

## **UC San Diego and UAB, Partners in Kidney Research \$4.23 Million NIH Grant Recognizes Expertise**

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University of California, San Diego is partnering with The University of Alabama at Birmingham (UAB) to develop new methods to treat and prevent kidney failure. UAB's Division of Nephrology has been awarded a five-year, \$4.23 million George M. O'Brien Kidney Research Center grant from the National Institutes of Health (NIH). UC San Diego will receive approximately \$400,000 each year.

Together, UC San Diego and UAB will form one of only eight O'Brien centers in the United States.

"The award of an O'Brien Kidney Center and having UCSD/UAB receive the best score in this round of awards is a tremendous honor for these institutions," said Ravindra Mehta, M.D., F.A.C.P., professor of clinical medicine, Division of Nephrology, Associate Chair for Clinical Research, Department of Medicine, and Associate Director, General Clinical Research Center, UCSD Medical Center. "This designates UCSD/UAB as leading universities in kidney research in the United States."

"This combined thematic approach will facilitate acute kidney injury research at UAB and UC San Diego and allow for translational studies to be accomplished and will help enhance collaboration among basic and clinical researchers in the field of kidney disease," said principal investigator, Anupam Agarwal, M.D., director of UAB's nephrology division.

Acute kidney injury (AKI), or acute kidney failure, is a rapid loss of renal function due to damage to the kidneys. AKI develops in five to seven percent of hospitalized medical-surgical patients and complicates the recovery of 15 to 25 percent of intensive care patients, particularly those with severe infections or sepsis. Even minor decrements in kidney function have been associated with a four to five fold increased risk of mortality in over 50 percent, an increased length of stay, and significantly higher hospital costs. Episodes of AKI may also increase the likelihood of progressive chronic kidney disease and are more likely to occur in patients with pre-existing chronic kidney disease.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) established the George M. O'Brien Research Centers Program to improve efficiency and increase collaborative efforts among groups of investigators at institutions with established comprehensive kidney research bases.

"Modern research, as envisioned by National Institutes of Health, is highly complex, expensive and requires a diversity of talents working together to accomplish true progress," said Roland Blantz, M.D., professor of medicine and chief, Division of Nephrology-Hypertension, UC San Diego School of Medicine. "This newly awarded center will provide expertise in clinically relevant and more basic research that will be shared in collaboration with potentially 40 other laboratories, nationally and internationally. We are working together to avoid duplication of talents and techniques with the goal of answering questions that will ultimately prevent acute kidney injury and the progressive loss of kidney function."

The center's activities will incorporate four thematic areas of research: acute kidney injury in the ICU setting, renal vascular dysfunction and hemodynamic alterations, biomarker discovery, and genetic susceptibility. The center will consist of three biomedical research cores and a biostatistics/bioinformatics resource:

Core A, directed by Mehta, is charged with developing resources to support and facilitate clinical and translational research activities in humans for the center. Daniel O'Connor, M.D. professor of medicine and pharmacology, UC San Diego, and Co-director, UC San Diego Center for Human Genetics and Kumar Sharma, M.D., F.A.H.A, professor of medicine, UC San Diego and Director, Translational Research in Kidney Disease, will provide support in genetic studies and molecular markers of kidney injury. Core B, directed by UAB, provides resources for animal physiology and imaging and for research studies. Blantz and Volker Vallon, M.D., associate professor of medicine and pharmacology, UC San Diego, will direct Physiology studies within Core B. Core C (UAB), provides access to technologies and relevant education through recurring workshops, on-site seminars and consultations, or Web-cast tutorials, as well as hands-on support for technology. The biostatistics/bioinformatics resource at UAB will provide statistical and bioinformatics support to the research projects, pilot projects and cores of the center.

UC San Diego will use this grant to cooperate with campus investigators, affiliated biotech institutions, and other recognized nephrologists and clinicians in the San Diego area. They also emphasized that the UCSD/UAB Kidney Center is the only center with a major clinical core directed toward research in human patients and not just experimental animal or cell culture studies. Additionally, this center will further facilitate the activities of the Acute Kidney Injury Network (AKIN) ([url: www.akinet.org](http://www.akinet.org)), a multidisciplinary group co-founded through efforts from Mehta and an international group of investigators. AKIN is focused on improving outcomes from AKI by facilitating international research efforts which will be enhanced through the O'Brien Center.

The O'Brien Center also will include a pilot research grant program to emphasize innovation, translation, and career development of highly promising junior investigators.

Additional O'Brien Center winners include: University of Pittsburgh, Vanderbilt, Yale, and University of Michigan.

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