

SOUTHWESTERN NEWS

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UT SOUTHWESTERN RESEARCHERS, NOBEL PRIZE WINNERS SHARE 2003 ALBANY MEDICAL CENTER PRIZE

DALLAS – April 30, 2003 – Dr. Michael S. Brown and Dr. Joseph L. Goldstein, whose groundbreaking studies have led to the development of lifesaving, cholesterol-lowering statin drugs used by millions of people worldwide, have been named co-recipients of the \$500,000 Albany Medical Center Prize in Medicine and Biomedical Research.

The Albany Medical Center Prize, established in 2000, is the largest prize in medicine in the United States and the second largest in the world outside of the Nobel Prize. Brown and Goldstein shared the 1985 Nobel Prize in physiology or medicine for their discovery of the mechanism by which cholesterol accumulates in the bloodstream, leading to a condition known as atherosclerosis, which is responsible for more than half the deaths in the United States by heart attack or stroke.

The Albany Medical Center Prize recognized the scientific duo for their post-Nobel contributions pertaining to how a family of proteins regulates cholesterol synthesis by specifically controlling the low-density lipoprotein (LDL) receptors, which play a key role in cholesterol build-up.

“Joe and I are grateful to the committee for selecting us for this honor,” said Brown, professor of molecular genetics, “and we are grateful to the many students, postdoctoral fellows and colleagues who have contributed mightily to this effort over the past 15 years.”

Working together at UT Southwestern since the early 1970s, Drs. Brown and Goldstein identified low-density lipoprotein receptors on the surface of cells, tiny but complex molecules that recognize, bind to and admit LDL cholesterol into cells. A deficiency in LDL receptors leads to a buildup of LDL in blood, causing heart attacks at a young age. Their groundbreaking research led to effective new drugs to treat high cholesterol.

Since winning the Nobel Prize, the researchers discovered a family of membrane-bound proteins, called Sterol Regulatory Element Binding Proteins (SREBPs), that regulate cholesterol synthesis and control the number of LDL receptors in the body. One of the SREBPs turns out to

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be an insulin-sensitive regulator, which could lead to new drug therapies for the treatment of diabetes mellitus. In other areas of research, Brown and Goldstein pioneered the development of a new class of drugs, called farnesyl transferase inhibitors, that are currently being tested in patients with cancer. They also discovered the molecular defect responsible for a rare form of inherited retinal degeneration called choroideremia.

Dr. Goldstein said the process of scientific discovery is the ultimate reward.

“Awards like the Albany Medical Prize and the Nobel Prize are wonderful to receive, but nothing quite beats the thrill of discovering something new and solving a scientific puzzle,” said Goldstein, chairman of molecular genetics. “Mike and I have been exceptionally lucky in having the opportunity to solve two scientific puzzles over the last 30 years.

“In the first 15 years of our collaboration, we discovered the LDL receptor system and showed how genetic defects in this receptor produce high cholesterol levels and heart attacks in patients. In the last 15 years, we discovered a metabolic pathway, called the SREBP pathway, and in the course of charting each of the steps in this pathway we've learned how the body manufactures the two basic building blocks that form all the membranes that surround our cells,” he said. “Mike and I have had great fun in working closely with a dedicated group of students and postdoctoral fellows who helped us enormously in unraveling the SREBP story.”

Drs. Brown and Goldstein have been research partners for more than three decades since first meeting as interns at Massachusetts General Hospital in Boston. Brown received his bachelor's degree from the University of Pennsylvania in 1962 and his medical degree from the University of Pennsylvania School of Medicine in 1966. Goldstein received his bachelor's degree from Washington and Lee University in 1962 and his medical degree from UT Southwestern Medical School in 1966.

Dr. Goldstein holds the Distinguished Chair in Biomedical Science and the Paul J. Thomas Chair in Medicine. Dr. Brown is director of UT Southwestern's Erik Jonsson Center for Research in Molecular Genetics and Human Disease. He holds the W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research.

“The awarding of the Albany Medical Prize to Drs. Brown and Goldstein further

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recognizes the continuing contributions they are making to medicine and science,” said Dr. Kern Wildenthal, president of UT Southwestern. “Their research sets an example for future scientists and physicians around the world. It also shows the increasing importance of basic biomedical research to the treatment and care of patients.”

The Perot Foundation has made continuing contributions to their research and that of their colleagues.

The Albany Medical Center Prize was established in November 2000 following a \$50 million gift commitment to Albany Medical Center from Morris “Marty” Silverman, a New York City businessman and philanthropist. The annual prize – announced each spring – has been created to encourage and recognize extraordinary and sustained contributions to improving health care and promoting biomedical research with translational benefits applied to improved patient care.

The winner of the 2002 prize was Dr. Anthony S. Fauci, a pioneering AIDS researcher and director of the National Institute of Allergy and Infectious Diseases. Dr. Arnold J. Levine, former president of Rockefeller University, was the first winner in 2001 for his discovery of the p53 gene involved in the development of cancer.

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