Lecture 2: November 10th 10 am

Prof. Diego V. Bohórquez
Associate Professor of Medicine and Neurobiology
Duke University
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Education and Training

2015 Imaging Structure & Function in the Nervous System
Cold Spring Harbor Laboratory. Cold Spring Harbor, NY
2014 Grass Fellow in the Neurosciences
Marine Biological Laboratory. Woods Hole, MA
2013 Neurobiology Summer Training Course
Marine Biological Laboratory. Woods Hole, MA
2010 Ph.D. in Nutrition
North Carolina State University. Raleigh, NC
2004 B.S. in Animal Science
Zamorano University.Tegucigalpa, Honduras

Selected Awards and Honors

2021 Victor Mutt Lecturship, International Regulatory Peptides Society
2020 Kavli Fellow, Selected by The National Academy of Sciences - Frontiers of Science Symposia
2019 NIH DP2 New Innovator Award,
This award is given by the NIH Director's Office to exceptionally creative early career investigators.
2017 Tyor Award, Gastroenterology Division, Department of Medicine, Duke University

"Sugar: A gut choice."

Our motivation to consume sugars is thought to arise at the surface of the gut. However, the neural circuits are unknown. The Bohórquez Laboratory discovered a neural circuit linking gut to brain in one synapse. The circuit begins with a type of sensory epithelial cell that synapses with the vagus nerve. These epithelial cells are called neuropod cells. In the mouse small intestine, monosynaptic rabies virus infects neuropod cells and spreads onto vagal neurons that project to the nucleus tractus solitarius in the brainstem. This neural circuit is necessary and sufficient to transduce sensory signals from sugars.

Silencing neuropod cells silences the ability of the animal to distinguish the caloric content in sugars. This gut sensor for caloric sugars is a portal for nutrients to drive our motivation to eat.