

Sawyer Williams

Graduation Year: First Year

College: Arts & Letters

Major(s): Political Science; Environmental Science

Minors(s): n/a

Scholar Group Membership: n/a

Did you received other funding for this project?: n/a

Could you have completed this project without CUSE funding? No

More details on CUSE funding assistance?

Project Title: Genomic Expression and Its Impacts on Chemotherapy

Project Location: DNA Learning Center at the University of Notre Dame, Notre Dame, IN

ND Faculty Mentor: Dr. Amy Stark

Project Type: Research

Why did you undertake this project/experience? Deepen your knowledge of a topic or issue, Career discernment and/or preparation

Did your funded experience help you:

[Deepen your understanding of your coursework or field of study]: Very Much

[Discern your interests and post-bac goals]: Very Much

[Become confident in your ability to set and achieve your goals]: Very Much

[Gain a more nuanced view of local, national, or global communities]: Yes

[Improve your written and verbal communications skills]:Very Much

Tell us about your experience.

My research focused on studying the levels of expression in genes that had potential impacts on the chemotherapeutic effects of Cisplatin. Using data from previous research on the expression of genes in Cisplatin resistant and sensitive cell lines, I decided to further research four genes of interest. My work consisted of setting up and running multiple PCR experiments for each gene to judge their expression in the cell lines. After sufficient data was gathered (two to three runs for each triplicate of a cell line), I analyzed the data to look for relevant expression.

This project revealed that three of the four genes I had studied had relevant levels of expression that could indicate distinct influence on an individual's resistance or sensitivity to Cisplatin.

Though a huge breadth of future research will be necessary to fully understand the implications of this project, it has created a starting point for future research on these particular genes.

Describe the impact this project had, both on you as a student-scholar and on the people you worked with.

The greatest impact of this research will be the contributions this data will give to a growing catalog of genes relevant to drugs like Cisplatin. On the larger scale, the knowledge experiments like this one reveal will ultimately contribute to cheaper and more personalized medical procedures for those who suffer from cancer. An understanding of these genes may

