

ABSTRAK

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Program Studi : Farmasi
Judul : Uji Aktivitas Antibakteri Isolat PLC5 Kapang Endofit Dari Tangkai Daun Kayu Jawa (*Lannea coromandelica* [Houtt.] Merr.) Terhadap *Bacillus subtilis* dan *Escherichia coli*

Mikroba endofit merupakan mikroba yang hidup di dalam jaringan tanaman inang tanpa menyebabkan gejala-gejala penyakit. Kapang endofit menghasilkan senyawa metabolit sekunder yang dapat bermanfaat sebagai antibiotik. Pada penelitian sebelumnya telah dilakukan isolasi kapang endofit dari tangkai daun kayu jawa (*Lannea coromandelica* [Houtt.] Merr.) yang diperoleh 6 isolat kapang endofit yaitu PLC1.A, PLC1.B, PLC2, PLC3, PLC4, PLC5. Selanjutnya digunakan isolat PLC5 kapang endofit untuk dilakukan uji aktivitas antibakteri terhadap bakteri *Bacillus subtilis* dan *Escherichia coli*. Terlebih dahulu dilakukan pembuatan kurva pertumbuhan selama 31 hari untuk memperoleh data fase stasioner kemudian dilakukan proses fermentasi selama 21 hari. Hasil proses fermentasi dipisahkan menjadi 2 bagian yaitu biomassa dan supernatan. Biomassa disaring menggunakan pelarut metanol, supernatan disaring menggunakan pelarut etil asetat hingga diperoleh larutan jernih yang kemudian dipekatkan dengan *vacuum rotary evaporator* untuk diperoleh ekstrak biomassa dan supernatan isolat PLC5 kapang endofit. Pada ekstrak biomassa isolat PLC5 kapang endofit tidak menghasilkan zona hambat terhadap bakteri *Bacillus subtilis* dan *Escherichia coli*. Pada ekstrak supernatan isolat PLC5 kapang endofit menghasilkan zona hambat sebesar 11,82 mm terhadap bakteri *Bacillus subtilis* dan tidak pada bakteri *Escherichia coli*.

Kata kunci:

Kapang endofit, biomassa, supernatan, *Bacillus subtilis*, *Escherichia coli*

ABSTRACT

Name : Dinda Aulia Hanifah
Study Program : Pharmacy
Title : Antibacterial Activity Test of PLC Isolates 5 Endophytic Fungi from Javanese Wood Leaves Stalks (*Lannea coromandelica* [Houtt.] Merr.) Against *Bacillus subtilis* and *Escherichia coli*

Endophytic microbes are microbes that live in the tissues of host plants without causing symptoms of the disease. Endophytic fungi produce secondary metabolites which can be useful as antibiotics. In the previous study, isolation of endophytic fungi from Javanese wood leaves stalks (*Lannea coromandelica* [Houtt.] Merr.) Obtained 6 endophytic fungi isolates namely PLC1.A, PLC1.B, PLC2, PLC3, PLC4, PLC5. Furthermore, PLC isolates 5 endophytic fungi were used to test antibacterial activity against *Bacillus subtilis* and *Escherichia coli* bacteria. First, the growth curve was made for 31 days to obtain stationary phase data and then carried out the fermentation process for 21 days. The results of the fermentation process are separated into 2 parts, namely biomass and supernatant. Biomass was filtered using methanol solvent, the supernatant was filtered using ethyl acetate solvents until both of them obtained clear solutions which were then concentrated with vacuum rotary evaporator to obtain biomass and supernatant extracts of PLC isolates 5 endophytic fungi. In biomass extracts of PLC isolates 5 endophytic fungi did not produce inhibitory zones against *Bacillus subtilis* and *Escherichia coli* bacteria. In the supernatant extract of PLC isolates 5 endophytic fungi produced a inhibition zone of 11.82 mm against *Bacillus subtilis* bacteria and not on *Escherichia coli* bacteria.

Keyword:

Endophytic fungi, biomass, supernatants, *Bacillus subtilis*, *Escherichia coli*