

## ABSTRACT

Dara Nazha Elnanda. 24020220140084. **Potensi Ekstrak *Ramalina peruviana* Sebagai Antibakteri Terhadap *Escherichia coli* dan *Staphylococcus aureus*.** Under the supervision of Arina Tri Lunggani and Anto Budiharjo.

*Ramalina peruviana*. is a lichen organism with antibiotic potential in combating bacterial infections, particularly *Escherichia coli* and *Staphylococcus aureus*, which are common causes of various diseases. Indonesia, as a country with high biodiversity, including in the Mega Biodiversity region, offers a variety of lichen species with bioactive potential, such as *Ramalina sp.* found widely across different regions. This research aims to determine the antibacterial activity of *Ramalina sp.* ethanol extract against *E. coli* and *S. aureus* bacteria. Samples of *Ramalina sp.* were collected in the Medini forest, Jatirejo, Central Java. The samples were macerated using 96% ethanol solvent with extract concentration series of 10%, 20%, and 30%. Each concentration underwent antibacterial activity testing, including Kirby Bauer method, Minimum Inhibitory Concentration (MIC) assay, and FTIR spectroscopy analysis to identify bioactive compounds in the samples. Data analysis was conducted using one-way ANOVA. The research findings reveal that *Ramalina sp.* has an upright green thallus with dense and complex branching, as well as apothecia and soralia. Although the ethanol extract of *Ramalina peruviana* showed no significant antibacterial activity against *E. coli* and *S. aureus* based on the Kirby Bauer test, MIC testing indicated that the 30% extract concentration inhibited the growth of *E. coli*, while the 10% concentration effectively inhibited the growth of *S. aureus*. Identification of active compounds using FTIR revealed the presence of hydroxyl, carbonyl, and aromatic C-H vibration groups in the extract. ANOVA results showed significant differences in antibacterial activity against *E. coli* and *S. aureus*, as well as Minimum Inhibitory Concentration activity against both bacteria (*Sig.*) > 0.05.

*Keywords: Antibacterial, Ramalina peruviana, Escherichia coli, Staphylococcus aureus*