

WIU CENTENNIAL HONORS COLLEGE
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Abstract

Poster

Major: Biochemistry

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The Flavonoid Content of *Morchella esculenta* Extracts

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Cancer is the second leading cause of death among Americans. Cancer can stop responding to treatment, so there is always a need for new cures, preventatives, and treatments. One cause of cancer is the overproduction of free radicals within cells, which attach themselves to cell components such as DNA, causing mutations within cells. Antioxidants scavenge the free radicals from reactive oxygen species (ROS) and prevent cells from mutating.

Here, we are testing for the presence of flavonoids within *Morchella esculenta* extracts in order to research more options for antioxidant extracts and further the research on the antioxidant effectiveness on cancer prevention. Using an aluminum chloride assay, a standard curve using quercetin (a standard flavonoid antioxidant) is established. To create the standard curve, 25 μL of the standard solutions (0, 1, 2, 5, 10, 25, 50 and 100 $\mu\text{g}/\text{mL}$ quercetin in 80% aqueous ethanol) will be mixed with 75 μL 95% aqueous ethanol, 5 μL 10% aluminum chloride, 5 μL 1.0 M potassium acetate, and 140 μL ddH₂O and incubated for 30 minutes in the dark. The absorbance will then be measured spectrophotometrically at 415 nm. To measure the flavonoid content of the morel extracts, the procedure will be repeated by using 25 μL of the extracts instead of the standard solutions. The absorption will be measured and compared to the standard curve to calculate the flavonoid content.