UC DAVIS HEALTH | SCHOOL OF MEDICINE

Department of
Physiology and Membrane Biology

Distinguished Lecture Series in Physiology

Mohamed Trebak, Ph.D.

Professor
Department of Pharmacology and Chemical Biology and Medicine
University of Pittsburgh, School of Medicine

"Calcium signaling through Orai channels in health and disease"

Calcium is a universal second messenger that controls many cell functions including cell contraction, proliferation, migration, differentiation, and metabolism. These cellular functions are essential for life and when disrupted can contribute to human diseases, such as diabetes, cardiovascular and lung diseases. Tightly regulated calcium influx across the plasma membrane into the cytosol is used by cells to transduce signals in response to environmental cues, growth factors, hormones, and neurotransmitters. This calcium influx into the cytosol typically activates transcription factors that regulate gene and metabolic programs intended to achieve the physiological function of the specific stimulus. Further, these cytosolic calcium signals can propagate into intracellular organelles such the endoplasmic reticulum, golgi apparatus, endo-lysosomes, and mitochondria to regulate among others, protein synthesis and recycling, metabolism, and autophagy. Here I will describe recent findings from our group on the STIM/Orai family of highly calcium-selective plasma membrane channels, their regulation, and their differential contribution to the physiology of specific cell types. I will also discuss the implications of our findings in the pathophysiology of disease.

Thursday, October 17, 2024
GBSF and Zoom
12 p.m.

October
17

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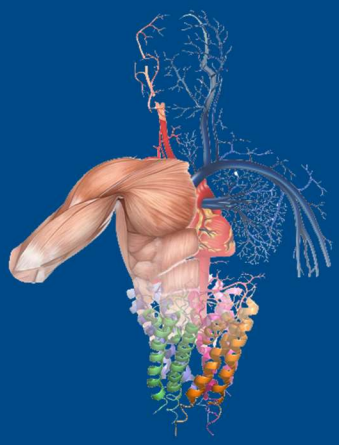

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