHEETS (in thousands, except par value data)

METABASIS THERAPEUTICS, INC. STATEMENTS OF OPERATIONS (in thousands, except per share data)

METABASIS THERAPEUTICS, INC. STATEMENTS OF STOCKHOLDERS' EQUITY (in thousands)

METABASIS THERAPEUTICS, INC. STATEMENTS OF CASH FLOWS (in thousands)

METABASIS THERAPEUTICS, INC. NOTES TO FINANCIAL STATEMENTS