

Stem & Progenitor Cell Interest Group

Wednesday, September 23, 2020 - 9:00 am

Trainee talks by:

Megan Rasmussen (Gama Lab)
Julie Bejoy, Ph.D. (Woodard Lab)

Megan Rasmussen

“MCL-1 regulation of mitochondrial dynamics and homeostasis in iPSC-derived cardiomyocytes”

MCL-1 is a well-characterized inhibitor of cell death that has also been shown to be a regulator of mitochondrial dynamics in human induced pluripotent stem cells (hiPSCs). We used hiPSC-derived cardiomyocytes (hiPSC-CMs) to uncover whether MCL-1 is necessary for cardiac function and survival. BH3 mimetics targeting MCL-1 are promising anti-tumor therapeutics. We show that BH3 mimetics targeting MCL-1 cause abnormal mitochondrial network morphology and cardiac performance. Our results emphasize the need for a more complete molecular understanding of MCL-1's mechanism of action in human cardiomyocytes, as it may reveal new approaches to prevent potential cardiac toxicities associated with chemotherapeutic inhibition of MCL-1.

Julie Bejoy, Ph.D.

“Incorporation of Urine-Derived Stem Cells into Injured Human Kidney Organoids”

Because of their renal origin, viable cells isolated from the urinary pellet called urine-derived stem cells are a potential candidate for development of stem cell-based therapies for acute kidney injury. We induced injury in human induced pluripotent stem cell-derived kidney organoids using nephrotoxic drugs. We then evaluated the therapeutic impact and localization of labeled urine-derived stem cells when added to the injured organoids.

Join Zoom Meeting

<https://vanderbilt.zoom.us/j/95829664782?pwd=eG41YzNLd2tPbWlyL01WTUk1SXdNZz09>

Meeting ID: 958 2966 4782

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