Discovery Pathway Program

**TITLE:** Targeting cellular metabolism in systemic lupus erythematosus

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**FACULTY MENTOR DEPARTMENT:**
Pathology, Immunology, and Laboratory Medicine

**RESEARCH PROJECT DESCRIPTION**
Research in my lab focuses on the discovery of novel therapeutic approaches for systemic lupus erythematosus in projects funded by the NIH and the Alliance for Lupus Research.
Specifically, we are exploring how to normalize the cellular metabolism of immune cells to restore their normal functions. In collaboration with Dr. Eric Sobel, M.D., from the division of Rheumatology, we collect blood samples from lupus patients and healthy controls. We isolate immune cells from these samples to perform metabolic and immunological assays after treatment with metabolic inhibitors that are currently used or tested in other diseases.
The medical student can be involved in every step of this project, from being present at the Lupus Clinic when the samples are collected, to performing cell culture, immunological assays by flow cytometry, metabolic assays with an Extracellular fluid analyser, and gene expression assays by quantitative PCR.
We hope that this project will lead to the repurposing of existing safe drugs for the treatment of lupus.