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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health



National Institutes of Health Commercialization Assistance Program (NIH-CAP)

## Company Profile

**Industry Sector:** High Content Drug Screening.

**Company Overview:** Myomics' mission is to discover and develop new therapeutics for improving muscle function. Using its patented tissue engineered muscle-based drug screening technology, Myomics can rapidly and accurately discover new drugs intended to improve skeletal muscle performance as well as attenuate skeletal muscle dysfunction in disorders such as sarcopenia, cancer cachexia, and the muscular dystrophies. In-house efforts are currently focused on discovering and developing small molecule therapeutics for Duchenne's Muscular Dystrophy (DMD) for which there are no currently approved drugs.

**Target Market(s):** Pharmaceutical firms, biotech companies, academic centers, non-profit foundations, sports medicine.

**Opportunity:** Myomics is currently seeking partners, licensees, funding, and fee-for-service drug screening contracts.

## Key Value Drivers

**Technology and Competitive Advantage:**\* Myomics' robotic **MyoForce Analysis System™ (MFAS™)** uses contractile three-dimensional human muscle tissue analogs to rapidly screen drugs *in vitro* for enhanced muscle strength, reduced fatigue, and injury prevention. Myomics takes a fundamentally different approach to drug screening than high throughput screening (HTS) companies. Most competitors aim HTS at a single targeted pathway. Hundreds of positive hits are obtained and it is costly and time consuming to take these into follow-on *in vivo* studies. Myomics high content screening technology is based on muscle function rather than single pathways and can better predict which compounds are most likely to succeed in animal and human studies. It is thus an ideal secondary screen on HTS hits, reducing time and cost ten-fold. Also, screening with diseased human muscle tissue gives greater confidence before moving into clinical trials.

**Plan & Strategy:** Continue operations on fee-for-service screening contracts while developing Myomics own IP around unique compounds for improving muscle function.

## Management

### Leadership:

**Herman Vandenburg**, President and CEO

Dr. Vandenburg, a Myomics founder, is an expert on muscle tissue engineering.

**Frank Benesch-Lee**, Lead Engineer

Mr. Benesch-Lee, a Myomics founder, is an expert in robotic hardware/software.

**Janet Shansky**, Lab Operations

Ms. Shansky has over 20 years experience in muscle tissue culture.

### Advisory Board:

**Robert Valentini, M.D., Ph.D.**, CEO, Concordia Medical

Dr. Valentini, a Myomics founder, is a serial entrepreneur in drug development.

**Richard Horan, MBA**, Manager, Slater Technology Fund

Mr. Horan brings extensive knowledge in the area of biotech start-up financing.

**Gregory Crawford, Ph.D.**, Dean of Science, University of Notre Dame

Dr. Crawford, a Myomics founder, is an expert in automated imaging technology.

**Brian S. Tseng, M.D., Ph.D.**, Pediatric Neurologist, MGH

Dr. Tseng is Director of the Muscular Dystrophy Clinic at MGH for Children.

**Screening Service Clients:** Novartis Pharma AG, Children's National Medical Center, Massachusetts General Hospital, University of Colorado, University of Notre Dame, Brown University, Charley's Fund, Jett, Hood, and Sharp Foundations

## Myomics In-House Product Development

Discovery    Preclinical    Clinical

Duchenne muscular dystrophy



Sports Medicine/Supplements



Cardiovascular Toxicology



Sarcopenia



Cancer Cachexia

