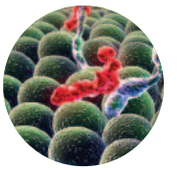
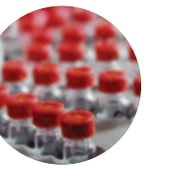
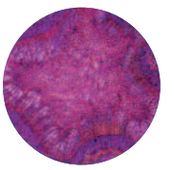
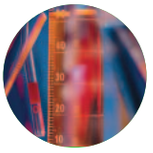
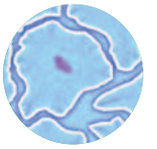
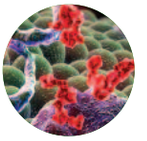
MOMENTA

Momenta is applying **scientific breakthroughs** in the analysis and engineering of **complex sugars** to the discovery, development and commercialization of **therapeutic drugs**.

2004 ANNUAL REPORT

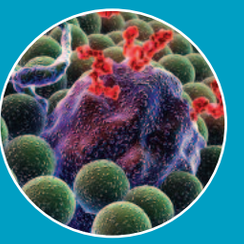
MARKET OPPORTUNITY

$3 billion
Estimated market for heparin drugs

$20 billion
Sales of 10 top glycosylated proteins

Up to 50%
of protein mass can be composed of sugar

$60 billion
Estimated therapeutic protein market by 2010



100%
of cells are coated with sugars

Momenta characterization can detect sugars present at **0.1%**

$81 million
raised in public and private financing

Over 100
patents and applications

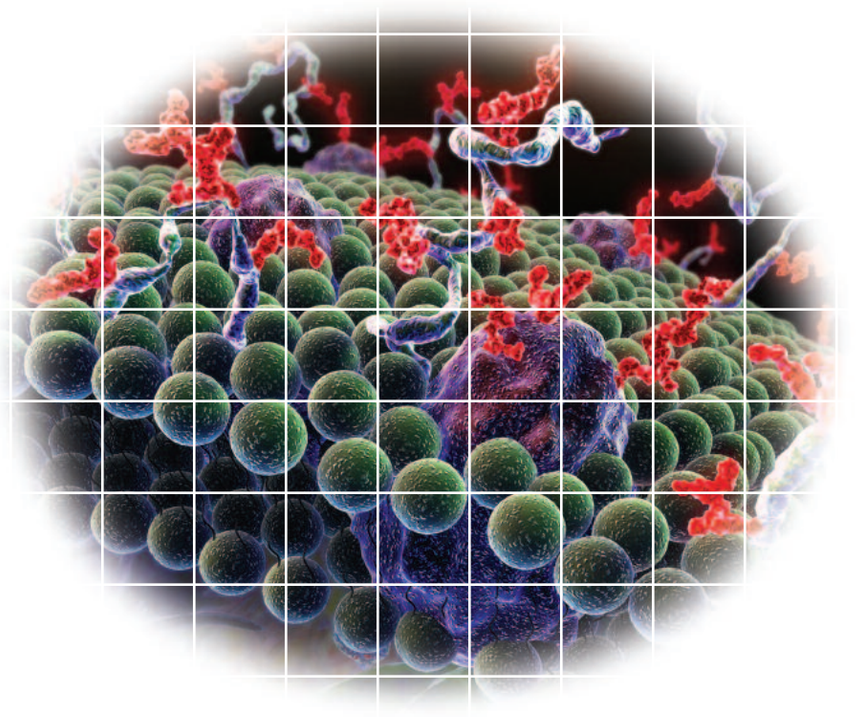
SUGARS: SWEET OPPORTUNITIES

Sugars are one of the least understood or appreciated biomolecules in the human body. Sugars are found in abundance throughout the body, but understanding their structure and role in biology remains a challenge. Where others see a challenge, we see an opportunity.

While great medical advances have come as a result of the sequencing of DNA and proteins, progress in developing a deeper understanding of complex sugars has been comparatively slow. Due to their structural complexity, sugars are much more difficult to characterize, or sequence into their components, than DNA or proteins. As a result, there have been few breakthroughs in the study of sugars – until now.

Momenta Pharmaceuticals has developed a comprehensive, proprietary technology that thoroughly characterizes complex sugars. This technology enables Momenta to elucidate the roles that complex sugars play in fundamental biological processes and in pathways of disease. More importantly, this technology holds great promise for the development of sugar-based therapeutics, an area of drug development that has not been fully exploited to date.

Momenta is building a top-tier biotechnology company based on undisputed leadership in the application of sugars to breakthrough therapeutics. Our goal is to leverage our superior analytic capabilities for characterizing complex sugars to produce novel, improved, and generic drugs aimed at addressing unmet needs across a range of critical diseases, and in turn revolutionize medicine by unlocking the science of sugars.



SUGARS: FUNDAMENTAL TO HUMAN BIOLOGY

Sugars are extremely diverse. They can range from the simple sucrose found in table sugar, to the complex sugars, or carbohydrates, found on and between virtually every cell and protein in the human body. Some sugars are relatively simple homogeneous structures; however, most complex sugars exist as heterogeneous mixtures or three dimensional branched structures attached to other biomolecules such as proteins.

Science has only begun to appreciate the profound role that sugars play in human biology. For example, some complex sugars in the body act in concert with proteins to regulate cell growth, death and the definition of a cell. Other sugars play a critical communication role as they serve as the "interface," modulating signals between cells and their surrounding environment. Depending on the type of sugar and its location, each has a specific responsibility in human biology.

What we understand now is clear – sugars are an essential part of our biologic makeup, just like genes or proteins. The human system can be thought of as an elegant and refined programmatic system:

- Genes provide a master blueprint or template that encodes information;
- Proteins implement this template by turning "on or off" specific biological responses; and
- Sugars serve a critical modulating function, acting as the "dimmer switches" that dictate the magnitude of biological responses.

Defects in how cells manufacture complex sugars and errors in sugar structures interfere with the normal functionality of sugars and are increasingly linked to major diseases including cancer, Alzheimer's disease, viral infections and cardiovascular disease.

CRACKING THE CODE OF COMPLEX SUGARS

The key challenge to realizing the potential of complex sugars has been unlocking their structural complexity. To put this challenge in perspective, DNA can be combined to produce 256 possible four-unit combinations, while the building blocks of proteins can be combined in 160,000 potential four-unit arrangements. Complex sugars, in contrast, may contain as many as 5.3 million four-unit combinations. Prior to Momenta, scientists did not know the structures of most complex sugars, as conventional analytical techniques could not adequately decipher the chemical identity or measure the relative amounts of specific structures in a sugar sequence. The complexity of sugars has simply overwhelmed traditional analytical techniques.

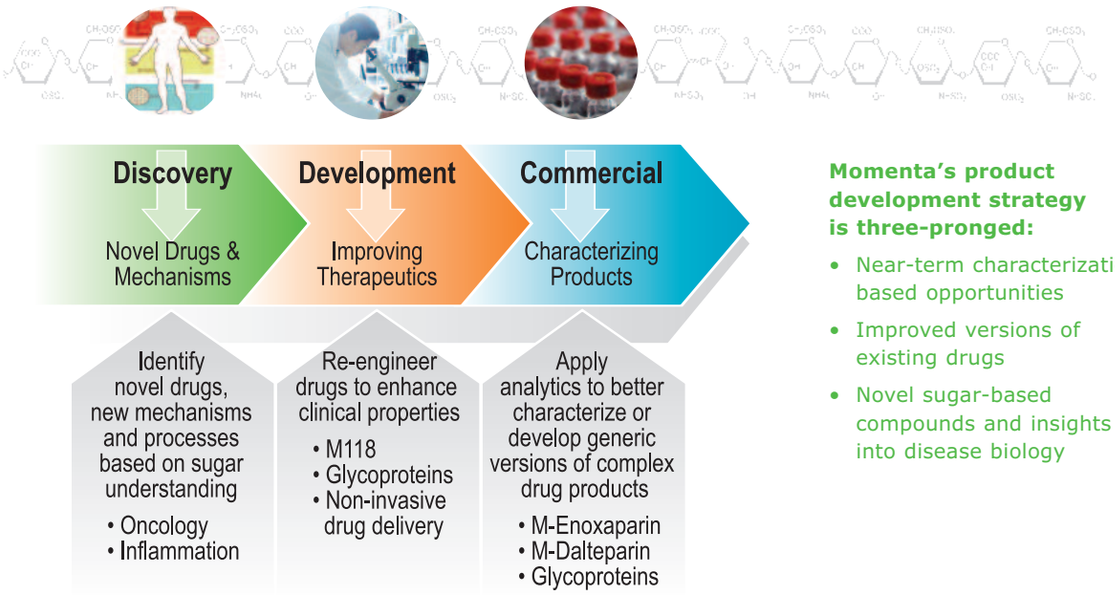
Momenta has developed novel breakthrough technology that now makes it possible to thoroughly sequence complex sugars. Momenta's proprietary approach permits us to analyze sugar structures, correlate structures to biological activities, and re-engineer sugars to create drugs possessing specific favorable properties.

Momenta's technology is comprised of three proprietary elements:

- Novel enzymes that clip sugar chains into smaller pieces;
- Improvements to existing analytic methods for their application to sugars; and
- Mathematical data integration that rapidly solves for a precise structural characterization.

The combination of these techniques provides us with a unique opportunity to capitalize on the role of sugars in cellular function, disease mechanisms and drug action. We believe that with our proprietary capabilities, we have the opportunity to make significant progress in understanding the relationship of complex sugars to human biology and to rationally guide drug development.

SEQUENCING & ENGINEERING OF SUGARS



Momenta's product development strategy is three-pronged:

- Near-term characterization-based opportunities
- Improved versions of existing drugs
- Novel sugar-based compounds and insights into disease biology

PRODUCT PIPELINE & POTENTIAL

Program	Program Objectives	Milestones
M-Enoxaparin	Generic version of Lovenox® LMWH[1,2]	File ANDA in mid-2005
M-Dalteparin	Generic version of Fragmin® LMWH[1]	File ANDA in mid-2006
Glycoprotein	- Better characterized branded products and follow-on generic products - Improved glycoprotein products	Characterize multiple glycoproteins; partnership in 2005
M118	Improved LMWH, rationally engineered to address unmet needs in ACS[3]	File IND in mid-2006
Drug Delivery	Sugar-mediated non-invasive delivery of proteins	Advance development candidates
Oncology	Novel sugar-based anti-cancer compound	Advance discovery candidates

[1]Low molecular weight heparin [2]Partnered with Sandoz, a Novartis company [3]Acute coronary syndromes

PRODUCT OPPORTUNITIES WITH COMPLEX SUGARS: HARNESSING THE POTENTIAL

Momenta's broad technology platform allows us to identify the specific sugar components that contribute to the efficacy and safety of sugar-based products. In addition, we can determine novel biological properties of sugars and use these insights to create new therapeutics. We believe that our technology thus allows us to create generic versions of drugs, improve existing drugs, and design novel drugs with improved efficacy and safety profiles.

Momenta is developing products in multiple areas:

- **Characterizing existing therapeutics.** Momenta is developing generic versions of complex drugs that, without our technology, we believe cannot be duplicated. M-Enoxaparin and M-Dalteparin have the potential to be the only generic versions of the two largest selling LMWHs, which together accounted for over $3 billion in sales in 2004. In addition, we plan to characterize protein-based drugs that contain sugars (glycoproteins). This market opportunity is significant, as sales of the top 10 glycoproteins exceeded $20 billion in 2004.

- **Improving therapeutics by re-engineering the structures of complex sugars.** Complex sugars influence critical properties of drugs, including their efficacy, toxicity and bioavailability. Momenta has the capability to create second-generation versions of drugs containing sugars, such as M118, our reengineered LMWH. We are also exploiting the natural role of sugars in biology in areas like drug delivery.

- **Novel drug discovery using complex sugars.** Momenta's discovery research is focused on understanding the role that sugars play in disease biology. In our oncology program, we are exploring the broader potential of sugars as therapeutic agents, thereby opening up an entire new frontier for drug development.

Our technology enables us to create many innovative therapies with near- and long-term commercial potential that will benefit patients and build value for our shareholders. Our path will have many exciting milestones and accomplishments along the way. We welcome you to join us on this sweet journey.

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STOCK LISTING

Momenta is traded on the NASDAQ National Market under the symbol MNTA. As of March 14, 2005, there were approximately 72 holders of record of our common stock, which does not include stockholders whose common stock is held in street name.

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