

ABSTRAK

AKTIVITAS ANTIBAKTERI FUNGI ENDOFIT DARI PELEPAH PISANG MAS (*Musa acuminata*) DAN DAUN WEDELIA (*Sphagnethicola trilobata*) TERHADAP BAKTERI *Staphylococcus aureus*, *Eschericia coli*, DAN *Salmonella typhimurium*

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Fungi endofit merupakan mikroorganisme yang hidup didalam jaringan tanaman tanpa menimbulkan penyakit pada tanaman inangnya. Fungi endofit telah mengambil bagian penting dalam hubungannya dengan tanaman, dimana fungi endofit telah menghasilkan beberapa senyawa bioaktif yang sama dengan tanaman inangnya dan mampu mendorong perkembangan juga pertahanan terhadap mikroba patogen, salah satu senyawa yang dihasilkan adalah senyawa antibakteri. Penelitian ini bertujuan untuk mengetahui adanya aktivitas antibakteri fungi endofit terhadap bakteri *S. aureus*, *E. coli* dan *S. typhimurium*. Metode yang digunakan untuk menguji aktivitas antibakteri fungi endofit yaitu mikrodilusi. Sebanyak empat isolat fungi endofit berhasil diisolasi dari pelepah pisang mas dan daun wedelia. Dua isolat fungi endofit yaitu FEPP5 dan FEDW1 dapat difermentasi dan menghasilkan biomassa masing-masing sebanyak 4,46 gram dan 4,81 gram. Hasil uji aktivitas antibakteri lisat FEPP5 dan FEDW1 mampu menunjukkan KHM terhadap bakteri *S. aureus* dan *S. typhimurium* karena rata-rata persentase hambatnya ≥ 80 % serta mampu menunjukkan KBM karena rata-rata persentase hambatnya $\geq 99,9$ %. Lisat kombinasi dan lisat FEPP5 hanya mampu menunjukkan KHM pada bakteri *E.coli*. Berdasarkan penelitian yang telah dilakukan, lisat FEPP5, FEDW1 dan kombinasi memiliki aktivitas antibakteri.

Kata Kunci : antibakteri, fungi endofit, *Musa acuminata*, *Sphagnethicola trilobata*

ABSTRACT

ANTIBACTERIAL ACTIVITY OF ENDOPHYT FUNGI FROM GOLD BANANA MIDRIB (*Musa acuminata*) AND WEDELIA LEAVES (*Sphagnethicola trilobata*) AGAINST *Staphylococcus aureus*, *Eschericia coli*, AND *Salmonella typhimurium*

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Endophytic fungi are microorganisms that live in plant tissues without causing disease in the host plant. Endophytic fungi have taken an important role in plants, where endophytic fungi have produced several bioactive compounds that are the same as their host plants and can promote the development and defense against microbial pathogens, one of the compounds produced is antibacterial compounds. This study aims to determine the antibacterial activity of endophytic fungi against S. aureus, E. coli, and S. typhimurium bacteria. The method used to test the antibacterial activity of endophytic fungi is microdilution. A total of four isolates of endophytic fungi were isolated from the banana gold midrib and wedelia leaves. Two isolates of endophytic fungi, FEPP5 and FEDW1, were fermentable and yielded biomass of 4.46 grams and 4.81 grams, respectively. The results of the antibacterial activity test of FEPP5 and FEDW1 lysates showed MIC against S. aureus and S. typhimurium because the average percentage of inhibition was $\geq 80\%$ and was able to show MBC because the average percentage of inhibition was $\geq 99.9\%$. The combination of lysate and FEPP5 lysate was only able to show MIC on E.coli bacteria. Based on the research that has been done, the lysate FEPP5, FEDW1, and the combination have antibacterial activity.

Keywords: antibacterial, endophytic fungi, Musa acuminata, Sphagnethicola trilobata