McGill

Department of Anatomy and Cell Biology

Seminar Series

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Hosted by: Natalie Zeytuni, Ph.D.

Wednesday, September 14, 2022
11:30 am -12:30 pm
Room 1/12 - Strathcona Anatomy and Dentistry Building

"Cellular functions of Rhomboid protease RHBDL4"

Rhomboid intramembrane proteases are an evolutionarily conserved family of proteins indicating their involvement in fundamental cellular processes. Endoplasmic reticulum (ER)-resident rhomboid protease RHBDL4 plays a role in ER-associated protein degradation (ERAD), lipid metabolism, and ER morphology. Interestingly, RHBDL4 was further found upregulated in several forms of cancer, whereby the underlying mechanisms remain unclear.

We found that mouse embryonic fibroblasts deficient for RHBDL4 present with a defect in the expression of glucose transporter 1 (GLUT1). Since the upregulation of GLUT1 is an early hallmark of cellular transformation in tumorigenesis, we propose that increased expression of RHBDL4 may be relevant for GLUT1 upregulation. We investigated the physiological relevance and molecular mechanisms underlying GLUT1 regulation by RHBDL4.