Jay Gamma
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Jay received a Bachelor of Science with specialization in Immunology and Infection from the University of Alberta in 2016. As an undergraduate, Jay completed a Biol498 research project and a summer research fellowship with the Faculty of Kinesiology, Sport, and Recreation on the mechanisms of NFAT transcription factor regulation on muscle fibre type plasticity. Jay also completed a summer research fellowship with Alberta Health Services ProvLab sequencing and genotyping clinical norovirus samples to monitor potential outbreak strains.

Jay joined the Faculty of Medicine and Dentistry for his graduate studies supervised by Dr. Luc Berthiaume of the Department of Cell Biology, and Dr. Joseph Brandwein of the Department of Medicine. Jay's project is characterizing the mechanism of action of zelenirstat, a first-in-class N-myristoylation inhibitor as a novel therapeutic for cancers, with a focus on acute myeloid leukemia. Jay will be defending his thesis early in 2025.

His article, "Zelenirstat Inhibits N-Myristoyltransferases to Disrupt Src Family Kinase Signaling and Oxidative Phosphorylation, Killing Acute Myeloid Leukemia Cells" characterizes the mechanism of action of zelenirstat in AML. Through interference in both cellular metabolism and Src-family kinase mediated signaling, zelenirstat targets both AML blasts and stem cells inducing cell stress and death. Critically, zelenirstat has potent activity against leukemic stem cells, bringing potential to overcome treatment resistance and prevent patient relapse. Partially as a result of this publication, a new clinical trial has been initiated for the use of zelenirstat in AML at MD Anderson Cancer Centre in Houston Texas, with the first patients beginning treatment in Q1 2025.