

SOUTHWESTERN NEWS

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UT SOUTHWESTERN PROSTATE DISEASE CENTER WINS \$3.8 MILLION FEDERAL RESEARCH GRANT

DALLAS — October 26, 1993 — Prostate Disease Center researchers at The University of Texas Southwestern Medical Center at Dallas have been awarded a \$3.8 million George M. O'Brien Research Centers grant.

One of only three new O'Brien Centers grants in the nation, the federal funding will underwrite five years of basic and clinical research in benign and malignant prostate disease.

"This grant clearly establishes UT Southwestern as one of the major urologic research centers in the country," said Dr. John D. McConnell, director of UT Southwestern's Prostate Disease Center.

O'Brien Research Centers grants are fiercely competitive, McConnell said. Named for an Illinois congressman who died of prostate cancer, O'Brien Centers funding has been awarded to only four prostate disease research programs nationwide.

UT Southwestern's grant will fund many of the core operations of the multidisciplinary Prostate Disease Center as well as three new research areas. The core facility coordinates clinical trials in benign prostatic hyperplasia (BPH) — noncancerous enlargement of the prostate — and in prostate cancer. These clinical trials are designed to determine how hormones and the adrenergic nervous system affect the expression of key genes in the prostate. The core lab retrieves and stores benign and malignant prostate tissue obtained for research use during surgeries conducted at UT Southwestern-affiliated hospitals.

The core facility is directed by McConnell, associate professor of urology, and Dr. Jean D. Wilson, chief of endocrinology and holder of the Charles Cameron Sprague Distinguished Chair in Biomedical Science. Co-investigators include: Drs. Arthur I. Sagalowsky and Claus G. Roehrborn in the Division of Urology and

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Drs. Elizabeth Wiley and M. Franklin Vuitch in the Department of Pathology.

New UT Southwestern research projects funded by the O'Brien Research Centers grant include:

—**5-alpha reductase:** Research to characterize expression of the enzyme 5-alpha reductase in benign and malignant prostates and to identify and sequence specific genes for altered expression of 5-alpha reductase in prostate cancer. Investigators will also use a new technique — differential display hybridization — to search for genes whose expression is altered in prostate cancer. Principal investigator is Dr. David Russell, professor of molecular genetics and holder of the Eugene McDermott Distinguished Chair in Molecular Genetics. Russell isolated and cloned the human genes for two types of 5-alpha reductase, an enzyme that converts the male hormone testosterone into the far more potent steroid dihydrotestosterone, a key factor in benign prostate disease.

—**Androgen receptor:** Research to characterize androgen-receptor expression in benign and malignant prostates and to study regulation of androgen-receptor expression and its relation to prostatic growth. Principal investigator is Dr. Michael McPhaul, associate professor of internal medicine in the endocrinology division. McPhaul's laboratory was one of the first in the world to isolate and clone the androgen receptor, a protein that binds the male hormones testosterone and dihydrotestosterone, mediating their action in the prostate.

—**Smooth muscle tissue:** Investigation into the molecular biology of prostate smooth muscle will be done to determine what effects adrenergic and androgenic signals have on the expression of contractile protein genes which play a critical role in the pathophysiology of BPH. Principal investigator is Dr. Victor Lin, assistant professor of urology. McConnell and Dr. David Ewalt in the Division of Urology will work with Lin on this research.

UT Southwestern stood out among O'Brien Research Centers grant applicants because of the well-coordinated, interdisciplinary efforts of clinical and basic researchers working together in UT Southwestern's Prostate Disease Center, McConnell said.

When the Prostate Disease Center was created in 1992, linking basic and

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clinical researchers in urology, endocrinology and molecular genetics, one of its five-year goals was to obtain a center research grant like this one. "We've accomplished our goal, and we're just in our second year," McConnell said. "This will allow us to engage in more pilot-type exploratory research, as well as making us more competitive for future funding, particularly in prostate-cancer research."

O'Brien Research Centers are funded jointly by the National Institutes of Health's Institute of Diabetes and Digestive and Kidney Diseases and the National Cancer Institute. In addition to the Prostate Disease Center program at UT Southwestern, O'Brien Centers grants support urologic disease research at Sloan-Kettering Institute for Cancer Research, Northwestern University, the University of Washington and the University of Virginia.

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