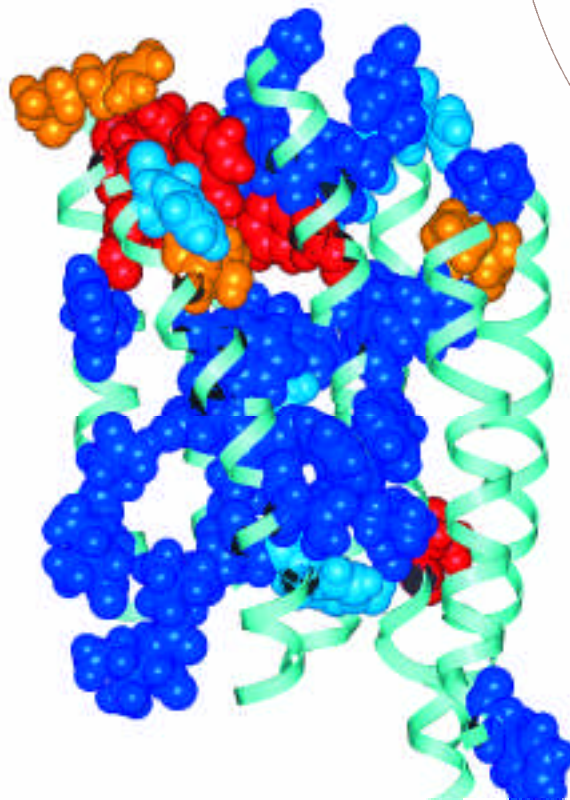

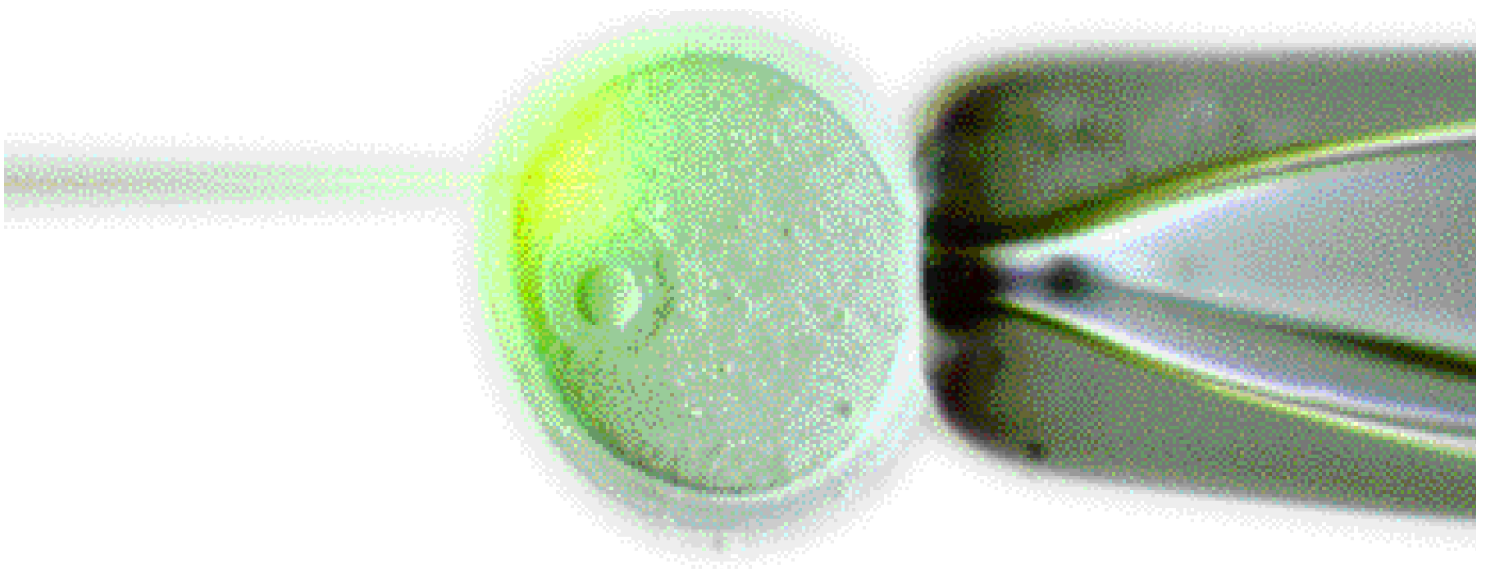


CENTER FOR
BIOTECHNOLOGY
A NEWYORK STATE CENTER FOR ADVANCED TECHNOLOGY

VISION

Through recent major advances in the understanding of biology, the 21st century will witness profound technological innovations destined to vastly improve human healthcare. Smart drugs will target specific organs and treat specific diseases. Advances in vaccines and vaccine delivery will reduce the spread of debilitating illnesses. Patient-specific designer drugs will be designed to address an explicit genomic profile, and new medical devices will permit early recognition of disease pathogenesis, improving diagnosis and prognosis of crippling conditions. With more than 90 biotechnology drug products and vaccines already on the market, 350 in human clinical trials, and several hundred more in early-stage development, the biotechnology industry is poised for unparalleled growth.





New York State is particularly well positioned to capitalize upon the opportunities represented by this biomedical revolution. With an academic research enterprise that approaches \$2 billion annually, and an entrepreneurial bioscience industry sector poised for exponential growth, New York has the assets necessary to lead the country in innovation and the commercialization of these major scientific breakthroughs.

The goal of the Center for Biotechnology is to capitalize on these immense resources for the purpose of fuelling economic development in New York State. The Center's unique vision to proactively identify and develop commercially promising technologies *within* the academic environment has increased their commercial value while decreasing the risk associated with new product development. The Center's success in the identification and development of commercially significant technologies has lead to increased corporate revenues, increased profitability and new company formation. Through this approach the Center continues to have a significant impact on the economy, with an estimated gross economic impact of more than \$160 million annually.

TECHNOLOGY PIPELINE

Vascular Cinematography for Tumor Detection

OPTICAL DIAGNOSTIC IMAGING

DNA Damage Kits

REACTIVE OXYGEN REAGENTS

A Functional Genetic Assay for Protein Nuclear Import and Export

FUNCTIONAL GENOMICS TOOL

Fibrin Composites for Gaping Cutaneous Wounds

WOUND HEALING

Identification of Fracture Repair-specific Novel Genes

GENE TARGETS FOR FRACTURE HEALING

Polypeptide Fragments which Block Antibody-induced Platelet Aggregation

CARDIOVASCULAR THERAPEUTICS

Rational Design and Testing of New Anti-cancer Agents

3D COMPUTER MODELING

A Scanning Confocal Acoustic Diagnostic for Bone Quality

DIAGNOSTIC FOR OSTEOPOROSIS

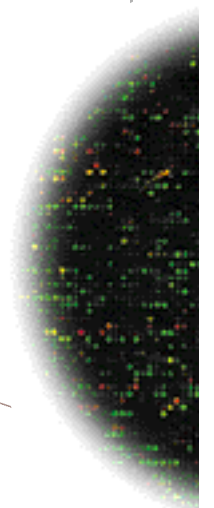
Zygotic Gene Targeting

GENE TARGETING

Software for Gene Regulatory Analysis

ALGORITHMS FOR FUNCTIONAL BIOINFORMATICS

The Center for Biotechnology supports a broad range of commercially promising technologies statewide, both directly, and in partnership with New York's bioscience industry. The principal mechanism for this investment is the Center's Innovative Technology Grant (ITG) program. Through a competitive process the program supports the most innovative commercially promising faculty research targeted towards the technological interests of New York's bioscience industry. Center staff help guide the development of these innovative technologies toward commercial goals. These investments create a "value-added" pipeline of biomedical technologies ready for commercial development and new company formation.



INDUSTRY PARTNERSHIPS

The Center for Biotechnology has played a pivotal role in linking the intellectual resources of New York's academic research institutions with the commercial capabilities of the biotechnology industry.

The Center's extensive relationships with New York's existing bioscience industry, coupled with its intimate knowledge of the academic research community, enables it to facilitate collaborative research relationships that leverage the research and development capabilities of the industry. These relationships have enhanced the competitive position of New York's bioscience industry through new and accelerated product development cycles, and increased corporate revenues.

Strategic partnerships between the biotechnology industry and academia have led to the successful launch of such products as ReoPro®, a therapeutic used in the treatment of heart disease, and Periostat®, a therapeutic product used in the treatment of periodontal disease.

ENZO BIOCHEM

ANTISENSE TECHNOLOGY

Intervenes at the genetic level making it theoretically possible to address any disease caused by the malfunction of a gene.

CENTECOR/ELI LILLY

ANTIBODY TO PREVENT PLATELET AGGREGATION AND RESTINOSIS OF CORONARY ARTERIES

Inhibits fibrinogen attachment thereby preventing platelet aggregation.

COLLAGENEX

MODIFIED TETRACYCLINE TECHNOLOGY

Inhibits destruction of collagen with applications in the treatment of periodontal disease, cancer, osteoporosis, and osteoarthritis.

CLEAR SOLUTIONS BIOTECH

BIOMATERIAL APPLICATIONS OF HYALURONIC ACID

HA has been chemically modified to produce novel biomaterials for drug-delivery and tissue engineering.

45+ COMPANIES WORLD-WIDE

GENETIC SYSTEM TO DETECT PROTEIN-PROTEIN INTERACTION

Identifies the gene for an interactive protein of interest.

BROOK BIOTECHNOLOGY

IMPROVED DIAGNOSIS OF LYME BORRELIOSIS

Provides a major breakthrough in the sensitivity and accuracy in the diagnosis of Lyme disease.

ENTERIC PRODUCTS

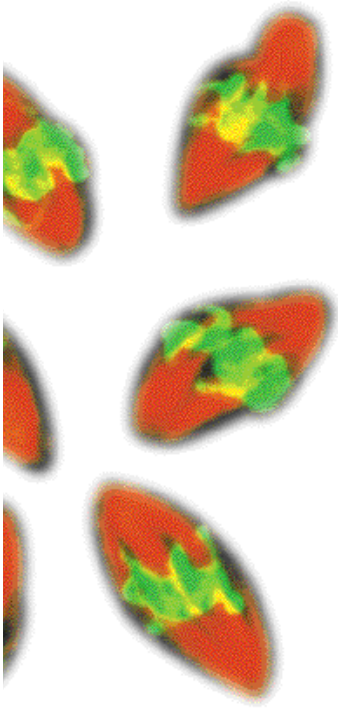
RAPID DIAGNOSTIC ASSAY FOR DETECTING *HELICOBACTER PYLORI*

A system for detecting the presence of *H. pylori* in gastric juice by measuring ammonia concentration.

EXOGEN

LOW LEVEL BIOMEDICAL PROPHYLAXIS FOR THE INHIBITION OF OSTEOPENIA

Use of extremely low strain magnitudes, at relatively high frequencies, to reverse the



CATALYZING DISCOVERY

Identifying commercially promising academic research in New York State.

The Center's research facilities include state of the art laboratories to assist in the discovery process, as well as an Applied Bioscience Laboratory for the translation of academic research toward commercial goals. The Center is also advancing custom cDNA spotting microarray capabilities through its regional DNA Micro Array Facility. Located on the campus of the State University of New York at Stony Brook, the Center provides industry partners with access to a myriad of sophisticated research facilities and services associated with a world class research institution and medical center, including unique instrumentation to determine the structure and function of genes. A formal partnership with Brookhaven National Laboratory, and affiliations with leading biomedical research institutions throughout New York State, contribute to an environment rich in discovery and innovation. In addition, the Center has been instrumental in fostering the development of a comprehensive business infrastructure to support the biotechnology industry in New York State. Chief among its accomplishments has been its role in the creation of the Long Island High Technology Incubator (LIHTI) program and the New York Biotechnology Association. These resources, coupled with a diverse high technology industrial sector, create an environment ripe for entrepreneurial activities.

The Center's role in providing access to seed funding, faculty expertise and core research facilities has all played a pivotal role in new company formation, and in introducing new products and technologies to the marketplace.

ACCELERATING DEVELOPMENT

Moving innovative technologies beyond the conceptual stage.

TRANSLATION

Linking university resources with commercial capabilities.

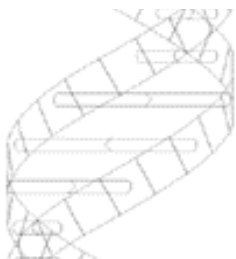
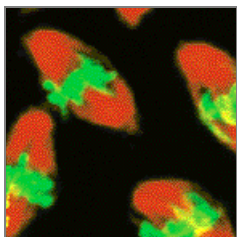
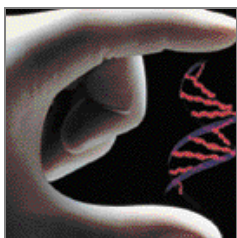
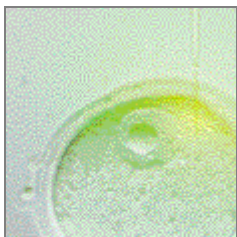
The full sequencing of the human genome will catalyze the convergence of three critical areas; biology, engineering and the physical sciences. The Center for Biotechnology has begun to address the workforce needs necessitated by this convergence through the Program in Biomedical Engineering (PIBE). This diverse program of graduate research and education is built upon strong collaborations between the College of Engineering and Applied Sciences, the School of Medicine, the College of Arts and Sciences and Brookhaven National Laboratory. PIBE is a unique resource for graduate training in tissue and genetic engineering, biomaterials, functional genomics, biosensors, medical imaging, and bioinformatics, preparing students not only for careers in academia, but government and industry as well.

The active partnership of the Center for Biotechnology with New York State's biotechnology and biomedical device industries has helped to facilitate the difficult transition from basic science to products that improve medical care. Key internship and employment opportunities for graduate and undergraduate students further strengthen the linkages between New York's bioscience industries and its world class research institutions.

COMMERCIALIZATION

Fueling economic success.





Center for Biotechnology

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