



SPRING 2024

**Biochemistry and Molecular Biology
Brown Bag Series**

Rahul Shah

BMS Ph.D. Student

***“Investigating ALS-Associated Matrin-3
Cytotoxicity in a Yeast Model”***

Tuesday, March 12, 2024

11:00 AM

Location 125 Medical Sciences Building

Lab: Shulin Ju, Ph.D.



Boonshoft
School of Medicine
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<https://science-math.wright.edu/biochemistry-and-molecular-biology>

Abstract

Investigating ALS-Associated Matrin-3 Cytotoxicity in a Yeast Model

Abstract: Amyotrophic Lateral Sclerosis (ALS) is a fatal neurodegenerative disease characterized by the degeneration of motor neurons. Matrin-3, a nuclear matrix protein that binds DNA and RNA, is implicated in an inherited form of ALS. Mutations in Matrin-3 lead to its mislocalization to the cytoplasm, aggregation, and subsequent toxicity. Utilizing a yeast model, we observed a correlation between the expression of Matrin-3 and an increase in cell size. Additionally, we identified suppressor genes that rescue cells from Matrin-3 toxicity. To investigate the potential causative link between the observed increase in cell size and Matrin-3 toxicity, we are employing these suppressor genes to assess their ability to reverse the increase in cell size induced by Matrin-3.