



Eugenia Trushina, PhD

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Biography

Dr. Trushina is a Professor in the Department of Neurology and the Department of Molecular Pharmacology and Experimental Therapeutics at the Mayo Clinic Rochester. She received her doctoral degree in organic chemistry from Saratov State University in Russia. Dr. Trushina completed her postdoctoral training at the Mayo Clinic, Rochester studying redox chemistry related to nitric oxide and mechanisms of mitochondrial dynamics and function in Huntington's Disease. Dr. Trushina translational research program is focused on the mechanisms of neurodegenerative diseases, particularly as they intersect with studies on aging and metabolic disorders, and mitochondria-targeted therapeutics. Her group developed neuroprotective treatment for Alzheimer's Disease, which is now in the lead optimization and preclinical characterization stage. Dr. Trushina is a recipient of the NIH NINDS, NIA, NIEHS, BrightFocus, GHR, ADDF, and Mayo Clinic Research Awards.

Abstract

"Exploiting Mitochondrial Signaling for Therapy of Neurodegenerative Diseases"

Declining brain energetics has been recognized as the underlying factor for the development of multiple neurodegenerative conditions including Alzheimer's disease (AD). At the same time, new evidence uncovered key roles of mitochondria signaling that could facilitate adaptation to energetic stress and promote organismal survival and function, including energy restitution. Mitochondria signaling orchestrates multiple essential cellular mechanisms ranging from a maintenance of energy homeostasis and metabolic functions to autophagy, epigenetic modifications and cell death. I will discuss the development of small molecule mitochondria targeted therapeutics found efficacious in delaying the onset of AD via inducing multiple neuroprotective mechanisms that promote health and longevity, restoring energy homeostasis