

**CANCER BIOLOGY  
COLLEGE OF MEDICINE**

**SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN**

**FOR APPLICATION YEAR: 2021**

**PROJECT TITLE: Defining the stoichiometry and tissue distribution of PRPS complex members**

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**Project Description**

The evolutionarily-conserved PRPS enzymes catalyze the first step in nucleotide production that is critical for life. In humans, there are two isoforms expressed in all cells/tissues - PRPS1 and PRPS2 - which are deregulated in developmental disorders and cancer, respectively. Precisely how their deregulation contributes to disease remains unclear. In this project, the student will use samples from normal and knockout mouse models we have created to assess the composition of the PRPS enzyme complex in various tissues. Time-permitting, the student will determine the role of loss of PRPS1 or PRPS2 function in primary B and/or T lymphocyte activation, proliferation, and maturation. The Cunningham lab also has a team of well-trained Graduate Students and Research Associate to aid in mentorship and experimental design/execution. If COVID-related issues shift the project to a virtual format, contingency plans exist for purely in silico projects.