INTRODUCTION

The New York Academic Consortium (NYAC) is comprised of the licensing and business development offices of the seven largest biomedical institutions in New York City. NYAC offices work together to develop and share the best practices that have made NYC one of the leading sources of pharmaceutical and biotechnology products and innovation. Collectively, our offices have achieved extraordinary results in commercializing the discoveries of their distinguished faculties, whether through direct licensing to pharma & biotech, or the formation of new start-up companies. For more information on finding your firm’s next success story, please contact any of our member offices.

<table>
<thead>
<tr>
<th>NYAC STATISTICS</th>
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<tbody>
<tr>
<td>Annual Research Funds</td>
<td>$1872 million</td>
</tr>
<tr>
<td>Annual Number of Inventions</td>
<td>643</td>
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<tr>
<td>Annual Number of New Licenses and Options</td>
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<tr>
<td>Total Active Revenue Generating Agreements</td>
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<tr>
<td>Annual Gross Licensing Revenue</td>
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<tr>
<td>Annual Number of New Start-up Companies</td>
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<tr>
<td>Number of Start-up Companies to Date</td>
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NYAC PRODUCTS AND NYAC COMPANIES

Numerous biomedical products have been brought to market based on NYC medical center technologies, and many more are currently in the clinical trial pipeline, including treatments for cancer, inflammatory diseases, heart disease, and CNS diseases. The following pages illustrate some representative examples.

BIOCRYST PHARMACEUTICALS, INC.
ALBERT EINSTEIN COLLEGE OF MEDICINE

BioCryst Pharmaceuticals, Inc. licensed a series of novel inhibitors of human purine nucleoside phosphorylase (PNP) that are in late-stage clinical trials to treat T-cell mediated disorders, such as lymphoma and leukemia. BioCryst has partnered with Mundipharma for the development and commercialization of this lead compound in global markets. BioCryst has also developed a second generation PNP for the treatment of autoimmune diseases and for the prevention of acute rejection in transplantation, which is currently in clinical trials.

LATANOPROST
COLUMBIA UNIVERSITY

Ground-breaking research conducted by Columbia University professor Laszlo Z. Bito revealed that prostaglandins, a family of chemicals produced by the body, when given in extremely small doses, can lower ocular pressure—and thereby successfully treat glaucoma, a disease that plagues 2 million Americans with vision loss, causing 120,000 to go blind each year. Dr. Bito’s discovery led to the development of a synthetic version of the prostaglandins, the active pharmaceutical agent in the drug XALATAN (developed and marketed by Pfizer), currently the leading treatment for glaucoma.

INTELECT MEDICAL, INC.
CORNELL UNIVERSITY

Intelect Medical is focused on advancing deep brain stimulation (DBS) therapy for improving the recovery of chronic Stroke and Traumatic Brain Injury (TBI) patients. The goal of these innovative therapies is to provide neuro-rehabilitation specialists with additional treatment options to improve and accelerate recovery for Stroke and TBI patients. Our new DBS therapies and implantable system leverage the research results and clinical expertise from the Cleveland Clinic Center for Neurological Restoration and the Laboratory for Cognitive Neuromodulation at Weill Cornell Medical College.

The research of Weill Cornell Medical College’s investigator Dr. Nicholas Schiff has been dedicated to defining levels of consciousness and brain function in brain-damaged patients in order to understand who is most likely to be helped by DBS; understanding what brain regions it would be most therapeutic to stimulate and why; and determining what kind of pulses to administer.
While chemotherapy has been vital in saving and extending the lives of cancer patients, it can deplete the immune system of white blood cells, which are essential for fighting infections. An endogenous peptide called granulocyte colony-stimulating factor, or G-CSF, stimulates the proliferation and differentiation of a class of white blood cells called neutrophils. Scientists at Memorial Sloan-Kettering Cancer Center demonstrated that G-CSF accelerated the restoration of neutrophils in patients following chemotherapy, reducing the frequency and severity of infections and shortening patient recovery time. Marketed by Amgen as Neupogen®/Neulasta® since 1991, G-CSF has been used by more than one million patients, and has become the standard-of-care in hospitals around the world.

Amicus Therapeutics was founded on a platform technology in-licensed from Mount Sinai School of Medicine to treat a range of diseases caused by protein folding defects. Amicus is a biopharmaceutical company developing novel, oral therapeutics known as pharmacological chaperones for the treatment of a range of human genetic diseases. Pharmacological chaperone technology involves the use of small molecules that selectively bind to and stabilize proteins in cells, leading to improved protein folding and trafficking, and increased activity. Amicus is initially targeting lysosomal storage disorders, which are severe, chronic genetic diseases with unmet medical needs. Amicus has completed Phase 2 clinical trials of Amigal™ for the treatment of Fabry disease and is conducting Phase 2 clinical trials of Plicera™ for the treatment of Gaucher disease. The Company recently completed Phase 1 clinical trials of AT2220 for the treatment of Pompe disease. Amicus completed an Initial Public Offering in May 2007 and entered into a strategic collaboration with Shire Human Genetic Therapies in November 2007.

As part of the immune response, the body naturally produces the protein tumor necrosis factor (TNF)-alpha to mobilize white blood cells to fight infections and other invaders. With certain autoimmune conditions, such as rheumatoid arthritis or Crohn’s disease, however, TNF-alpha can lead to excessive inflammation, pain and tissue damage. Drs. Jan Vilcek and Junming Le at the NYU School of Medicine’s Department of Microbiology developed a monoclonal antibody against TNF-alpha, which led to the development of the TNF inhibitor Remicade® in collaboration with Centocor. Remicade® received FDA approval for Crohn’s Disease in 1998 and rheumatoid arthritis in 1999, and has subsequently been approved for psoriasis, ulcerative colitis, ankylosing spondylitis, and psoriatic arthritis. It has been shown to reduce the inflammation and tissue damage associated with these diseases. Over one million patients have been treated with Remicade®.
LEPTIN | AMYLIN PHARMACEUTICALS, INC.
THE ROCKEFELLER UNIVERSITY

In December 1994, Prof. Jeffrey Friedman and his HHMI colleagues at The Rockefeller University identified a gene that codes for a hormone later named leptin, from leptos, the Greek for thin. Leptin is a hormonal signal made by the body’s fat cells that regulates food intake and energy expenditure and has powerful effects on reproduction, metabolism, other endocrine systems and even immune function.

To date, sixteen clinical trials have been approved to study leptin as an interventional agent. The most recent and advanced was a phase IIa, proof-of-concept trial completed in November 2007 by Amylin Pharmaceuticals. This 24-week randomized, double-blinded, multi-center study investigated the effectiveness of leptin (r-metHuLeptin, metreleptin) in 177 overweight and obese subjects (BMI 27–35 kg/m2), in combination with pramlintide, a human amylin analog. Patients who received co-therapy displayed on average a 12.7% reduction in body weight—significantly more than treatment with leptin or pramlintide alone.

PAIN THERAPEUTICS, INC.
ALBERT EINSTEIN COLLEGE OF MEDICINE

Pain Therapeutics, Inc. is currently in late-stage clinical trials with Oxytrex, an opioid pain-killer that has the ability to minimize opioid tolerance and physical dependence, which was licensed from the Albert Einstein College of Medicine of Yeshiva University in 1998. While developing this drug, the company returned to Einstein to license another, distinct innovation. This technology, which is currently in clinical trials, uses radio-labeled monoclonal antibodies to specifically target melanoma tumor sites and deliver a short burst of lethal radiation, without harming normal tissue. Pain Therapeutics was also selected in late September 2007 as one of the inaugural companies in the new NASDAQ® NeuroInsights® Neurotech Index for companies significantly involved in the neurotechnology industry.

SHOULDER PROSTHESIS
COLUMBIA UNIVERSITY

The Bigliani/Flatow Complete Shoulder Solution technology was developed by Dr. Louis Bigliani and Dr. Evan Flatow in 2000 and has since been manufactured by Zimmer, a leader in the field of orthopaedic implants. The shoulder prosthesis technology allows for the restoration of shoulder joint function for people who suffer from pain or disability from osteo-arthritis, rheumatoid arthritis, traumatic arthritis, and certain breaks in the shoulder bones. This technology continues to lead sales for the Zimmer Extremities business and holds a strong position in the global shoulder implant market. Unlike other technologies in the field, the surface and head design of this shoulder prosthesis provide full joint mobility and stability throughout the shoulder’s range of motion and distribute natural stresses more broadly, which reduces uneven pressure and associated wear.
Founded in 2000, Metabolon is an emerging technology company developing proprietary analytical methods and software for biomarker discovery using metabolomics. We are using our metabolomics platform to develop diagnostics for cancer, amyotrophic lateral sclerosis (ALS, or Lou Gehrig’s disease), and metabolic diseases. Metabolon’s goal is to establish its technology as the standard in biomarker discovery in healthcare and related sciences.

The Weill Cornell Medical College investigator behind Metabolon is Dr. Bruce Kristal. Dr. Kristal’s research has been driven by the following questions, with particular respect to neural cells: 1) the mechanisms by which dietary restriction lengthens lifespan on a phenotypic and cellular level; 2) the role of mitochondria in programmed cell death; and 3) the role of oxidative damage in cell death. All of these threads led him to study metabolites, which in turn led him to become one of the founders of the Metabolomics Society and a founder of Metabolon.

Acute promyelocytic leukemia (APL) is a rare form of leukemia characterized by the accumulation of abnormal white blood cells in the bone marrow and blood resulting in anemia, susceptibility to infections, bleeding, and hemorrhaging. Twenty to thirty percent of patients receiving the standard treatment (all-trans retinoic acid, usually in combination with an anthracycline) suffer relapse. Arsenic Trioxide, marketed as Trisenox® by Cephalon, was approved by the FDA in 2000 as a second line of treatment in APL.

Fabry’s Disease results from a mutation in the gene for alpha-galacosidase-A protein responsible for the break-down of lipids, waxes and fatty acids. As a result of the mutation, the protein does not function properly and lipids build up to a harmful level. Fabrazyme® is an enzyme replacement therapy and the only FDA-approved treatment for this devastating disease. It works by replacing the faulty enzyme with recombinant protein. This approach was originally developed at the Mount Sinai School of Medicine, at the Department of Genetics and Genomic Sciences and was exclusively licensed by Genzyme in 1995. In 2007, sales of Fabrazyme® reached $424 million worldwide.

Tyrosine kinases are enzymes that are involved in cellular signaling pathways and regulate key cell functions such as proliferation, differentiation, anti-apoptotic signaling, and angiogenesis. Research at the NYU School of Medicine under the direction of Dr. Joseph Schlessinger, in collaboration with scientists at the Max Planck Institute, led to the discovery of receptor tyrosine kinases and screening methodologies for developing drugs to interfere with receptor tyrosine kinases in cell proliferative disorders, such as cancer. A biotechnology company, Sugen, was formed to develop cancer therapies based on this research. This led to the development of the drug Sutent®, an orally available, multiple receptor tyrosine kinase inhibitor. Sugen was acquired by Pharmacia, which was subsequently acquired by Pfizer. In 2006, Sutent received FDA approval for treating gastrointestinal stromal tumors after imatinib failure, and advanced renal cell carcinoma. It is currently in clinical trials for a number of other cancer indications.
In 2007, Neurologix, a company formed upon technology from The Rockefeller University, completed the first gene therapy trial for Parkinson’s disease. This open-label phase I clinical study addressed the safety and tolerability of in vivo gene therapy using an adeno-associated virus-borne glutamic acid decarboxylase (AAV-GAD) into the subthalmic nucleus of patients with Parkinson’s disease.

During the course of the study, including a 12-month observational period, no patients dropped out or were lost on follow-up, no adverse events were reported and clinical improvement was seen at three months post-intervention. This trial represented a significant milestone in gene therapy and permitted Neurologix to secure a series D round of funding to finance a phase II trial for Parkinson’s disease, as well as a phase I trial for the treatment of epilepsy.

Sirtris Pharmaceuticals, Inc. is focused on small molecule drugs that modulate sirtuins, a recently discovered family of enzymes associated with the aging process. Two years after completing the license with Einstein, the company completed its initial public offering on the NASDAQ® exchange. The National Institute of Aging (NIA) recently selected one of the company’s SIRT1 activators for an Interventions Testing Program to study its effects on aging. Currently, Sirtris is in Phase IIa clinical trials to evaluate its SRT501 product candidate in patients with Type 2 Diabetes.

Within the nucleus of cells, DNA is wound tightly around protein complexes called histones. Modification of histones by specialized enzymes determines how tightly the DNA is wound. Generally, the looser the DNA-histone interaction in a particular region, the greater the expression of the genes present there. Histone deacetylase (HDAC) is an enzyme that increases the DNA-histone interaction, and thus serves to repress local gene expression.

While there are now several HDAC inhibitors in development for the treatment of cancer, Zolinza® was the first oral drug in its class to reach the market. Zolinza® was first conceived and made in the 1980s in the laboratories of Ronald Breslow, PhD, at Columbia University and Paul A. Marks, MD, at Memorial Sloan-Kettering Cancer Center. Zolinza® is able to decrease the activity of the enzyme histone deacetylase (HDAC), which prevents the functioning of genes that control standard cell activity, thus allowing for the reactivation of genes that may assist in slowing or stopping the growth of cancer cells.

The FDA approved Zolinza® in October, 2006 for treatment of cutaneous T-cell lymphoma (CTCL), an aggressive form of non-Hodgkin’s lymphoma which affects the skin. Currently, there are studies underway for many other cancer treatments, including leukemia, multiple myeloma, advanced Hodgkin’s lymphoma, and solid tumors.

* Zolinza is a registered trademark of Merck & Co., Inc., Whitehouse Station, NJ, USA
MedImmune, wholly owned by AstraZeneca plc and the worldwide biologics business for the AstraZeneca Group, has a diverse research and development pipeline in the areas of infectious, respiratory and inflammatory diseases, oncology, cardiovascular/gastrointestinal disease and neuroscience. MedImmune has exclusive worldwide rights to certain intellectual property owned by Mount Sinai School of Medicine relating to the use of reverse genetics technology. Reverse genetics, also known as “plasmid rescue” utilizes double-stranded circular DNA transfected into cultured cells to reconstitute live virus. In 2006, FDA approved use of this cutting-edge technology to construct new vaccine strains to produce seasonal influenza vaccines. Creation of new vaccine strains is the first step in the influenza vaccine manufacturing process.

Vivaldi Biosciences is a San Francisco-based company formed in 2007 with $2 million in seed funding raised from Bay City Capital. The company focuses on developing novel genetically-modified vaccines aimed to protect against influenza and will utilize patented vaccine and virus technologies discovered at Mount Sinai School of Medicine. Vivaldi's program represents a breakthrough approach to flu vaccine development and production and a major advance over flu vaccines available today.