

INTISARI

Artemisia annua L. adalah tumbuhan obat yang berguna sebagai antimalaria, antipiretik, dan antibakteri. Pada jaringan vaskular *A.annua* L. diketahui terdapat mikroba endofit. Mikroba endofit adalah mikroba yang hidup di dalam jaringan tanaman tanpa membahayakan tanaman inangnya. Mikroba ini diketahui dapat memperbaiki pertumbuhan tanaman karena kemampuannya menekan pertumbuhan patogen dengan cara kompetisi, menghasilkan senyawa antibiotik, atau menginduksi ketahanan tanaman.

Tujuan penelitian ini adalah mengisolasi bakteri endofit dari batang tanaman *A. annua* L., menguji potensi antibakteri dari senyawa yang dihasilkan oleh isolat bakteri endofit tersebut terhadap bakteri uji *Bacillus subtilis* dan *Salmonella typhi*, serta mengetahui identitas bakteri penghasil senyawa antibakteri tersebut.

Penelitian ini merupakan penelitian eksperimental murni dan bersifat eksploratif-deskriptif. Isolasi bakteri endofit dari batang tanaman *A. annua* L. dilakukan dengan metode *streak plate*, sedangkan potensi antibakteri dilakukan dengan metode difusi *paper disc*. Identifikasi dan determinasi bakteri endofit dilakukan dengan pengamatan morfologi koloni, morfologi sel, dan uji biokimia berdasarkan buku panduan baku determinasi bakteri (Holt *et al*, 2000).

Hasil penelitian ini adalah bakteri endofit penghasil senyawa antibakteri yang mempunyai potensi antibakteri terhadap *Bacillus subtilis* adalah genus *Amphibacillus*. Sedangkan senyawa yang dihasilkan oleh bakteri endofit ini tidak memiliki potensi antibakteri terhadap *Salmonella typhi*.

Kata kunci : bakteri endofit, potensi antibakteri, *Artemisia annua* L., *Bacillus subtilis*, *Salmonella typhi*, *Amphibacillus*.

ABSTRACT

Artemisia annua L is a medical plant which is used as antimalaria, antipyretic, and antibacterial. It is known that there is an endophytic microbia on its vascular tissue. Endophytic microbia is the microbia which lives in the plants tissue without endangering its host. This microbia is also known to be able to improve plant's growth because its ability to repress the development of pathogen by competition, to produce an antibiotal substance, and to induce plant's imunity.

The aims of this research were to isolate endophytic bacteria from the stem of *A. annua* L., to test the antibacterial potentiality from the substance resulted from the endophyt's microbia isolate towards *B. subtilis* and *S. typhi*, and to find identify of bacteria which produce the antibacterial substance.

This research was a pure experimental research, which was explorative-descriptive. Isolation endophytic bacteria from the stem of *A. annua* L. was done by streak plate method, the antibacterial potentiality was observed through the paper disc diffusion method. The identification and determination towards endophytic bacteria was done through the observation of colony morphology, cell morphology, and biochemistry tests (Holt *et al*, 2000).

The result of this research were antibacterial compounds which was produced by endophytic bacteria was isolated from *A.annua*. L, had the potential antibacteria towards *B.subtilis*, and it was known that the identity of the endophytic bacteria which produced this antibacteria compounds was *Amphibacillus*. Whereas in the *S. typhi*, substance produced from this bacteria had no potentiality at all.

Keywords : endophytic bacteria, antibacterial potentiality, *Artemisia annua* L., *Bacillus subtilis*, *Salmonella typhi* , *Amphibacillus*