

**ANTIBACTERIAL ACTIVITY OF ENDOPHYTIC FUNGI FROM FIG
(*Ficus carica* L.) AGAINST *Escherichia coli***

**Astri Nur Azizah
Departement of Pharmacy**

ABSTRACT

Antibacterial resistance is a major health problem in various countries. The discovery of antimicrobial drugs is important to overcome this problem. One of the potentially antibacterial plants is fig plant (*Ficus carica* L.). Antibacterial compounds that contained in fig plant can be produced by utilizing endophytic fungi that live in plant tissues. Endophytic fungi have been recognized as potential sources of secondary metabolite bioactive compounds. The aim of this study was to determine the antibacterial activity produced by endophytic fungi from fig plant (*Ficus carica* L.) against *Escherichia coli* bacteria. Isolate endophytic fungi made in culture media for 14 days. The culture media and mycelia were obtained and then extracted with ethyl acetate and media in 1:1 ratio. Culture media and mycelia were evaporated using vacuum rotary evaporator and obtained the crude extract. Antibacterial activity test was carried out using MTT Assay method against *Escherichia coli* bacteria. Qualitative analyzed of bioactive compounds was carried out by Thin Layer Chromatography (TLC) and using specific reagents. The result showed that culture media and mycelia extract Ba2, Bu2 and D1 had the same Minimum Inhibitory Concentration (MIC) value of 16 mg/ml. Percentage the death of *Escherichia coli* on the extract of culture media Ba2, Bu2 and D1 were 90.96%, 85.57%, and 84.59%. Isolate Ba2 and Bu2 endophytic fungi from culture media are identified of alkaloids and terpenoids. Isolate D1 culture media contains of phenol, alkaloid, and terpenoid. Percentage the death of *Escherichia coli* on mycelia extract Ba2, Bu2, and D1 were 51.88%, 89.63%, and 42.81%. The compounds in the extracts of mycelia Ba2, Bu2, and D1 are terpenoids. So, it can be concluded that the percent value death of *Escherichia coli* is greater in the extracts of culture media than in the extracts of mycelia, and the bioactive compounds that are thought to produce activity are alkaloid, phenol, and terpenoid.

Keywords: endophytic fungi, *Ficus carica* L, antibacterial, *E.coli*, MTT Assay.