

Pennington Biomedical Assistant Professor Awarded \$1.8M NIH Grant to Study Hypoglycemia Treatments

Dr. David McDougal was awarded a 5-year grant to look at prevention and treatments for hypoglycemia, or low blood sugar, in people with type 1 diabetes

BATON ROUGE, LOUISIANA, UNITED STATES, February 23, 2023

/EINPresswire.com/ -- For someone with type 1 diabetes, it's imperative they test their blood sugar levels regularly, and insulin is utilized to keep blood sugar regulated. But even under the best regulation methods, those individuals still experience life-threatening periods of low blood sugar, or hypoglycemia, from time to time. These hypoglycemic episodes make clinical management of blood sugar in diabetes patients challenging, and over time, even mild to moderate hypoglycemia can cause serious harm.

However, thanks to a National Institute of Health grant, Dr. David McDougal, assistant professor in the Neurobiology of Metabolic Dysfunction Laboratory at the Pennington Biomedical Research Center, seeks to better understand why people with diabetes develop hypoglycemia, and his research is focused on finding better therapies that can be used to prevent it.

Dr. McDougal was recently awarded a five year, \$1.8M grant from NIH to support his research project titled, "Evaluating the role of hypoleptinemia in impaired counterregulatory responses to



Pennington Biomedical Research Center



LSU's Pennington Biomedical Research Center, located in Baton Rouge, La.

hypoglycemia.”

“There are currently no FDA-approved therapies solely directed at the prevention of hypoglycemic complications in people with diabetes,” Dr. McDougal said. “Thus, the only way to reduce hypoglycemia is through behavioral modification, such as short-term adjustments in insulin doses, which can lead to unwanted increases in blood sugar. Our project will look at the role leptin plays in regulating the body’s response to hypoglycemia.”

Leptin is a hormone that is released from body fat, and it regulates body weight by controlling hunger. During starvation, leptin levels fall dramatically, and this leads to a variety of physiological changes in the body. Dr. McDougal proposes that other stimuli that lower leptin levels, such as exercise and alcohol consumption, may cause persons with diabetes to be more vulnerable to hypoglycemia by evoking a state of “pseudostarvation.”

“There is a significant knowledge gap regarding how exposure to well-known risk factors cause increased levels of hypoglycemia in persons with diabetes,” Dr. McDougal said. “Our research project is design to test whether interventions that prevent the transition to a ‘starvation’ state could reduce how often people with diabetes experience hypoglycemia, therefore helping to develop new treatments for preventing low blood glucose in these patients.”

Dr. McDougal’s research could identify the first endocrine mechanism driving hypoglycemic risk, while also identifying a novel treatment option for the prevention of hypoglycemia. There are FDA-approved leptin-replacement therapies available for treatment of other ailments, and with this research, it could be possible that these therapies could be repurposed for the treatment and prevention of hypoglycemic complications in people with diabetes.

“Dr. McDougal’s lab is focused on translating basic research findings into practical interventions that can be utilized to reduce the burden of hypoglycemia complications, and in turn, improve patient outcomes,” said Dr. John Kirwan, Executive Director of Pennington Biomedical. “With this new grant funding, Dr. McDougal will work toward improving the day-to-day lifestyle of people with type 1 diabetes. We applaud this novel approach and look forward to seeing where the research takes him.”

This grant is supported by the National Institutes of Health under award number R01 DK131165. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

About the Pennington Biomedical Research Center

The Pennington Biomedical Research Center is at the forefront of medical discovery as it relates to understanding the triggers of obesity, diabetes, cardiovascular disease, cancer and dementia. The Center developed the national “[Obesity, USA](#)” awareness and advocacy campaign to help solve the obesity epidemic by 2040. The Center conducts basic, clinical, and population research, and is affiliated with LSU.

The research enterprise at Pennington Biomedical includes over 480 employees within a network of 40 clinics and research laboratories, and 13 highly specialized core service facilities. Its scientists and physician/scientists are supported by research trainees, lab technicians, nurses, dietitians, and other support personnel. Pennington Biomedical a state-of-the-art research facility on a 222-acre campus in Baton Rouge.

For more information, see www.pbrc.edu.

Ernie Ballard

Pennington Biomedical Research Center

+1 225-763-2677

[email us here](#)

Visit us on social media:

[Facebook](#)

[Twitter](#)

[LinkedIn](#)

[Instagram](#)

[YouTube](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/618649262>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2023 Newsmatics Inc. All Right Reserved.