

Medicinal Uses of *Artemisia tridentata*

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The purpose of my research was to investigate the possible antibacterial properties of *Artemisia tridentata* (Big Sagebrush). I hypothesized that *Artemisia tridentata* would inhibit the growth of bacteria. Based on my observations, *Artemisia tridentata* helps heal the wound of an injured animal in the field as the animal brushes against the leaves of *Artemisia tridentata*. First, the plant extracts were prepared. A strong tea with *Artemisia tridentata* leaves was made, and an ethanol extract with *Artemisia tridentata* was prepared. Petri dishes containing nutrient agar were streaked with ATCC8739 *Escherichia coli* bacteria. The following disks were applied to the prepared petri dishes: a disk with chloramphenicol, a disk soaked in *Artemisia tridentata* tea, a disk soaked in *Artemisia tridentata* ethanol extract, and a plain disk. The petri dishes were then incubated at 37 degrees Celsius for 24 hours. My result showed no activity against *Escherichia coli* bacteria around the disks soaked with *Artemisia tridentata* solutions. My hypothesis regarding the antimicrobial effects of *Artemisia tridentata* was rejected. I then had the opportunity to test my *Artemisia tridentata* extracts on A549 lung cancer cells. An AlamarBlue assay was done to test both the *Artemisia tridentata* tea and the ethanol extract on A549 lung cancer cells. The highest concentration of my *Artemisia tridentata* ethanol extract inhibited the growth of the lung cancer cells. More experiments should be done testing possible anticancer effects of *Artemisia tridentata*. More experiments should be conducted regarding the anticancer effects of *Artemisia tridentata*. Future work could also include testing *Artemisia tridentata* extracts on different types of bacteria.

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