

Going Beyond

MOMENTA

2006 Annual Report



Beyond

limits



Momenta Pharmaceuticals is a dynamic biotechnology company that specializes in the detailed structural analysis of complex mixture drugs. Momenta applies its technology to the development of generic versions of complex drug products, as well as to the discovery and development of novel drugs. We believe that our proprietary technology, innovative business model and outstanding team enable us to transcend the conventional boundaries of other biotechnology companies. Together, we are creating a company that we believe is truly beyond compare.

Beyond convention

leveraging our innovative strategy and business model

Momenta's unique business model provides us with multiple avenues for commercial success. Our technology provides an approach to develop novel drugs that address unmet clinical needs through greater understanding of the biological roles of complex biomolecules. However, our technology also has a powerful and unconventional application—the pursuit of selected high-value complex generic opportunities. We believe our technology enables us to create generic versions of complex drugs for which the technical challenges of establishing “sameness,” as required by FDA regulations, are very high. By developing complex generics, we access an abbreviated FDA approval pathway and can potentially achieve commercialization faster than traditional biotechnology firms. In doing so, we increase opportunities for near-term commercial revenue that can help fund our novel drug discovery and development activities and generate returns for shareholders.

Beyond the laboratory

focusing on commercial applications

Momenta was founded based on technology developed at the Massachusetts Institute of Technology for the characterization of complex mixture drugs. Rather than focus on pure research, our priority has been to pursue commercial applications of our technology—both generic versions of complex drugs and novel therapeutic compounds. We anticipate the results of the FDA review of the marketing application for our lead product candidate, M-Enoxaparin, will have the potential to provide a major validation of our approach. M-Enoxaparin is a generic version of Lovenox[®], a low-molecular-weight heparin (LMWH) used to prevent and treat deep vein thrombosis (DVT) and in the treatment of acute coronary syndromes (ACS). Generic Lovenox[®] is a large and growing market opportunity. In 2006, sales of Lovenox[®] were \$3.2 billion worldwide, including \$2.0 billion in the U.S. Due to the chemical complexity of Lovenox[®], we believe our technology provides us a competitive advantage in the development and commercialization of a therapeutically equivalent version.



Beyond sugars

*extending our technology to the analysis
and engineering of other biomolecules*

Momenta's technology was developed originally for the characterization, or chemical analysis, of complex sugars such as heparins. Our early objectives were to develop generic versions of complex sugar-based drugs, as well as to elucidate the roles that complex sugars play in biology and disease in order to develop novel therapeutics. More recently, we began adapting our technology to the characterization of other complex mixtures beyond sugars, including peptides and glycoproteins. One example of our efforts is M356, a product candidate designed to be a generic version of Copaxone®, a polypeptide drug with worldwide sales approaching \$1.5 billion. A longer-term goal is to create follow-on biologics—comparable versions of glycoprotein drugs. A primary goal of ours in 2007 is to support legislation that creates an abbreviated approval pathway for follow-on biologics. We believe a core element of an abbreviated pathway should be the utilization of characterization technologies to demonstrate equivalence, using tools developed by companies such as Momenta and others. Follow-on biologics represent a large potential market opportunity, as 2006 sales of the top ten branded glycoprotein products in the U.S. exceeded \$20 billion. Two of our programs, M178 and M249, are targeted to be follow-on versions of major marketed glycoprotein drugs.





Beyond generics

discovering and developing novel therapeutics

Momenta's first novel drug candidate is M118, a LMWH currently in Phase I clinical studies. We designed M118 to deliver what we believe will be an improved therapeutic profile compared with currently marketed products to support the treatment of patients diagnosed with ACS. Our preclinical studies have demonstrated that M118 possesses properties of reversibility, monitorability and potential for improved efficacy—key attributes for interventional and pharmacological treatment of ACS. Additionally, our disease biology program is exploring the many functions of sugars in biology and disease in order to discover and develop new classes of sugar-based therapeutics. Because sugars have significant roles in and influence over the biological processes related to cancer, the initial focus of our discovery work is in oncology.



Beyond

building the right team to achieve our goals

Many companies believe that great science is enough to guarantee success. At Momenta, we believe that technology is just the beginning. In the end, it is our people that truly set us apart. To deliver on our goals, we must go beyond innovative technology and build a smart, highly motivated team of scientists and business professionals who can capitalize on the extraordinary potential of our technology. We put strong emphasis on creativity, teamwork and operational execution. Our agenda is ambitious — we can only deliver on this agenda through the talents and energies of our team. Within our 160+ person organization, we have built significant capabilities in analytics and characterization, as well as manufacturing. We believe that our investments in these and other key capabilities have been crucial to our ability to capitalize on our innovative technology. In 2007, just over five years after commencing our operations, we could potentially gain FDA marketing approval for our first product. At Momenta, we are working to create a company beyond compare.

the science

Dear Shareholder,

My decision to join Momenta in August 2006 was quite simple. I recognized that Momenta is a company with rare attributes. As evidence, in our short history we have managed to rapidly leverage our technology into a marketing application under review at the FDA. We have a robust complex generic pipeline in place and, even more exciting, our novel drug pipeline is beginning to emerge. Beyond that, the broad potential of Momenta's technology attracted me — a technology platform that can be applied across the full span of drug discovery and development and challenges the limits of what many previously thought was possible. We chose the theme of "Going Beyond" for our 2006 Annual Report because we believe it captures the exciting potential of our company to realize future product opportunities.

Momenta's technology provides new scientific insights into the roles of complex sugars and other biomolecules in basic biology. This, in turn, provides a new lens into the pathways of disease that can enable the discovery of novel therapeutics. Momenta's technology is able to determine the chemical and structural basis of complex mixtures to a degree that we believe was previously unattainable. This detailed characterization yields the potential to create both complex generics, as well as novel drugs.

When I arrived at Momenta, I was pleased to find a world-class team in place. However, we faced a challenging dilemma: how to deploy our limited resources among our many attractive development opportunities. We made hard decisions to prioritize our programs to gain us better focus on delivering on our highest value opportunities. Operationally, our priority is on execution, including establishing the business systems to keep pace with the rapid growth of the company. I am extremely pleased with how the organization has responded to these initiatives.

During 2006, Momenta entered into a second, broader collaboration with Sandoz/Novartis to build on our opportunities and capabilities in complex generics and follow-on biologics. This deal was transformational for us, as it validated our technology and broadened our pipeline. Novartis's \$75 million equity investment in Momenta, coupled with the expertise that Sandoz contributes on our joint project teams, enables us to work on a broad portfolio of generics and follow-on products.

Our lead product candidate, M-Enoxaparin, is under FDA review, and we look forward to the possibility of seeing our first product revenues. The program to advance M356, a generic version of the polypeptide drug Copaxone®, is well underway and we are working on two follow-on candidates in our glycoprotein program. With Sandoz, we have also begun an effort to pursue opportunities for complex generics and follow-on biologics in the European Union.


Like many biotechnology companies, Momenta is interested in the spirited debate on Capitol Hill relating to follow-on biologics legislation. As a science-based company, we believe that the advancement of science is a positive catalyst for change and progress. We support the dialogue among the important constituencies and are working to educate the appropriate legislative and regulatory bodies so that proposed legislation will foster continued innovation. We believe an abbreviated pathway can lower the costs of expensive medications and expand access to innovative therapies to those who are in most need.

During 2006, we entered our lead novel drug candidate, M118, into clinical trials. M118 is a novel anticoagulant we designed to target ACS, a condition affecting more than 1.5 million people in the U.S. each year. M118 is an example of how we can effectively apply the technology used in our complex generic programs to engineer and develop novel therapeutics. We look forward to advancing M118 into Phase II clinical studies during 2007. Additionally, our disease biology team is now targeting the discovery and development of novel compounds by unlocking the therapeutic potential of heparin molecules in oncology.

As we continue through 2007 and beyond, our key task is to effectively choose where to invest to best leverage our technology. In addition to working to bring our near-term opportunities to fruition, we are focusing on making the correct choices necessary to ensure a sustainable product pipeline. We can pursue the promise of our technology in many directions, but history has demonstrated that companies that fail to make decisive choices to focus their efforts often fail to create long-term value. Our management team is committed to making these critical decisions.

I am very proud to have the opportunity to lead Momenta. As a young company, we are refining the priorities around which we will grow our business. Our challenge, as leaders of this organization and stewards of this technology, is to remain true to our scientific ideals and unlock the potential of our science for the benefit of patients worldwide. I look forward to an exciting year and to sharing our continued progress with you.

Sincerely,



Craig A. Wheeler
President and Chief Executive Officer



Craig A. Wheeler
President and Chief Executive Officer



Momena Executive Officers

Richard P. Shea, Vice President and Chief Financial Officer

Lisa Carron Shmerling, Esq., Vice President, Legal Affairs

John E. Bishop, Ph.D., Senior Vice President, Pharmaceutical Sciences

Craig A. Wheeler, President and Chief Executive Officer

Steven B. Brugger, Senior Vice President, Strategic Business Operations

Ganesh Venkataraman, Ph.D., Senior Vice President, Research

Product Pipeline

Drug Candidate	Program Objectives	Today	Beyond Today
Generics			
M-Enoxaparin*	Generic version of Lovenox®	ANDA filed August 2005	FDA decision expected in 2007
M356*	Generic version of Copaxone®	In development	Future regulatory filing
M178*	Follow-on version of a marketed protein drug	In development	Future regulatory filing
M249*	Follow-on version of a marketed protein drug	In development	Future regulatory filing
Beyond Generics			
MI 18	Next-generation anticoagulant engineered for ACS	IND filed July 2006; Phase I clinical trials commenced October 2006	Expect to commence Phase II studies in second half 2007
Oncology	Novel sugar-based anti-cancer compound	In discovery	Identify early development candidates

*In collaboration with Sandoz, the generics business of Novartis.

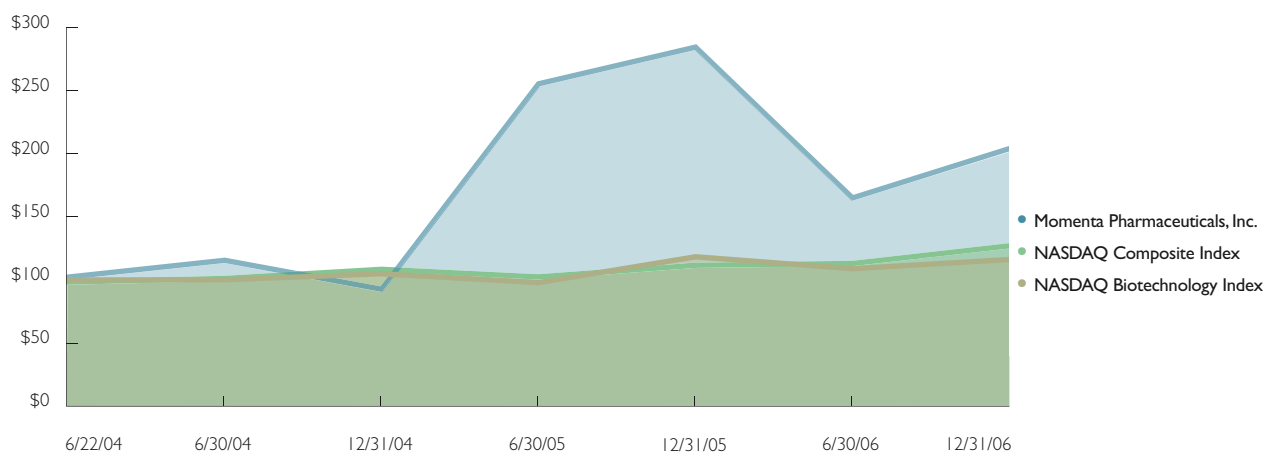


Stockholder Return

The comparative stock performance graph below compares the cumulative total stockholder return (assuming reinvestment of dividends, if any) from investing \$100 on June 22, 2004, the date on which our common stock was first publicly traded, through December 31, 2006, in each of (i) our common stock, (ii) The NASDAQ Composite Index and (iii) The NASDAQ Biotechnology Index (capitalization weighted).

Comparison of 30-Month Cumulative Total Returns⁽¹⁾⁽²⁾

Among Momenta Pharmaceuticals, Inc., The NASDAQ Composite Index and The NASDAQ Biotechnology Index



	Base period ⁽²⁾	6/30/04	12/31/04	6/30/05	12/31/05	6/30/06	12/31/06
Momenta Pharmaceuticals, Inc.	100.00	113.32	90.40	253.14	282.20	162.74	201.41
NASDAQ Composite Index	100.00	102.86	110.10	104.09	113.33	114.73	128.87
NASDAQ Biotechnology Index	100.00	100.20	104.93	97.92	118.41	108.95	116.55

⁽¹⁾ Fiscal year ending December 31.

⁽²⁾ The base period assumes \$100 invested on June 22, 2004 in our common stock and \$100 invested on May 31, 2004 in each of The NASDAQ Composite Index and the NASDAQ Biotechnology Index including reinvestment of dividends. Other periods are as of the last trading day of the applicable quarter.

Statements contained or incorporated by reference in this Annual Report that are not based on historical facts are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Exchange Act. These forward-looking statements regarding future events and our future results are based on current expectations, estimates, forecasts and projections and the beliefs and assumptions of our management. Forward-looking statements may be identified by the use of forward-looking terminology such as "may," "believe," "could," "will," "expect," "should," "estimate," "anticipate," "would," "continue" or similar terms, variations of such terms or the negative of those terms. We cannot assure investors that our expectations and assumptions will prove to have been correct. Important factors could cause our actual results to differ materially from those indicated or implied by forward-looking statements. Such factors that could cause or contribute to such differences include those factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2006 under the section "Risk Factors," as well as other documents that may be filed by us from time to time with the Securities and Exchange Commission. We undertake no intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

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Investor Information

Corporate Information

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Executive Team

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Chief Executive Officer

John E. Bishop, Ph.D.
Senior Vice President,
Pharmaceutical Sciences

Margaret Blout
Director, Human Resources

Steven B. Brugger
Senior Vice President,
Strategic Business Operations

Barbara J. Rosengren
Vice President, Strategic
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Richard P. Shea
Vice President and
Chief Financial Officer

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Vice President, Legal Affairs

Ganesh Venkataraman, Ph.D.
Senior Vice President, Research

Susan K. Whoriskey, Ph.D.
Vice President, Intellectual Property

Board of Directors

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Senior Principal, Atlas Venture

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Cardinal Partners LP

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MIT Professor and
Momenta Co-Founder

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Former EVP/Head of Research,
Merck & Co.

Craig A. Wheeler
President and
Chief Executive Officer,
Momenta Pharmaceuticals, Inc.

Stock Listing

Momenta is traded on the
NASDAQ Global Market
under the symbol MNTA. As
of March 1, 2007, there were
approximately 58 holders of
record of our common stock,
which does not include stock-
holders whose common stock
is held in street name.

Annual Meeting

The 2007 Annual Meeting of
Stockholders will be held on
Wednesday, June 13, 2007 at
8:30 a.m. at the offices of Wilmer
Cutler Pickering Hale and Dorr LLP,
60 State Street, Boston, MA 02109.

Stockholder Inquiries

Questions regarding stock transfer requirements, lost certificates and changes of address should be directed to the transfer agent as listed. Other stockholder or investor inquiries, including requests for our filings with the U.S. Securities and Exchange Commission, should be directed to Investor Relations at our address or phone number. SEC filings are available on our website at: www.momentapharma.com



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