SPRING 2022

Biochemistry and Molecular Biology Brown Bag Series

Abdulrahman Jama

Ph.D. Student

"Examine the Role of Lipin1 in Dystrophic Muscle using MDX mice"

Tuesday, March 15, 2022

11:00 AM

Location 135 Oelman Hall

Lab:
Hongmei Ren, Ph.D.

Boonshoft School of Medicine
WRIGHT STATE UNIVERSITY

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https://science-math.wright.edu/biochemistry-and-molecular-biology

Abstract

Examine the Role of Lipin1 in Dystrophic Muscle using MDX mice

Duchenne muscular dystrophy (DMD) is a genetic disorder inherited through X-linked manner affecting 1 in 3500 male births. It is characterized by mutations on the dystrophin gene which leads to the loss of functional dystrophin protein. The dystrophin protein is part of a complex of proteins that stabilizes the skeletal muscle membranes due to mechanical stress exerted by movements. Lack of dystrophin leads to membrane tear and damage leading to muscle death through necroptosis. Currently there are no effective treatments for the *DMD* patients.

***Lipin1* is a phosphatidic acid phosphatase that converts phosphatidic acid (PA) to diacylglycerol (DAG). DAG is an important molecule that participates in phospholipid biosynthesis. Preliminary data from our lab shows that lipin1 expression, both at the protein and mRNA level, is downregulated in *Mdx* mice, the *DMD* mice model. Ablating the remaining Lipin1 levels by generating double knockout mice *mdx/lipin1*$^{-/-}$. In addition, we generated *mdx: lipin1* transgenic mice. Our lab seeks to understand the role of *lipin1* in DMD.**