



Image Source: National Institutes of Health

Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Lurie Cancer Center's Basic Research Seminar Series

Conditional Vulnerabilities in Human Cancer Cells

Tuesday, October 31, 2023

11:00 a.m. - 12:00 p.m. CT

Baldwin Auditorium, 1st Floor

Robert H. Lurie Medical Research Center
303 E. Superior St., Chicago, IL

Host: Issam Ben-Sahra, PhD

Environmental factors affect how cells regulate metabolic pathways and other processes, but model systems used to derive most knowledge of human cell biology poorly simulate metabolic conditions found in the body. Deciphering cell-environment interactions with greater physiologic relevance could provide crucial insights that advance our understanding of fundamental human cell biology and lead to new interventions for treating disease. Our broad goal is to understand and control how the metabolic environment affects human cell metabolism, with a particular focus on blood cancers and normal immune cells. A major philosophy of our group is to pursue questions at the interface of engineering and biology – integrating our efforts in tool development with approaches from systems biology, biochemistry, functional genomics, bioengineering, and chemical genetics. I will discuss recent studies from our group that focus on understanding how gene essentiality and drug sensitivity are influenced by the extrinsic nutrient environment. I will also highlight our ongoing work that leverages a new physiologic culture platform to uncover nutrient and genetic dependencies for cells at metabolic steady state under tightly controlled circulation-like conditions.



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