

November 9, 1982

NEWS

The University of Texas Health Science Center at Dallas
5323 Harry Hines Boulevard Dallas, Texas 75235 (214) 688-3404

CONTACT: Ann Williams
Office: 214/688-3404
Home: 214/375-6043

***Dallas researchers receive
prestigious Hazen award.

HOLD FOR RELEASE NOVEMBER 9.

DALLAS--Dr. Michael S. Brown and Dr. Joseph L. Goldstein of The University of Texas Health Science Center at Dallas have been named the 1982 winners of the Lita Annenberg Hazen Award for Excellence in Clinical Research.

The award, announced today in New York by Dr. Thomas C. Chalmers, president and dean of the Mount Sinai School of Medicine and chairman of the award committee, carries a cash prize of \$100,000. Half the money goes to Brown and Goldstein and half goes to support a research fellow chosen by them to work in their current research. The researchers have selected Dr. Gary Reynolds, a resident in Internal Medicine at Parkland Memorial Hospital in Dallas.

Goldstein and Brown were chosen for the Hazen award for their work in identifying the low-density lipoprotein (LDL) receptor pathway--the mechanism by which the body's cells obtain cholesterol--and determining how an inherited defect in this pathway can lead to heart attacks. Their studies have advanced the understanding of metabolic regulation and created a framework for the treatment of atherosclerosis.

Brown directs the Center for Genetic Disease at UTHSCD, and Goldstein is chairman of the Department of Molecular Genetics. The two share the Paul J. Thomas Chair in Medicine.

The two Dallas researchers discovered the receptors that bind LDL in 1972. Low-density lipoproteins are large, complex particles that carry cholesterol to cells throughout the body. Cholesterol is essential for building the outer membrane of cells.

The scientists found that cells produce and use enough LDL receptors to bind as much LDL as they need for the cell's membrane. When cells are "full," they turn off receptor production. This maintains a constant level of cholesterol within the cell. Yet each cell can produce its own cholesterol if not enough is delivered in the form of LDL molecules.

Starting with groups of people whose cells seemed to produce too much cholesterol, the pair focused on children who were dying of heart attacks as early as seven to 12 years of age. These children suffer from a genetic disorder known as familial hypercholesterolemia. This disorder occurs in two forms, a severe form, which affects about one in every million children, and a mild form affecting one in every 500 Americans. The mild form leads to clogged arteries and heart disease in young adults.

Brown and Goldstein reasoned that the disorder might be associated with the LDL receptor pathway. They were able to show that familial hypercholesterolemia is caused by a genetic alteration of the receptors on the surface of cells, and that this alteration prevents LDL from being absorbed.

Because LDL cannot enter cells, the cholesterol-laden molecules accumulate in the bloodstream and eventually clog arteries.

(over)

The work by the two researchers on the LDL receptor pathway suggests new forms of therapy for high blood cholesterol through stimulation of the production of LDL receptors.

The Hazen award is the third major award received by Goldstein and Brown within the past year. In October 1981 they received a Gairdner Foundation International Award, and in November of that year they received the New York Academy of Sciences Award in Biological and Medical Sciences.

Last spring the two scientists received honorary Doctor of Science degrees from both University of Chicago and Rensselaer Polytechnic Institute.

#

Distribution: AA,AB,AC,AF,AG,AH,AI,AK,SC,SL.