WIU CENTENNIAL HONORS COLLEGE
Thomas E. Helm Undergraduate Research Day 2022

Abstract

Poster

Major Chemistry

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ANTIPROLIFERATIVE EFFECT OF MOREL MUSHROOM

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Abstract
In women, ovarian cancer (OC) is a disease with a high mortality rate. It is the seventh leading cause of death of women in the world, and fifth in women of European descent1. Additionally, the five-year report survival rate is 31.0%. This has led researchers to further investigate treatment methods. One of the fields involve biochemical extractions from natural sources. Mushrooms have biomolecules that have cancer cell inhibition. The morel mushroom, Morchella esculenta, is a fungus with potential anticancer properties.

An experiment will determine if hexane extracts of the morel mushroom (Morchella esculenta) show anticancer activity against human ovarian adenocarcinoma cells (SKOV-3). The cells are going to be thawed out and grown. Once cells reach 80% confluency, the cells will be cultured to perform assays. Morel mushrooms were previously harvested from the wild in Illinois, freeze-dried, and ground into a powder to experiment. Hexane will extract the compounds from the powders. Next, an MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay should determine cell viability after being treated with the mushroom extract. Viable cells will convert MTT into a formazan; the product then precipitates into an insoluble one on the surface of cells and inside the cell. The plates will be treated to undergo spectrophotometry; the absorbance will be measured at 570 nm