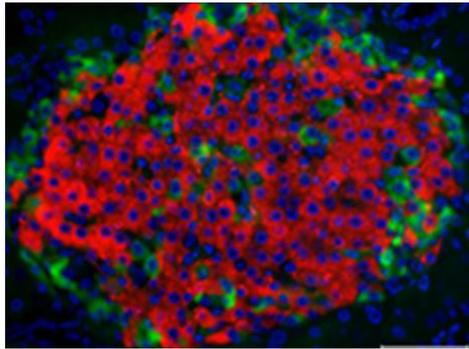


AN UPDATE FOR

THE UAB COMPREHENSIVE DIABETES CENTER



INVESTING IN THE MEDICINE OF TOMORROW

Research is a prerequisite of every new therapy. While the connection between beta cell death and diabetes has been well established, no current therapies address this problem— an issue that the UAB Comprehensive Diabetes Center (UCDC) aims to change. The laboratory of **Anath Shalev**, M.D., the Nancy R. and Eugene C. Gwaltney Family Endowed Chair in Juvenile Diabetes Research and director of the UCDC, has been studying beta cell biology for more than ten years, and has pioneered work on the role of a special protein (TXNIP) that is now considered a top target for the development of novel therapies for diabetes.

Recently, **Dr. Shalev's laboratory achieved a major breakthrough when they discovered that a common high-blood pressure drug used to inhibit TXNIP reversed the diabetes-related death of pancreatic beta cells.** The Center is also screening 300,000 small molecules for TXNIP inhibitors and Dr. Shalev's laboratory is in the process of manually confirming these compounds ability to effectively and safely reduce TXNIP protein levels.

Our next step is to move the most promising compounds along the drug development pipeline by chemically modifying and optimizing the structure. This will bring us closer to a **first-in-man clinical trial for this new drug that could transform diabetes treatment.** These are just some of the promising findings that exemplify ongoing research efforts at the UCDC aimed at diabetes drug discovery.

According to the American Diabetes Association, nearly one in three Alabamians born after 2000 will develop diabetes in his or her lifetime. At the epicenter of this diabetes epidemic, UAB has the responsibility and the unique opportunity to champion efforts that will halt the progression of diabetes and ultimately lead to a cure. Other recent notable UCDC accomplishments include:

- UAB researchers are in the process of conducting a potentially groundbreaking human clinical trial to test verapamil which was recently proven to completely reverse diabetes in mouse models. The newly launched clinical trial will assess the safety and efficacy of using oral verapamil to prevent beta cell death, increase insulin production, and improve blood glucose control in patients with recent-onset Type 1 diabetes. The Center has already enrolled eighteen patients, and we anticipate recruitment will continue through spring of 2016.
- The Center was selected as one of only five centers worldwide to participate in the National Institutes of Health Human Islet Research Network Consortium on Targeting and Regeneration.
- This year, the 6th Annual Diabetes Research Day took place on May 5th at UAB. We hosted world-renowned keynote speakers from the Icahn School of Medicine at Mount Sinai in New York, and Vanderbilt University in Nashville. In addition, 50 trainees presented their work in oral presentations as well as during a poster session that received record attendance.

MEET OUR NEW RESEARCHERS

Building our critical mass of investigators focused on beta cell biology, diabetes complications, and metabolic signaling is crucial to developing the medicine of tomorrow. We have recently recruited five world-class scientists and hope to increase that number over the next 24 months. These scientists include:



Kirk Habegger, Ph.D

Dr. Habegger obtained his Ph.D in biochemistry and molecular biology from Indiana University School of Medicine and conducted his postdoctoral training at the Metabolic Diseases Institute at the University of Cincinnati. He joins the UAB Department of Medicine in the Division of Endocrinology, Diabetes & Metabolism as an assistant professor. His research is targeting the molecular signaling and underpinnings of the onset and progression of diabetes and obesity, as well as the development of potential treatments.



Chad Hunter, Ph.D

Dr. Hunter obtained his Ph.D at Purdue University and completed his postgraduate training at Vanderbilt University. He worked at Vanderbilt as a research instructor before joining the UAB Department of Medicine in the Division of Endocrinology, Diabetes & Metabolism as an assistant professor. Dr. Hunter's laboratory is focusing on special transcription factor, Islet-1, previously shown to be required for beta-cell development, maturation, and function.



Raj Soorappan, Ph.D

Dr. Soorappan joins the UAB Department of Pathology as an assistant professor. His research focuses on the biochemistry of glutathione metabolism and oxidative stress. He obtained his Ph.D in biochemistry from the University of Madras in Chepauk, India, where his program helped him test the reductive stress hypothesis in human cardiac disease. His innovative concept received wide recognition in the scientific community.



Glenn Rowe, Ph.D

Dr. Rowe completed his Ph.D at Yale University and obtained his postdoctoral fellowship from Harvard Medical School in 2014. He joined UAB shortly thereafter as an assistant professor in the UAB Department of Medicine, Division of Cardiovascular Disease. Dr. Rowe is interested in the alterations in gene expression that ultimately could help identify target pathways and new therapies for metabolic disorders.



Adam Wende, Ph.D

Dr. Wende received his Ph.D from Washington University in St. Louis, Mo., and completed his postgraduate training at the University of Utah in Salt Lake City. He currently serves as an assistant professor in the UAB Department of Pathology. The two primary goals in his laboratory are to determine the role of metabolic substrate switching in the hearts of individuals with diabetes or heart failure, and to define the role of cellular glucose delivery on post-translational regulation of mitochondrial enzyme activity.

PARTNERS IN PROGRESS

The UAB Comprehensive Diabetes Center has made tremendous strides, but work remains to be done to halt the progression of diabetes. With continued community support, the Center is in a unique position to identify better treatments and ultimately a cure for diabetes.

FOR MORE INFORMATION

Erica Hollins | Senior Director of Development and Community Relations

UAB Comprehensive Diabetes Center | FOT 1234 | 1720 Second Avenue South
205.996.6839 | ehollins@uab.edu | Birmingham, AL 35294-3412