

ABSTRAK

Review Aktivitas dan Mekanisme Antibakteri Rimpang Curcuma longa, Curcuma amada, Curcuma zedoaria Terhadap Bakteri Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa

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Infeksi adalah suatu invasi jaringan oleh berbagai patogen, terutama bakteri dan virus. Penyakit infeksi merupakan salah satu permasalahan kesehatan, khususnya di negara berkembang. Penatalaksanaan infeksi bakteri dapat menggunakan antibiotik, namun penggunaan antibiotik secara tidak rasional dengan intensitas penggunaan yang terus menerus dapat memberikan dampak yang bersifat negatif yaitu munculnya resistensi antibiotik. Penggunaan tanaman sebagai antimikroba relatif tidak menyebabkan terjadinya efek samping bila dibandingkan antimikroba sintetis. Tanaman dari genus *Curcuma* terbukti memiliki banyak aktivitas termasuk aktivitas antibakteri. Skripsi ini disusun untuk mengetahui aktivitas antibakteri rimpang *Curcuma longa*, *Curcuma amada* dan *Curcuma zedoaria* terhadap bakteri *Staphylococcus aureus*, *Escherichia coli* dan *Pseudomonas aeruginosa*, senyawa bioaktif yang diduga memiliki aktivitas antibakteri, juga mekanisme kerja senyawa bioaktif tersebut. Metode yang digunakan yaitu *narrative review* dengan sumber artikel atau jurnal ilmiah yang telah diterbitkan sebelumnya. Hasil menunjukkan bahwa ekstrak dari ketiga rimpang genus *Curcuma* efektif sebagai antibakteri karena mengandung senyawa bioaktif alkaloid, flavonoid, terpenoid, tanin dan saponin. Ketiga rimpang genus *Curcuma* memiliki persamaan yaitu kandungan umumnya kurkumin. Aktivitas antibakteri dari ketiga rimpang genus *Curcuma* tidak menunjukkan korelasi dengan jumlah kandungan kurkumin. Senyawa bioaktif lain dalam ekstrak ketiga rimpang genus *Curcuma* juga memberikan aktivitas antibakteri dan memiliki mekanisme masing-masing sebagai antibakteri.

Kata Kunci: Aktivitas antibakteri *in vitro*, mekanisme antibakteri, rimpang genus *Curcuma*, senyawa bioaktif

ABSTRACT

Review Antibacterial Activity and Mechanism Of Curcuma longa, Curcuma amada, Curcuma zedoaria Against Bacteria Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa

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Infection is an invasion of tissue by various pathogens, especially bacteria and viruses. Infectious disease is one of the health problems, especially in developing countries. The management of bacterial infections can use antibiotics, but irrational use of antibiotics with continuous intensity of use can have a negative impact, namely the emergence of antibiotic resistance. The use of plants as antibacterial relatively does not cause side effects when compared to synthetic antimicrobials. Plants from the genus Curcuma have been shown to have many activities including antibacterial activity. This review was aimed to understand the antibacterial activity of the rhizomes of Curcuma longa, Curcuma amada and Curcuma zedoaria against Staphylococcus aureus, Escherichia coli and Pseudomonas aeruginosa, bioactive compounds that are suspected to have antibacterial activity, as well as the mechanism of action of those bioactive compounds. The method was a narrative review with the source of articles or scientific journals that have been published previously. The results showed that each extract from the three rhizome of the genus Curcuma are effective as an antibacterial because they contain bioactive compounds of alkaloid, flavonoid, terpenoid, tannin and saponin. The three rhizome of the Curcuma genus has something in common, namely the general content of curcumin. The antibacterial activity of the three rhizomes of the Curcuma genus did not show a correlation with the amount of curcumin content. Other bioactive compounds in the three rhizome extracts of the genus Curcuma also provide antibacterial activity and each have their own antibacterial mechanism.

Keywords: *Antibacterial activity in vitro, antibacterial mechanism, bioactive compounds, rhizome of the genus Curcuma*