When Obesity Is in Our Genes

Christin Carter-Su

Anita H. Payne Distinguished University Professor of Physiology (2013 - current)Professor of Molecular and Integrative Physiology (1992 - current)Associate Director of the Michigan Diabetes Research Center (1997 - current)

CURRENT RESEARCH

Understanding the cellular and molecular basis for genetic causes of obesity

The United States is currently in the midst of an obesity epidemic, a known risk factor for the development of type 2 diabetes, atherosclerotic cardiovascular disease, dyslipidemia, hypertension, and some cancers. There is considerable variation in an individual's susceptibility to gain weight. Dr. Christin Carter-Su, Professor of Molecular and Integrative Physiology at the University of Michigan, has identified *SH2B1* as a gene that protects against obesity. Her team has made considerable strides in identifying the role *SH2B1* plays in obesity. Recently, her collaborator, S. Farooqi, identified mutations in *SH2B1* within her cohort of morbidly obese children. These children exhibit severe early-onset childhood obesity, hyperphagia, and insulin resistance; surprisingly, many also exhibit behavioral abnormalities, including social isolation, learning delay and/or aggressive behavior. By understanding why certain mutations in *SH2B1* have such harmful effects, Dr. Carter-Su can identify critical cellular actions of *SH2B1* that help protect us from obesity, insulin resistance and behavioral abnormalities. Understanding gained in Dr. Carter-Su's research can have an immediate effect on society with the potential to identify new therapeutic targets that have never been imagined before!

Dr. Carter-Su's work strongly suggests that *SH2B1* affects cellular motility and the growth and function of neurons. Her goal is to identify novel proteins and functions that are regulated by *SH2B1*, are critical for the establishment and maintenance of the neural circuits important for normal feeding behavior and energy balance, and can be targeted for therapeutic...

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AFFILIATION

University of Michigan

EDUCATION

- Postdoctoral Research in Regulatory Biochemistry 1978-1981,Brown University
- Ph.D. in Biophysics 1978 ,University of Rochester School of Medicine
- Sc.B. (Magna Cum Laude, with Honors) in Applied Mathematics-Biomedical Sciences 1972 ,Brown University

AWARDS

- Anita H. Payne Distinguished University Professor of Physiology, 2013
- AAAS Fellow, 2011
- Rackham Distinguished Faculty Achievement Award, 2011
- Goldberg Lecture in Signal Transduction and Metabolism, 2007
- Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award, 2004
- and 9 more...

RESEARCH AREAS

Health & Wellness, Wellness, Aging Research

FUNDING REQUEST

Your contributions will support the continued research of Dr. Christin Carter-Su, at the University of Michigan, as she studies how human mutations in the *SH2B1* gene lead to severe obesity, overeating, and insulin resistance. Donations will fund the necessary $500K/year required to pay for her research team to conduct the necessary experiments and includes salaries, equipment costs, and supplies. Join in supporting the next generation of biomedical researchers with an interest in restoring health for individuals with diabetes while fighting the obesity epidemic.