

Centennial Honors College
Thomas E. Helm Undergraduate Research Day 2024

ABSTRACT

Major: Biochemistry

Poster

Faculty Mentor(s): Dr. Mette Soendergaard

Cytotoxicity Determination of VBH, MnVB, and CoVB as Potential Ovarian Cancer Treatments

Kailey Lindaur

Up to 50% of current cancer drugs have natural product origin from either plants or fungi. Therefore, it is important to explore medicinal plants for their potential as new cancer drugs. This project tests VBH, MnVB, and CoVB in ovarian cancer cells to determine if they are cytotoxic (toxic to the cells) in an attempt to find better treatments for ovarian cancer. Cytotoxicity is tested with a (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT)) assay. This assay can detect viable cells based on cellular metabolic activity. In viable cells, their active metabolism converts the MTT into formazan, which is purple in color. However, when the cells are dead, they lack the metabolism possible for this conversion and will stay the original yellow color. Spectrophotometry can be used to measure the purple color by measuring the absorbance of the solution. A high absorbance will indicate that the extracts do not have an effect on the cells, whereas a relatively low absorbance will show that the extracts lower the cell viability and are therefore cytotoxic. This project is still ongoing, but is developing with an optimistic outlook as we move forward.