

# ANTIBACTERIAL ACTIVITY OF *Dendrobium antennatum* ORCHID LEAF EXTRACT TO *Escherichia coli* BACTERIA

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## ABSTRACT

*This purpose of the study are to determine the presence of alkaloids, flavonoids, and tannins in ethanol 96% orchid leaf extract D. antennatum, to determine the effect of the concentration of D. antennatum orchid leaf extract in inhibiting the growth of E. coli bacteria, and to determine the most effective concentration of orchid leaf extract D. antennatum in inhibiting the growth of E. coli bacteria. This research is an experiment research with completely randomized design. The antibacterial test method used was the agar well diffusion method with three repetitions. The concentration of the extract used were (10, 20, 30, 40, 50)% with positive control of chloramphenicol and negative control of 1% DMSO. Observations and measurements were carried out every 3 hours for 24 hours by looking at the bacterial inhibition zone in the form of a clear zone around the agar well. Data analysis used One Way ANOVA analysis on the SPSS version 20 program, followed by a post hoc test by Duncan. The results showed that the D. antennatum orchid leaf extract was proven to contain alkaloids, flavonoids, and tannins, as well as antibacterial properties. The result of statistical analysis showed that the concentration of the extract of orchid leaf extract D. antennatum had a significant effect on inhibiting the growth of E. coli bacteria. The higher concentration of the extract is the more effective to inhibit bacterial growth. The 50% extract concentration was the most effective in inhibiting E. coli bacteria with the largest inhibition zone formation 12.26 mm.*

Kata Kunci: *Antibacterial, D. antennatum orchid leaf extract, agar well diffusion, E. coli*