Drug and Vaccine Discovery: Doing Well While Doing Good

As Georgia’s top-ranked national research university, Emory is a leader in vaccine and drug discovery. A robust technology transfer program translates laboratory and clinical research in infectious diseases, cancer, neurology and cardiology into products for advanced patient care.

**The Emory Vaccine Center: Where Science Meets Hope**

Emory University is one of the first academic research centers to develop an HIV/AIDS vaccine being tested in human clinical trials. The groundbreaking two-component DNA- and MVA-based vaccine developed at the Emory Vaccine Center, the Yerkes National Primate Research Center, the NIH and the CDC, was successfully tested in non-human primates then licensed to GeoVax Labs, Inc., for commercial development. After promising phase I human clinical trials, the vaccine begins national phase II trials next year.

An Emory research team is designing virus-like particles (VLPs) to create another class of innovative HIV vaccines.

The Emory Vaccine Center, with its Hope Clinic, is a primary site in the HIV Vaccine Trials Network (HVTN), the nation’s premier network for clinical trials of HIV vaccines developed by industry, government and academia.

With a $32.8 million grant from the NIH, Emory and the University of Georgia have created the Center of Excellence for Influenza Research and Surveillance, one of six in the nation. Emory and Georgia Tech scientists are developing microneedle skin patches for a painless flu vaccine delivery system.

http://www.vaccines.emory.edu

**The Emory Chemical Biology Discovery Center: Screening for New Drugs**

Emory is claiming a spot as a national leader in drug discovery, on the trail to finding cures for the world’s most challenging diseases. With help from the Georgia Research Alliance, Emory developed its own drug-screening center, bolstered by a $9.5 million NIH grant, as one of nine national centers in the Molecular Libraries Screening Center Network.

With a library of nearly 400,000 compounds and the most advanced high-throughput robotics equipment, Emory scientists are building on the human genome project, screening protein targets for promising drugs in cancer, neurological diseases, infectious diseases and cardiovascular disease.

The screening center’s high-powered technology links medical scientists to chemists who are experts in innovative drug design.


**Emory Technology Transfer: A Robust Product Pipeline Drives Discoveries to Patients**

Emory’s technology transfer program is a national leader in steering promising laboratory discoveries into the marketplace. The most widely used drugs for HIV/AIDS, diagnostic tests for genetic disorders, a technology to improve angioplasty, and imaging software for cardiovascular diagnosis are among many Emory discoveries now commercially available for patients and physicians.

The recent sale of future royalties for the HIV drug Emtriva was the largest in the history of higher education. Emory has reinvested its share of the proceeds in research programs and science education, jump-starting the science components of its strategic plan.

Dozens more Emory-discovered products are in the discovery pipeline:
- 16 licensed products currently in the marketplace
- 38 licensed products in clinical development
- 43 start-up companies launched in the past decade

Recent start-up companies based on Emory discoveries:
- Metastatix, Inc. (cancer drugs)
- NeuOp Corp. (stroke and neurodegenerative disease drugs)
- Velocity Medical Solutions (medical imaging software)
- 3Ti (Transfusion & Transplantation Technologies, Inc.)
- LAAMScience (antiviral and antibacterial fabric coating technologies)
- iThemba Pharmaceuticals (antiviral and antibacterial drugs)
- GeoVax Labs, Inc. (HIV/AIDS vaccines)

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