



The UMCCTS: An Academic Partner for Discovery and Translation

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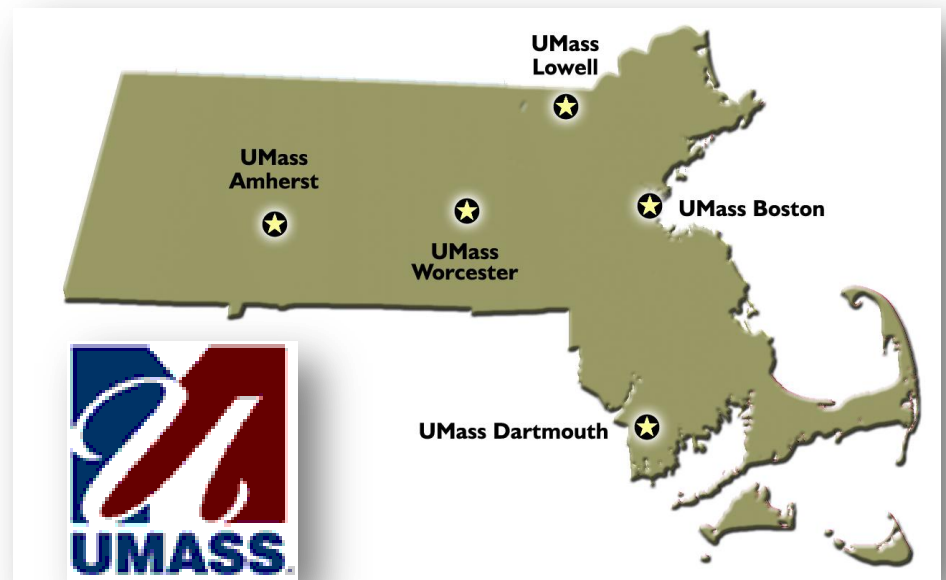


- **Primary GOALS:**
 - **Accelerate the translation of basic discoveries into practical, cost effective solutions that improve human health**
 - **Develop and support the next generation of leaders in clinical and translational research**

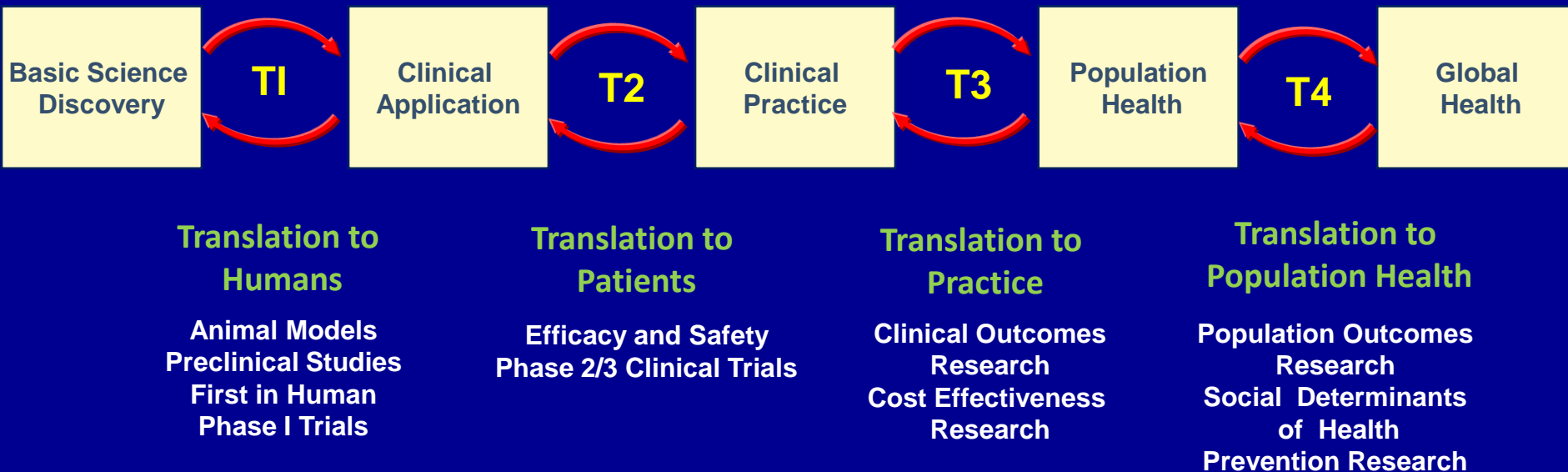


The UMass System

- Educates approximately 71,000 students
- Employs nearly 18,000 (5500 faculty)
- FY'11
 - \$587 million annual research funding (\$179 m NIH funding)
 - \$37 million in technology and licensing revenue



Translational Research Model





Basic Science Discovery

- **Signal transduction**
- **Gene Expression /Gene Function**
- **Neurobiology**
- **Immunology**
 - **Antigen Presentation**
 - **Innate and Adaptive Immunity**
- **Structural Biology**
- **RNA Biology**
 - **RNAi**
 - **Micro RNA**



Albert Sherman Center: Advanced Therapeutic Cluster



- **RNA Therapeutics Institute**
- **Gene Therapy Center**
- **Neurotherapeutics Institute**
- **Center for Stem Cell Biology and Regenerative Medicine**




- **Leverages the engineering and business strengths of UMass Lowell, along with the clinical and biomedical research strengths of UMass Worcester to provide early stage inventors and established MA companies with easy, affordable access to services that move new medical devices from concept to production**



MASS BIOLOGICS OF UMMS



- **Mission:” Medicine for Better Lives”**
 - For > 100 years, MassBiologics has worked to improve public health through applied research, development, production, and clinical testing of biologic products
- Only non-profit, FDA-licensed vaccine manufacturer in the United States
 - Incubator for innovation and improvement in the processes of vaccine and biologics development
- Anti-toxins, vaccines, immune globulins, and Mab, including products for:
 - smaller patient populations due to limited incidence (orphan products)
 - uncertain markets as new challenges to public health arise
 - products for developing nations with limited resources and unique needs

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- **MBL offers collaborators/clients a continuum of resources that enables a fully integrated research and development program**
 - **Product discovery**
 - **Process development (scale-up)**
 - **GMP manufacturing and filling**
 - **Quality control/Quality Assurance**
 - **Clinical and regulatory affairs**

Hundreds of Millions of Life Saving Doses of “Medicine for Better Lives” from MassBiologics of UMMS

Diphtheria Antitoxin-Equine	
Botulism Antitoxin-Equine	
Tetanus Antitoxin-Equine	
Rabies Immunoglobulin-Equine	
Human Serum Albumin	
Human Immune Globulin	
Human Hyper-Immune Globulin	Scarlet Fever, Pneumococcus, Meningococcus, Tetanus, Measles, CMV, RSV, Varicella-zoster, Rabies, Hepatitis A
Tetanus Toxoid Vaccine	
Diphtheria Toxoid Vaccine	
Td Vaccine	

MBL Monoclonal Antibodies

Antibody	Pre-Clinical	Phase 1	Phase 2	Phase 3
<i>Clostridium difficile</i> antibody combination				Licensed to Merck
Rabies virus				Licensed to Serum Institute of India
Hepatitis C virus				
SARS virus				
anti-hSOD1 (ALS)				
Discovery Target #1 - Infectious Disease				
Discovery Target #2 - Infectious Disease				
Discovery Target #3 - Endogenous Disease				