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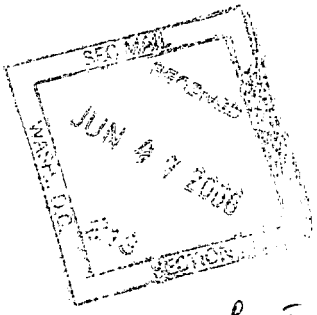
Myogen Inc.



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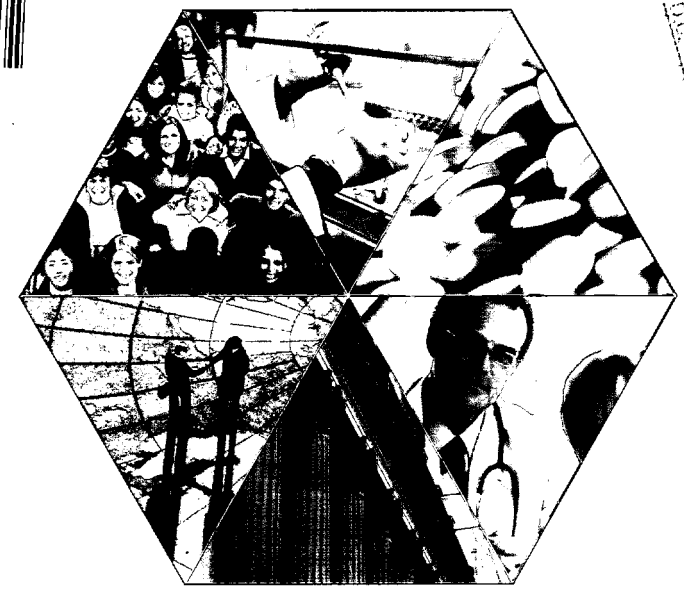
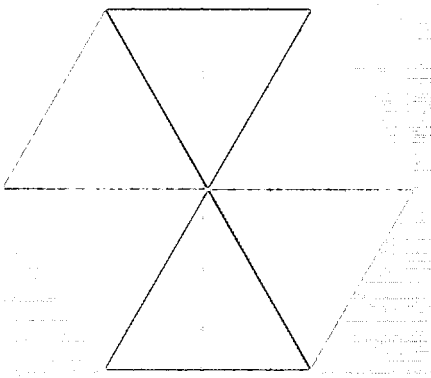


Putting the Pieces Together

◦ discovery ◦ development ◦ commercialization ◦ stability ◦ partnerships ◦ people

B

2005 Annual Report



Myogen: Focused on Cardiovascular Disease

Cardiovascular disease is the second leading cause of death and disability in the United States. Despite improved treatments and increased awareness of preventive measures, approximately 71 million people in the United States currently suffer from one or more types of cardiovascular disease.

The term cardiovascular disease is used to describe a continuum of clinical conditions resulting primarily from three underlying chronic diseases: atherosclerosis, hypertension and diabetes. These underlying diseases cause permanent damage to the heart, blood vessels and kidneys, leading to progressively debilitating clinical conditions such as chronic heart failure, hypertension, chronic renal disease, heart attack and stroke.

A Business Strategy Delivering Results

- Leverage our understanding of heart disease at the molecular level in the discovery and development of disease-modifying therapeutics
- Selectively in-license or acquire compounds in clinical development for which we have a unique ability to add value
- Build commercial capabilities to capitalize on our clinical development success, commercial partnerships and licensing opportunities

To Our Shareholders

J. William Freytag, Ph.D.
President and Chief Executive Officer

2005 was an incredibly exciting and rewarding year for Myogen and all of its constituents: patients, physicians, shareholders and employees. The vision of this company when it was founded ten years ago remains our focus today: to improve the treatment of cardiovascular disease.

Since the beginning of 2005, we have achieved successful results on many fronts. The positive convergence of many aspects of our business continues to strengthen Myogen's foundation as a growing biotechnology company.

Our **discovery** program is a world-class effort focused on discovering and developing disease-modifying drugs for chronic heart failure and related disorders. We continue to make progress, including achieving several milestones in our collaboration agreement with Novartis.

Our clinical **development** capabilities and expertise rival that of pharmaceutical companies many times our size. In 2005, we completed:

ESSENTIAL I & II—two international Phase 3 heart failure studies conducted at 211 investigative sites in 16 countries involving nearly 2,000 patients.

ARIES-1 & ARIES-2—two international Phase 3 pulmonary arterial hypertension studies conducted at 86 investigative sites in 22 countries involving nearly 400 patients.

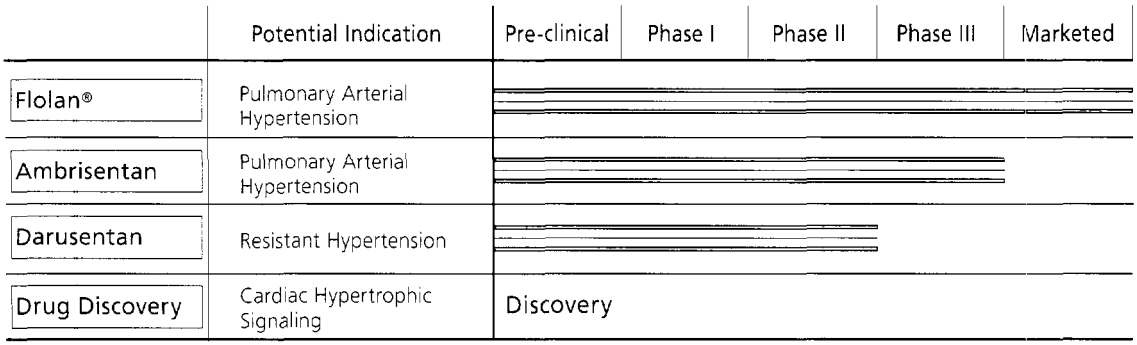
DAR-201—a Phase 2 resistant hypertension trial conducted in the United States. This was the first trial ever conducted in this disease indication.

We significantly accelerated the development of Myogen's **commercialization** capabilities with the acquisition of U.S. distribution and marketing rights for Flolan® and the licensing of ex-U.S. commercial rights for ambrisentan. We are now in the process of rapidly expanding our marketing and selling infrastructure to support Flolan commercial operations and in anticipation of the potential launch of ambrisentan. This effort is being led by Dr. Robert Caspari, who recently joined Myogen as Senior Vice President of Commercial Operations and Medical Affairs.

Our success with the development of ambrisentan and darusentan continues to be recognized and supported by the investment community, allowing us to maintain the financial **stability** of Myogen. In September 2005, we completed an equity offering which raised gross proceeds of $125 million to support the further development of ambrisentan, darusentan and our discovery research program.

We continue to expand our global reach and overall opportunities through **partnerships**. In 2003, we entered into a partnership with Novartis around our discovery research program. Recently, we entered into a global partnership

Myogen Product Pipeline



with GlaxoSmithKline focused on pulmonary arterial hypertension. By partnering, we are able to accelerate our growth and leverage the larger resources of global pharmaceutical companies.

The success and growth of Myogen is made possible by the many **people** who support the company: patients, clinical investigators, advisors, investors, employees and vendors. Only by bringing together the talents and efforts of these many groups has Myogen been able to achieve the goals already met and new goals we hope to meet in the future.

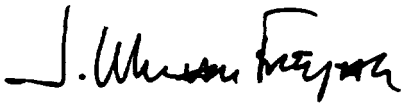
By putting these pieces together, Myogen is continuing its development into a fully integrated biopharmaceutical company focused on improving the treatment of cardiovascular disease.

While we are pleased with our successes of last year, not everything went as we would have hoped. The ESSENTIAL trials evaluating enoximone in chronic heart failure produced results which indicated that enoximone, while generally well tolerated at the doses tested, did not provide a therapeutic benefit to patients. Consequently, we terminated further development of enoximone.

Despite this setback, the financial markets viewed the positive clinical results achieved with ambrisentan and darusentan favorably, as reflected in the significant increase in our market valuation in 2005. Myogen's common stock was one of the best performing biotechnology stocks listed on Nasdaq in 2005.

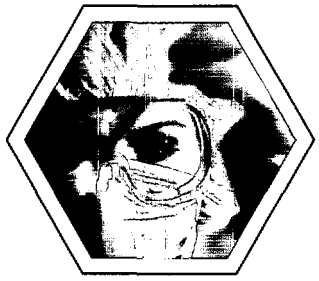
As pleased as we are with our success last year, we recognize there is much work and more opportunities ahead. In 2006, we will be launching commercial operations around the marketing and selling of Flolan in the United States. This will involve fielding a PAH focused sales force that must be hired and trained. We will be initiating the darusentan Phase 3 clinical development program, a complex international effort. We will also be completing the New Drug Application for ambrisentan and submitting it to the FDA. We look forward to these challenges and hope 2006 is as rewarding as 2005. No one can foretell the future, but at this point we feel the Myogen team is putting all the necessary pieces together to achieve success.

Thank you for your continued support.



J. William Freytag, Ph.D.
President and Chief Executive Officer
April 15, 2006

Ambrisentan



What Happened Ambrisentan is an endothelin receptor antagonist (ERA) Myogen is developing as an oral therapy for patients with pulmonary arterial hypertension (PAH). PAH is a progressive, debilitating and life-threatening disease that afflicts approximately 200,000 people worldwide. Ambrisentan was granted orphan drug designation for the treatment of PAH in both the United States and the European Union. In December 2005, we reported positive results for ARIES-2, one of two pivotal Phase 3 trials evaluating ambrisentan in PAH.

What's Happening In 2006, ambrisentan is continuing to deliver positive clinical data. In February 2006, we announced positive results for an open-label study of ambrisentan in patients with PAH who have previously failed other ERA therapies. In April 2006, we reported positive results for ARIES-1, the second of two pivotal Phase 3 trials evaluating ambrisentan in PAH. In March, Myogen entered into a global PAH partnership with GlaxoSmithKline (see page 6). Earlier this year, ambrisentan was granted Fast Track Designation for the treatment of PAH by the FDA. Fast Track programs are designed to facilitate the development and expedite the review of new drugs that are intended to treat serious or life-threatening conditions and that demonstrate the potential to address unmet medical needs.

Looking Ahead The positive results of the ARIES trials, along with the other clinical work of ambrisentan, will form the foundation of a New Drug Application (NDA) for ambrisentan. We have already begun work on the NDA and expect to submit it to the FDA in the fourth quarter of 2006. To date, the results of our clinical studies of ambrisentan have indicated that ambrisentan may provide some or all of the following benefits to PAH patients:

- Improvement in exercise capacity that is significant, early in onset and durable
- Significant improvement in time to clinical worsening
- Comparable benefit in exercise capacity in patients with WHO functional class II and class III symptoms
- An apparent survival benefit when compared with predicted survival based on the National Institutes of Health Registry formula
- Effectiveness with once-daily dosing and the potential for dose flexibility
- Low incidence and severity of liver function test abnormalities at all doses tested
- Potential utility in resuming ERA treatment in patients who have discontinued treatment with the alternative ERAs, bosentan or sitaxsentan, or both, due to liver function abnormalities
- No apparent drug-drug interactions with warfarin-type anticoagulants or sildenafil, a PDE-5 inhibitor

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Based on clinical results to date and the properties of ambrisentan, we believe that, if ambrisentan is ultimately approved, it may offer significant clinical benefit to PAH patients not provided by other PAH therapies.

Global PAH Partnership with GlaxoSmithKline

GlaxoSmithKline and Myogen recently entered into a two-part collaboration in PAH. Myogen licensed commercialization rights for ambrisentan to GlaxoSmithKline in all territories outside of the United States where Myogen retains exclusive rights. Simultaneously, GlaxoSmithKline and Myogen entered into a distribution agreement whereby Myogen will be responsible for the marketing and distribution of GSK's Flolan (epoprostenol sodium) a life-saving medicine for many patients, used in the treatment of PAH, in the United States. Myogen will build a commercial support team and field sales organization beginning in the second quarter of 2006 dedicated to the marketing and distribution of Flolan in the United States.

We believe GlaxoSmithKline, one of the premier pharmaceutical companies in the world, is the ideal ex-U.S. partner for ambrisentan. GSK has been a pioneer in the treatment of PAH and, through their decade-long experience with Flolan, have a deep understanding of international regulatory and competitive PAH market environments. Meanwhile, the Flolan distribution agreement is expected to underwrite the development of our own commercial organization and marketing and field selling expertise in PAH, well in advance of the potential launch of ambrisentan. We believe this strategic development will accelerate our understanding of customer needs, reimbursement opportunities and market dynamics in general.

FLOLAN for injection (epoprostenol sodium)

gsk GlaxoSmithKline

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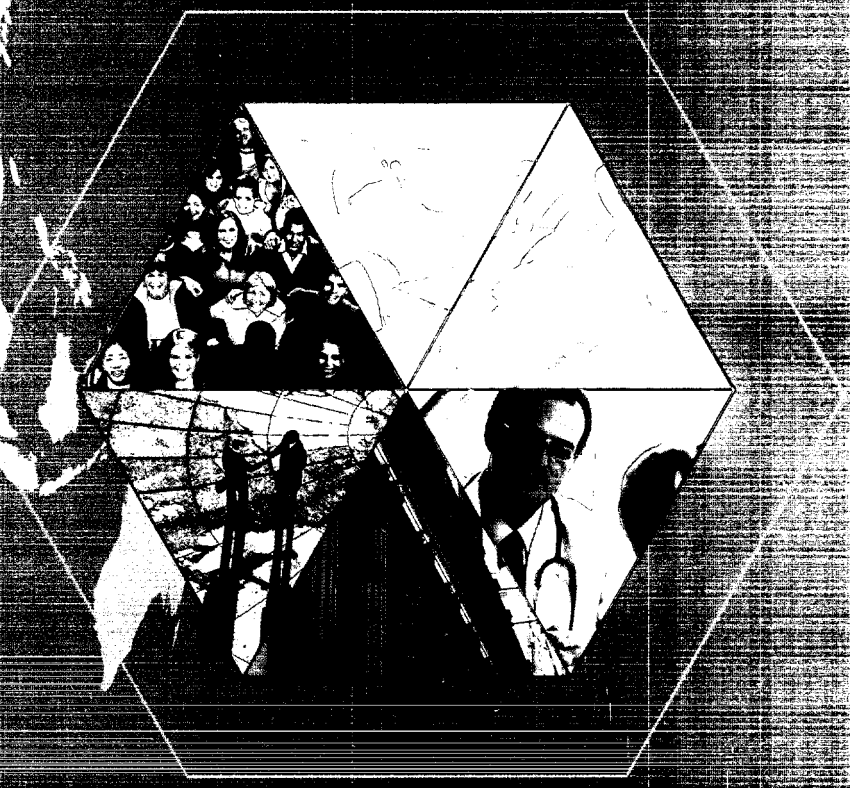

Myogen's innovative approach to collaboration on ambrisentan has provided both companies with a potentially rewarding opportunity by giving GlaxoSmithKline access to a product candidate in an indication we know very well. At the same time, Myogen will be able to establish a commercial presence in the PAH market in the United States.

Darusentan

1 **What Happened** Darusentan is an oral endothelin receptor antagonist Myogen is developing as a therapy for patients with resistant hypertension. Hypertension affects approximately 65 million individuals in the United States and approximately one billion worldwide. In the U.S., approximately 60% of these individuals are diagnosed and prescribed anti-hypertensive therapy. Nonetheless, an estimated 10% to 30% of treated patients remain at risk for serious cardiovascular and renal complications because they are unable to achieve blood pressures within the recommended ranges despite taking multiple anti-hypertensive medications on a daily basis. In July 2004, we initiated a Phase 2b clinical trial to evaluate the safety and efficacy of darusentan in patients with resistant hypertension. In August 2005, we reported positive top line results of the trial which demonstrated that darusentan provided significant reductions in systolic and diastolic blood pressure and was generally well tolerated.

2 **What's Happening** Based on the results of the Phase 2b trial and discussions with the FDA, we plan to proceed with Phase 3 clinical evaluation of darusentan for the treatment of resistant hypertension. We expect to initiate the first Phase 3 trial, DAR-311, in the second quarter of 2006. Later in 2006, we expect to initiate the second Phase 3 trial, DAR-312. The primary objective for both of these trials is to determine the safety and efficacy of darusentan in reducing systolic blood pressure in approximately 1,100 patients with resistant hypertension.

3 **Looking Ahead** We believe there is a significant need for a therapeutic agent that, when used in combination with currently available medications, is capable of lowering blood pressure in patients with resistant hypertension. In addition, we believe that often this need cannot be adequately addressed simply by improving compliance or optimizing dosages of existing anti-hypertensive medications, but instead requires innovative new drugs with new mechanisms of action. As an endothelin receptor antagonist, darusentan acts through a different mechanism of action than existing anti-hypertensive therapies.

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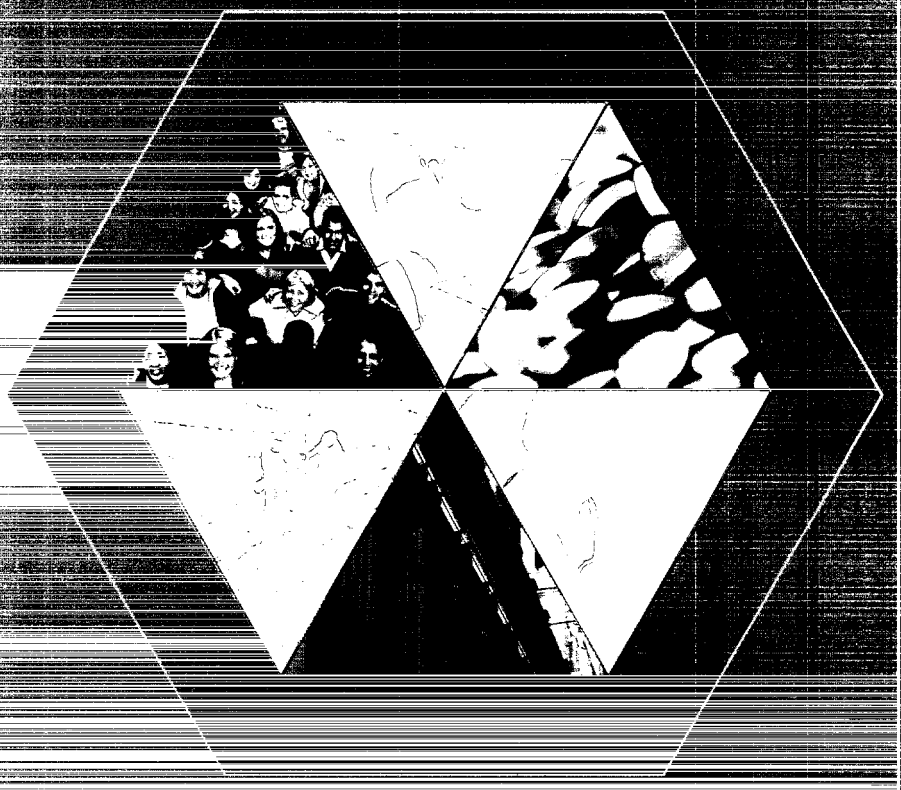

To the best of our knowledge, no other anti-hypertensive agent has ever demonstrated efficacy in resistant hypertension in a controlled clinical trial. The darusentan clinical data to date supports our optimism that darusentan has the potential to improve the treatment options available to physicians trying to manage this complex disorder.

Research and Development

What Happened Our drug discovery programs are scientifically based on the discoveries of three prominent academic scientists who are recognized experts in the fields of cardiac hypertrophy and heart failure: Dr. Michael Bristow, professor of cardiology at the University of Colorado Health Sciences Center; Dr. Leslie Leinwand, chairperson of molecular, cellular and developmental biology at the University of Colorado; and Dr. Eric Olson, chairman of molecular biology at the University of Texas Southwestern Medical Center. Through sponsored research programs with these investigators and licensing arrangements with their respective institutions, we have gained intellectual property rights to a series of cardiac molecular targets and signaling systems that we believe are of critical importance in cardiac muscle disease. We have built a drug discovery research team and infrastructure, which includes a compound library and high-throughput screening robotics. To date, we have advanced several targets through high-throughput screening and have identified a series of promising lead structures. In 2003, we established a collaboration agreement with Novartis to advance our drug discovery work.

What's Happening Many patients with chronic heart failure develop an abnormal enlargement of the heart called cardiac hypertrophy. The causes and effects of cardiac hypertrophy have been extensively documented, but the underlying molecular mechanisms that link the molecular signals to cell changes, or cardiac signaling pathways, remain poorly understood. We are currently working to understand these cardiac signaling pathways. Our scientists and academic collaborators are focused on identifying the set of fetal genes that are reactivated in chronic heart failure, understanding the consequences of their reactivation and discovering the means to control their expression.

Looking Ahead An essential component of our drug discovery strategy is to target the elements of gene expression regulation in the heart that are common to known cardiac remodeling and heart failure pathways. In addition, we have discovered what we believe to be an important pathological role for Class I HDACs in pathological cardiac remodeling, and we have patented the use of HDAC inhibitors for treatment and prevention of cardiac disease. We have developed a series of high-throughput screening assays based on these discoveries and have identified several lead compounds. These compounds are being studied in our laboratories to examine safety and efficacy, and optimization of lead structures is underway within our collaboration with Novartis.

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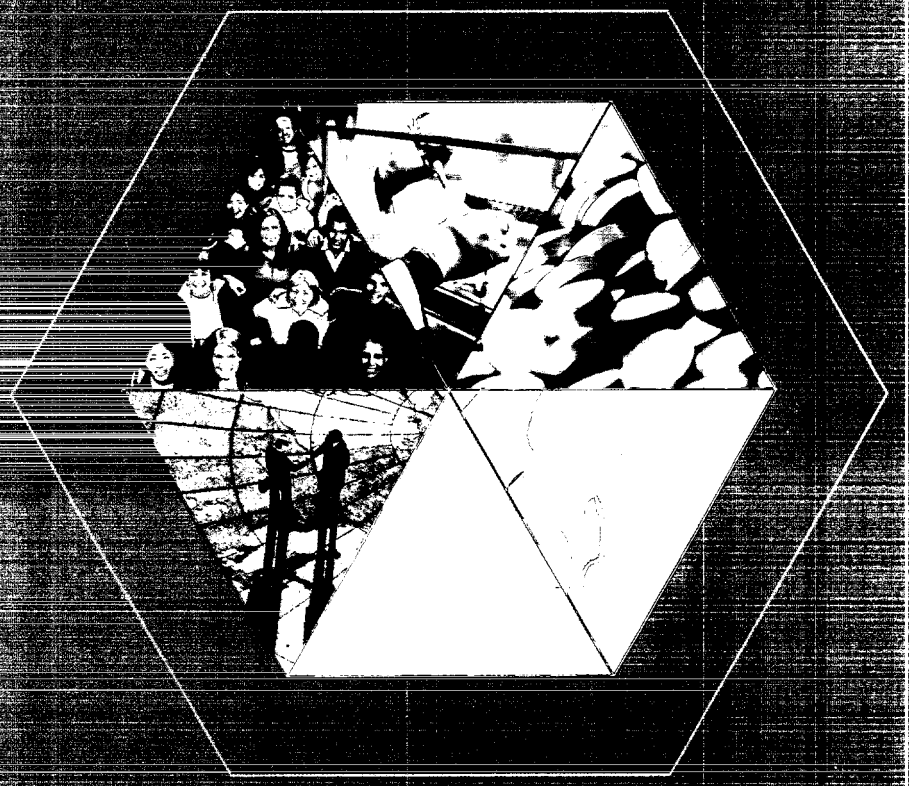

The goal of our target and drug discovery research is to discover and develop disease-modifying drugs for chronic heart failure and related disorders.

Management Team

Left to Right:
Robert Caspari, Andrew Dickinson, J. William Freytag, Michael Gerber, Richard Gorczynski, Joseph Turner

J. William Freytag, Ph.D.
Chairman, President
and Chief Executive Officer

Robert Caspari, M.D.
Senior Vice President,
Commercial Operations and
Medical Affairs

Michael Gerber, M.D.
Senior Vice President,
Clinical Development & Regulatory Affairs

Richard Gorczynski, Ph.D.
Senior Vice President,
Research & Development

Joseph Turner
Senior Vice President,
Finance & Administration
and Chief Financial Officer

Andrew Dickinson
Vice President,
Corporate Development and
General Counsel

Corporate Information

Board of Directors

J. William Freytag, Ph.D.
Chairman, President and Chief Executive Officer

Michael R. Bristow, M.D., Ph.D.
Founder

Kirk K. Calhoun
Chairman—Audit Committee

Judith A. Hemberger

Jerry T. Jackson
Chairman—Nominating and Corporate Governance Committee

Daniel J. Mitchell
Sequel Venture Partners

Arnold L. Oronsky, Ph.D.
InterWest Partners

Michael J. Valentino
Adams Respiratory Therapeutics

Independent Auditors

Ernst & Young LLP
Denver, Colorado

General Counsel

Cooley Godward, LLP
Broomfield, Colorado

Corporate Headquarters

7575 W. 103rd Avenue
Suite 102
Westminster, Colorado 80021
303-410-6666

Transfer Agent and Registrar

Communications concerning stock transfer requirements, lost certificates and change of address should be directed to Computershare Trust Company, Inc., 350 Indiana Street, Suite 800, Golden, Colorado 80401, 303-262-0600, www.computershare.com.

Stockholder Inquiries

Inquiries from our stockholders and potential investors regarding our Company are always welcome. Please direct your requests for information to:
Derek Cole, Director, Investor Relations
Myogen, Inc.
7575 W. 103rd Avenue
Suite 102
Westminster, Colorado 80021 USA
303-410-6666
derek.cole@myogen.com

Website

www.myogen.com

Stock Listing

Myogen, Inc. common stock is listed on the Nasdaq National Market under the ticker symbol MYOG.

Safe Harbor Statement

This annual report contains forward-looking statements that involve significant risks and uncertainties, including the statements relating to reporting of preliminary results from the Company's clinical trials, submission of a New Drug Application for ambrisentan and initiation of phase 3 trials of darusentan. Actual results could differ materially from those projected and the Company cautions investors not to place undue reliance on the forward-looking statements contained in this report.

Among other things, the Company's results may be affected by its effectiveness at managing its financial resources, its ability to successfully develop and market its current products, difficulties or delays in its clinical trials, difficulties or delays in manufacturing its products, and regulatory developments involving current and future products. Delays in clinical trials, whether caused by competition, adverse events, patient enrollment rates, regulatory issues or other factors, could adversely affect the Company's financial position and prospects. Results from earlier clinical trials are not necessarily predictive of future clinical results. Preliminary results may not be confirmed upon full analysis of the detailed results of a trial. If the Company's product candidates do not meet the safety or efficacy endpoints in clinical evaluations, they will not receive regulatory approval and the Company will not be able to market them. Even if the Company's product candidates meet safety and efficacy endpoints, regulatory authorities may not approve them, or the Company may face post-approval problems that require the withdrawal of its product from the market. If the Company is unable to raise additional capital when required or on acceptable terms, it may have to significantly delay, scale back or discontinue one or more of its drug development or discovery research programs. Myogen may not ever have any products that generate significant revenue.

Additional risks and uncertainties relating to the Company and its business can be found in the "Risk Factors" section of Myogen's Form 10-K for the year ended December 31, 2005 and Myogen's periodic reports on Form 10-Q and Form 8-K. Myogen is providing the information contained in this report as of the date of the report and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.

Myogen®

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