Progenics
Pharmaceuticals, Inc.

Promise For The Future

2003 Annual Report

Progenics
Pharmaceuticals, Inc.

We are a biopharmaceutical company focusing on the development and commercialization of innovative therapeutic products to treat the unmet medical needs of patients with debilitating conditions and life-threatening diseases.

Product Development Pipeline

Paul J. Maddon, M.D., Ph.D.
Chairman and CEO

Ronald J. Prentki
President

Dear Shareholders:

The last 12 months have been a time of significant accomplishment for Progenics Pharmaceuticals. We reported positive results from a phase 2 clinical study of our investigational drug methylnaltrexone (MNTX) in treating opioid-induced constipation in patients with advanced medical illness (AMI). We then advanced MNTX, our lead product candidate, into two pivotal phase 3 clinical trials that are designed to form the basis for our first New Drug Application (NDA) to the U.S. Food and Drug Administration (FDA). We also initiated phase 2 clinical studies of MNTX in post-operative ileus and phase 1 studies of a new oral form of MNTX that we plan to test in patients who are treated with opioids for chronic pain and, as a result, suffer from constipation.

We increased the financial strength of the Company by raising $49.8 million in a public stock offering. We were awarded a total of $35.0 million in government grants and contracts to support our research and development programs, including a five-year $28.6 million contract from the National Institutes of Health to develop a novel vaccine to prevent the spread of HIV infection.

In our research laboratories, we solved a long-standing riddle: We discovered how the hepatitis C virus (HCV) infects the liver. By finding the first liver-specific receptor for HCV, a major cause of liver disease, we have identified a potential new target for HCV therapy. To that end, we are developing specific inhibitors, including monoclonal antibodies, that block the virus from binding to sites in the liver.

To help support our research, development and business goals, we added 28 new employees last year, bringing our headcount to 130. We strengthened our senior management team, including the appointment of a Vice President of Business Development and Licensing and the internal promotion of a Vice President of Manufacturing.

To manufacture additional quantities of vaccine and antibody product for use in clinical trials, we are building a new biologics manufacturing facility, which we expect will be operational in 2005. This new facility will provide us with an additional source of

clinical supplies of investigational drugs for our HIV and prostate cancer programs. To accommodate our growing Company, we leased additional laboratory, manufacturing and office space.

The Year Ahead

Methylnaltrexone: The next 12 months will be a time of intense activity at Progenics as we move closer to our goal of commercializing MNTX, our first pharmaceutical product for the treatment of opioid-induced bowel dysfunction.

We are conducting multiple clinical trials with MNTX, employing three dosing forms — subcutaneous, intravenous and oral — that match the specific medical needs of the nearly 10 million patients in the U.S. who suffer from debilitating opioid-induced side effects in hospices, hospitals and at home.

We anticipate completion of enrollment and data from two pivotal phase 3 clinical studies of MNTX in advanced medical illness, and if the outcomes are favorable, incorporating these results into an NDA for submission to the FDA.

In addition, we expect phase 2 clinical trial results from a study of MNTX in post-operative ileus and phase 1 clinical results from two oral forms of MNTX.

To help us develop and commercialize MNTX to its fullest extent in these broad markets, we are currently in discussions with several potential pharmaceutical partners.

HIV Infection: For patients with advanced HIV infection, we believe that our novel viral-entry inhibitors, PRO 542 and PRO 140, represent the next generation of HIV therapy. Unlike conventional HIV drugs that target infected cells and slow viral replication, these compounds are designed to block HIV from entering immune system cells — thus interrupting the cycle of infection, viral replication and cell death. In the coming year, we expect to complete additional clinical studies of these investigational drugs that will help us evaluate their ability to decrease viral load in patients who are failing anti-retroviral combination therapy.

Our phase 2 clinical program includes studies that employ repeated dosing of PRO 542. In these studies, we are using an entry assay to determine if we can identify certain patients who harbor sensitive viruses and may be most responsive to PRO 542 therapy.

PRO 140, an inhibitor of HIV binding to target cells, is scheduled to begin phase 1 clinical studies this year. The goal of the phase 1 program is to determine the tolerability, pharmacokinetics and immunogenicity of PRO 140 in healthy volunteers.

We are conducting research on our ProVax vaccine candidate, which we believe may be useful in preventing HIV infection or as a therapeutic treatment for HIV-positive individuals.

Prostate Cancer: Through our joint venture, PSMA Development Company LLC, we are pursuing immunotherapies for prostate cancer, including two therapeutic vaccines to prevent disease recurrence and monoclonal antibodies to treat metastatic disease. Prostate-specific membrane antigen (PSMA) is a promising cancer marker that is abundantly expressed on the surface of prostate cancer cells as well as cells in the newly formed blood vessels of other solid tumors.

We are conducting a phase 1 clinical trial of a therapeutic recombinant protein vaccine which is designed to stimulate a patient's immune system to recognize and destroy prostate cancer cells. The vaccine combines the PSMA cancer antigen with an immune stimulant to induce an immune response against these malignant cells.

A PSMA viral-vector vaccine and a monoclonal antibody directed against PSMA-expressing cancer cells are completing preclinical testing.

During the past year, many new individuals and groups have invested in Progenics Pharmaceuticals, dozens of new employees joined our Company, and hundreds of patients and clinicians participated in our clinical trials. We thank all of you for supporting our vision of building a biopharmaceutical company that successfully develops innovative drugs for patients with serious medical disorders. The Progenics team has worked diligently to create value for our shareholders, and we have begun to see rewards. We promise to continue those efforts in the coming year, as we move closer to commercializing our first pharmaceutical product.

Sincerely,

Paul J. Maddon, M.D., Ph.D.
Chairman and CEO

Ronald J. Prentki
President

April 2004

Methylnaltrexone (MNTX)

Treating the serious side effects of opioids

- **In advanced medical illness**
- **After surgery**
- **In chronic pain**

Symptom Management and Supportive Care

Opioid-induced side effects: Although narcotics are the mainstay in controlling severe pain, many patients experience side effects from these opioid medications that can be nearly as distressing as the pain itself. Opioids are widely used for analgesia after surgery, traumatic injury, or to lessen suffering in terminal illness. To relieve pain, medications such as morphine, codeine, and other opioid derivatives interact with receptors in the brain and spinal cord. However, opioids also react with receptors outside the central nervous system, resulting in intractable constipation, delayed gastric emptying, severe skin itch and urinary retention. Current treatment options for opioid-induced constipation include laxatives and stool softeners, which are only minimally effective. As a result, patients may have to stop opioid therapy and endure pain in order to obtain relief from bowel dysfunction and other side effects.

Methylnaltrexone: Our investigational drug, MNTX, is designed to block the effects of opioids outside the central nervous system, including opioids made in the body as well as opioid pain medications. MNTX binds to receptors in the gastrointestinal tract to relieve opioid-induced constipation and is also present in the bloodstream, potentially mitigating opioid-related side effects elsewhere in the body, including urinary retention and skin itch. In clinical trials to date, patients receiving MNTX in addition to their opioid pain medications have experienced a reversal of many of the side effects related to opioids with no decline in pain relief.

Advanced Medical Illness (AMI): Phase 3 clinical studies

Our phase 3 program is evaluating the safety of subcutaneous MNTX and its ability to relieve opioid-induced constipation in patients with AMI, including those suffering from cancer, AIDS and heart disease. Approximately 1.2 million deaths occur each year in the U.S. from AMI. Many of these patients receive opioids for pain and experience severe constipation, fewer than three laxations per week, despite the use of aggressive laxative therapy.

In June 2003, we reported positive results from a multi-center phase 2 clinical study of MNTX in AMI. Bowel movements occurred in approximately 60% of constipated patients. We observed that MNTX had significant activity in relieving constipation;

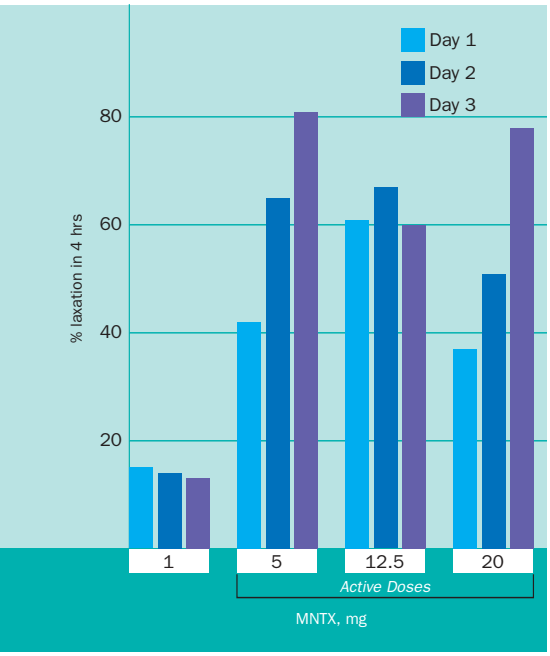

Constipation is a
Serious Medical
Problem

median time to laxation was approximately one hour after receiving active doses of MNTX. In addition, the 24-hour laxation response rate for individuals receiving active doses averaged 66% on treatment days as opposed to only 4% on non-treatment days. Patients receiving MNTX in an open-label extension of this study experienced undiminished drug activity for the one-month duration of the study. Moreover, the median frequency of laxations increased from two per week pre-treatment to four-to-six bowel movements per week while on treatment with MNTX.

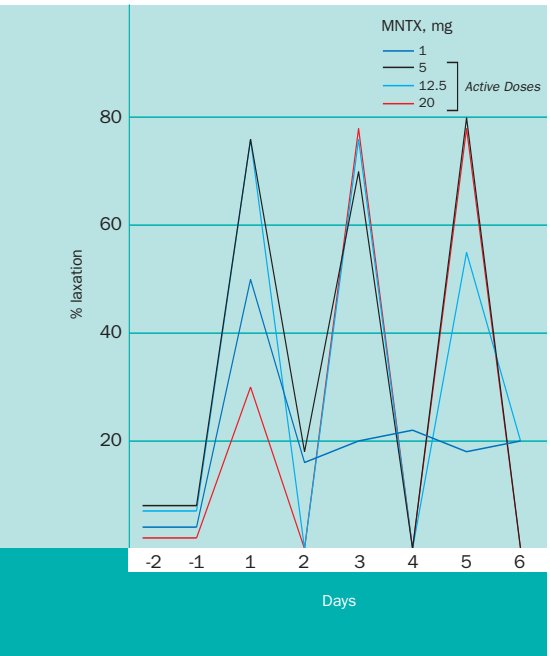
In the phase 2 clinical trial, there were no serious adverse events related to MNTX, and the most common side effects were transient flatulence and mild abdominal cramping, which are necessary physiological prerequisites to a bowel movement in patients with significant constipation. As in previous trials, no evidence of opioid withdrawal was observed and there was no increase in analgesic requirements.

These results supported our entry into two pivotal phase 3 clinical trials of MNTX that are designed to form the basis for a New Drug Application to the U.S. Food and Drug Administration to obtain marketing approval of MNTX, which could occur as early as 2005.

Phase 2: Mean laxation response 8% vs. 60% for active doses



Phase 2: Laxation on treatment days 66%; on non-treatment days 4%



Post-operative Ileus: Phase 2 clinical studies

A phase 2 clinical study of intravenous MNTX for the treatment of post-operative ileus, a serious paralysis of the gastrointestinal tract, is currently nearing completion. Of the 40 million surgeries that occur in the U.S. each year, more than four-million patients are at high risk for developing ileus. Ileus is believed to be caused by a release of naturally occurring opioids during surgery and is exacerbated by opioid pain medications. Ileus is a major factor in increasing hospital stay, as patients are typically not discharged until bowel and urinary functions are restored.

In a phase 2 study in healthy volunteers completed last fall, MNTX reversed opioid-induced urinary retention. Inability to urinate is particularly prevalent in men after surgery and may require the insertion of a catheter into the bladder to permit patients to void. Importantly, MNTX was able to restore bladder function without reversing the central nervous system effects of the opioid pain killer.

The goal of our ongoing phase 2 program is to determine whether MNTX treatment can restore bowel function and reduce the severity or duration of ileus compared to placebo in patients who have undergone colectomies, the removal of all or part of the colon.

Chronic Pain: Phase 1 clinical studies

We are also developing oral forms of MNTX for the treatment of constipation in patients receiving opioids for chronic pain. Of the 25 million Americans with chronic pain, approximately four-million patients must take opioids on a daily basis, and many suffer intractable constipation and other side effects. Four published clinical studies have investigated the use of oral MNTX and have demonstrated its activity, including relief of opioid-induced constipation. We are conducting phase 1 studies of MNTX in healthy volunteers to characterize further the tolerability and pharmacokinetics of the drug.

We are working to make MNTX

Our First Commercial Product

Next-generation HIV therapies: Viral-entry inhibition

- **New mechanism of action**
- **Potentially fewer side effects**
- **Lower likelihood of developing drug resistance**

Acquired Immune Deficiency Syndrome

Destruction of the human immune system: Infection with HIV, human immunodeficiency virus, causes a slowly progressing deterioration of the immune system resulting in Acquired Immune Deficiency Syndrome, or AIDS. The devastating effects of HIV are largely due to the infection and subsequent multiplication of the virus in certain immune system cells, resulting in their dysfunction and destruction.

Since the late 1990s, many HIV patients have benefited from combination therapy of protease and reverse transcriptase inhibitors. While such therapy slows the progression of disease, it is not a cure, and increasingly patients have begun to develop resistance to these drugs.

Viral-entry inhibitors: Our viral-entry inhibitors represent a new class of drugs for treating HIV infection. Viral infection occurs when HIV binds to a host cell, enters the cell, and by commandeering the cell's own reproductive machinery, creates thousands of copies of itself within the host cell. Nearly all currently available HIV medicines inhibit viral replication only after a cell has become infected. Our drugs are designed to either neutralize the virus directly or to block it from entering its target cell.

PRO 542 is an antibody-like molecule that is designed to neutralize HIV by preventing it from attaching to the CD4 receptor on the surface of immune system cells, thus blocking the first step in the viral entry process. In a phase 2 clinical trial of treatment-experienced patients, a single dose of PRO 542 reduced viral concentrations in the blood by 60% to 80% on average. The viral-load reductions were sustained throughout the six-week follow-up period, and no serious side effects were observed.

We are conducting a multi-dose open-label phase 2 clinical study of PRO 542 in patients with advanced disease who are no longer responding to currently available antiretroviral medications. We are using an entry assay to determine if we can identify certain patients who harbor sensitive viruses and may be most responsive to PRO 542 therapy. The primary goal of the study is to determine if repeat dosing can induce robust and sustained viral load reductions in this setting.

PRO 140 is a humanized monoclonal antibody that inhibits the ability of HIV to infect cells by blocking virus-cell binding. We have designed PRO 140 to target a distinct site on the HIV co-receptor CCR5 without interfering with the normal function of CCR5. We plan to begin phase 1 clinical trials in 2004. In a well-recognized animal model of HIV infection, repeat dosing with PRO 140 yielded a sustained reduction in viral loads to non-detectable levels.

ProVax: In September 2003, we were awarded a five-year $28.6 million contract by the National Institutes of Health to develop a prophylactic vaccine to prevent HIV from becoming established in uninfected individuals exposed to the virus.

40 million people worldwide were living with HIV and nearly three-million deaths were attributed to AIDS last year.

Progenics Pharmaceuticals Team 2004

Immunotherapies targeting prostate-specific membrane antigen

- **Two vaccines to prevent disease recurrence**
- **Monoclonal antibodies to target metastatic disease**

Limitations of prostate cancer therapy: Therapies for prostate cancer include radical prostectomy, in which the prostate gland is surgically removed, radiation, hormone therapies and chemotherapy. A significant drawback to these conventional treatments is that occult or residual disease can lead to relapse, because it is difficult or impossible to eliminate all cancer cells. Prostate cancer is the most common form of cancer affecting U.S. males. The American Cancer Society estimated that 28,900 men died from prostate cancer and 220,900 new cases were diagnosed during 2003.

PSMA: Through PSMA Development Company LLC, our joint venture with Cytogen Corporation, we are engaged in a research and development program for vaccine and antibody immunotherapeutics based on PSMA or prostate-specific membrane antigen. PSMA is a protein that is abundantly expressed on the surface of prostate cancer cells as well as cells in the newly formed blood vessels of most other solid tumors, making it an attractive target for immunotherapy.

We are conducting a phase 1 clinical trial of a therapeutic recombinant protein vaccine that is designed to stimulate a patient's immune system to recognize and destroy prostate cancer cells. The vaccine is being tested in patients whose disease has recurred after primary treatment. The vaccine combines the PSMA protein with an immune stimulant to induce an antibody-based immune response against prostate cancer cells.

We are also developing a genetically engineered virus designed to deliver the PSMA gene to immune system cells in order to generate potent and specific immune responses to prostate cancer cells. In preclinical studies, this viral-vector prostate cancer vaccine generated a dual response against PSMA, yielding both antibodies and killer T cells, the two principal mechanisms used by the immune system to eliminate abnormal cells. Phase 1 clinical trials are planned for 2004.

We have developed novel, fully human monoclonal antibodies which bind to PSMA. In an animal model of human prostate cancer, a toxin-conjugated form of these antibodies substantially reduced tumor growth. These antibodies demonstrated the ability to selectively deliver a lethal payload to cells that express PSMA on their surface. We are in the process of selecting the optimal toxin and radioactive payloads in parallel with producing clinical-grade antibodies in order to begin phase 1 clinical trials, expected in 2005.

Corporate Information

Senior Management

Paul J. Maddon, M.D., Ph.D.
Chairman, Chief Executive Officer and Chief Science Officer

Ronald J. Prentki
President and Director

Robert J. Israel, M.D.
Senior Vice President
Medical Affairs

Robert A. McKinney, C.P.A.
Vice President
Finance & Operations and Treasurer

Philip K. Yachmetz
Vice President
General Counsel and Secretary

Lynn M. Bodarky
Vice President
Business Development and Licensing

Thomas A. Boyd, Ph.D.
Vice President
Preclinical Development and Project Management

Richard W. Krawiec, Ph.D.
Vice President
Investor Relations and Corporate Communications

William C. Olson, Ph.D.
Vice President
Research and Development

Nitya G. Ray, Ph.D.
Vice President
Manufacturing

Board of Directors

Paul J. Maddon, M.D., Ph.D.
Chairman

Ronald J. Prentki
President

Charles A. Baker
Chairman, President and Chief Executive Officer (Retired)
The Liposome Company, Inc.

Kurt W. Briner
President and
Chief Executive Officer (Retired)
Sanofi Pharma, SA

Mark F. Dalton
President
Tudor Investment Corporation

Stephen P. Goff, Ph.D.
Higgins Professor of Biochemistry, Department of Biochemistry and Molecular Biophysics, and Investigator, Howard Hughes Medical Institute, Columbia University, New York

Paul F. Jacobson
Private Investor

David A. Scheinberg, M.D., Ph.D.
Chairman, Molecular Pharmacology and Chemistry Program,
Sloan-Kettering Institute, New York

Scientific Advisory Board Cancer

Alan N. Houghton, M.D. (Chairman)
Chairman, Immunology Program, Virginia and Daniel K. Ludwig Clinical Chair; Chief, Clinical Immunology Service, Sloan-Kettering and Professor of Medicine, Weill Graduate School of Medical Sciences of Cornell University, New York

David B. Agus, M.D.
Research Director, Cedars-Sinai Prostate Cancer Center;
Assistant Professor of Medicine and Molecular and Medical Pharmacology, University of California, Los Angeles

Angus G. Dalgleish, M.D., Ph.D.
Professor of Oncology and Chairman of Oncology, Gastroenterology, Endocrinology and Metabolism, St. George's Hospital Medical School and Director of the Cancer Vaccine Institute, London

Samuel J. Danishefsky, Ph.D.
Kettering Chair and Director, Laboratory for Bioorganic Chemistry, Sloan-Kettering Institute and Professor of Chemistry, Columbia University, New York

Warren D.W. Heston, Ph.D.
Director, Research Program in Prostate Cancer; Staff, Dept. of Cancer Biology, Lerner Research Institute; Staff, Urological Institute, Cleveland Clinic Hospital, Cleveland Clinic Foundation

Philip O. Livingston, M.D.
Member, Sloan-Kettering and Professor of Medicine,
Weill Graduate School of Medical Sciences of Cornell University, New York

John Mendelsohn, M.D.
President, The University of Texas, MD Anderson Cancer Center, Houston

David A. Scheinberg, M.D., Ph.D.
Chairman, Molecular Pharmacology and Chemistry Program,
Sloan-Kettering Institute, New York

Scientific Advisory Board Virology

Stephen P. Goff, Ph.D. (Chairman)
Higgins Professor of Biochemistry, Department of Biochemistry and Molecular Biophysics, and Investigator, Howard Hughes Medical Institute, Columbia University, New York

Dennis R. Burton, Ph.D.
Professor, The Scripps Research Institute, La Jolla, CA

Lawrence A. Chasin, Ph.D.
Professor of Biological Sciences, Columbia University, New York

Leonard Chess, M.D.
Professor of Medicine and Pathology, Director of Rheumatology, Columbia University, College of Physicians and Surgeons, New York

Wayne A. Hendrickson, Ph.D.
University Professor in Biochemistry and Molecular Biophysics, Columbia University and Investigator, Howard Hughes Medical Institute, New York

Sherie L. Morrison, Ph.D.
Professor and Department Chair of Microbiology, Immunology and Molecular Genetics, University of California, Los Angeles

Robin A. Weiss, Ph.D.
Professor of Viral Oncology, Department of Immunology and Molecular Pathology,
University College, London

Stockholders' Information

Securities and Related Information

The Company's Common Stock is traded on The Nasdaq National Market under the symbol PGNX. As of April 9, 2004 the Company had approximately 141 stockholders of record.

The following table sets forth the reported high and low sales prices for the Company's Common Stock as reported by Nasdaq for the periods indicated:

	High	Low
2002		
First Quarter	7.75	3.82
Second Quarter	15.80	4.38
Third Quarter	20.35	13.09
Fourth Quarter	20.84	15.75
2004		
First Quarter	23.45	17.60

Company Information

For general and financial information about the Company, please contact:

Progenics Pharmaceuticals, Inc.
777 Old Saw Mill River Road
Tarrytown, New York 10591
Phone: 914.789.2800
Fax: 914.789.2817

E-mail: info@progenics.com
Website: www.progenics.com

Annual Meeting of Stockholders

The annual meeting will be held at 10:00 am on Tuesday, May 25, 2004.

Landmark at Eastview
Westchester Room
777 Old Saw Mill River Road
Tarrytown, New York, 10591

A formal notice of the meeting with a proxy statement will be mailed to each stockholder.

Transfer Agent

American Stock Transfer
and Trust Company
40 Wall Street
New York, New York 10005

Independent Accountants

PricewaterhouseCoopers LLP
1301 Avenue of the Americas
New York, New York 10019

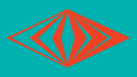
Legal Counsel

Dewey Ballantine LLP
1301 Avenue of the Americas
New York, New York 10019

Design:
Bloch Graulich Whelan Inc. / NY

Safe Harbor Statement

This annual report contains forward-looking statements that involve risks and uncertainties. Any statements contained herein that are not statements of historical fact may be forward-looking statements. When the Company uses the words 'anticipates,' 'plans,' 'expects' and similar expressions they are identifying forward-looking statements. Such forward-looking statements involve risks and uncertainties which may cause the Company's actual results, performance or achievements to be materially different from those expressed or implied by forward-looking statements. Such factors include, among others, the uncertainties associated with product development, the risk that clinical trials will not commence when or proceed as planned, the risks and uncertainties associated with dependence upon the actions of the Company's corporate, academic and other collaborators and of government regulatory agencies, the risk that our licenses to intellectual property may be terminated due to our failure to have satisfied performance milestones, the risk that products that appear promising in early clinical trials do not demonstrate efficacy in larger-scale clinical trials, the risk that we may not be able to manufacture commercial quantities of our products, the uncertainty of future profitability and other factors set forth more fully in the Company's Form 10-K for the fiscal year ended December 31, 2003 and other periodic filings with the Securities and Exchange Commission to which investors are referred for further information. In particular, the Company cannot assure you that any of its programs will result in a commercial product. The Company does not have a policy of updating or revising forward-looking statements, and thus it should not be assumed that the Company's silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.



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Fax: 914-789-2817

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