

INTI SARI

ANGGRENIE, Y. 2017. UJI AKTIVITAS ANTIBAKTERI KOMBINASI MINYAK ATSIRI RIMPANG BANGLE (*Zingiber cassumunar* Roxb.) dan DAUN KEMANGI (*Ocimum basilicum* L.) TERHADAP *Staphylococcus aureus* ATCC 25923, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Minyak atsiri rimpang bangle dan daun kemangi mengandung terpineol-4, sabinene, sitral, linalool, eugenol dan lain-lain. Penelitian ini bertujuan untuk mengetahui aktivitas dari kombinasi minyak atsiri rimpang bangle (*Zingiber cassumunar* Roxb.) dan daun kemangi (*Ocimum basilicum* L.) sebagai antibakteri terhadap *Staphylococcus aureus* ATCC 25923.

Metode penelitian ini menggunakan metode dilusi sistem *checkerboard* dengan konsentrasi bertingkat yaitu 25%; 12,5%; 6,25%; 3,125%; 1,56%; 0,78%. Sistem *checkerboard* menggunakan 48 tabung, 36 tabung berisi kombinasi dari kedua minyak atsiri, 6 tabung berisi minyak atsiri rimpang bangle tunggal dan 6 tabung berisi minyak atsiri daun kemangi tunggal. Data KBM yang diperoleh dianalisa menggunakan perhitungan *Fractional Inhibitory Concentration Index* (FIC Index) untuk mengetahui efek kombinasi sinergis, aditif atau antagonis.

Hasil penelitian menunjukkan minyak atsiri rimpang bangle, daun kemangi dan kombinasi mempunyai aktivitas antibakteri terhadap *Staphylococcus aureus* ATCC 25923. Hasil yang efektif adalah minyak atsiri tunggal rimpang bangle dengan KBM 6,25%, daun kemangi KBM 12,5% dan pada kombinasi yang efektif adalah minyak atsiri rimpang bangle konsentrasi 0,78 % dengan daun kemangi 3,125% dan minyak atsiri rimpang bangle konsentrasi 1,56% dengan daun kemangi 1,56%. Hasil kombinasi minyak atsiri rimpang bangle dan daun kemangi memiliki efek sinergis dengan nilai FIC indeks 0,3748 dan 0,3744 (<0,5).

Kata kunci : *Staphylococcus aureus* ATCC 29523, antibakteri, minyak atsiri, *Zingiber cassumunar* Roxb., *Ocimum basilicum* L.

ABSTRACT

ANGGRENIE, Y. 2017. ANTIBACTERIAL ACTIVITY TEST COMBINATION OF ESSENTIAL OIL BANGLE RHIZOME (*Zingiber cassumunar* Roxb.) AND BASIL LEAVES (*Ocimum basilicum* L.) TO *Staphylococcus aureus* ATCC 25923, THESIS, PHARMACY FACULTY, SETIA BUDI UNIVERSITY, SURAKARTA.

The essential oil of bangle rhizome and basil leaves contains terpineol-4, sabinene, citral, linalool, eugenol and others. The purpose of this research is to know the activity of combination on essential oil bangle rhizome (*Zingiber cassumunar* Roxb.) and basil leaves (*Ocimum basilicum* L.) as antibacterial to *Staphylococcus aureus* ATCC 25923.

The method used in this research using dilution method with *checkerboard* system use the concentration of 25%; 12.5%; 6.25%; 3.125%; 1.56%; 0.78%. The *checkerboard* system use 48 tubes, 36 tubes containing a combination of both essential oils, while 6 tubes contain the essential oil of single bangle rhizome and 6 other tubes containing the essential oil of single basil leaves. MBC obtained was analyzed using *Fractional Inhibitory Concentration Index* (FIC Index) calculation to determine the effect combination of synergistic, additive or antagonist.

The study results showed that essential oil of bangle rhizome, basil leaves and combination had antibacterial activity against *Staphylococcus aureus* ATCC 25923. The effective results on single essential oil of bangle rhizome with MBC 6.25%, basil leaves MBC 12.5% and the effective combination is at the concentration of essential oil bangle rhizome 0,78% with basil essential oil 3,125% and the concentration of essential oil rhizome bangle 1.56% with basil essential oil 1.56%. The combination of essential oil of rhizome bangle and basil leaf has a synergistic effect with the FIC index value of 0,3748 and 0.3744 (<0.5).

Keywords: *Staphylococcus aureus* ATCC 25923, antibacterial, essential oil, *Zingiber cassumunar* Roxb., *Ocimum basilicum* L.