

INTISARI

APRIANI A, 2021 UJI AKTIVITAS ANTIBAKTERI KOMBINASI EKSTRAK DAUN TEH HIJAU (*Camellia sinensis* L) DAN EKSTRAK BIJI PEPAYA (*Carica papaya* L) TERHADAP BAKTERI *Escherichia coli* ATCC 25922, PROPOSAL SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Ismi Rahmawati, M.Si. dan apt. Taufik Turahman, M.Farm.

Daun teh hijau (*Camellia Sinensis* L) memiliki aktivitas sebagai antibakteri, senyawa yang terkandung flavanoid, tanin, saponin, dan alkaloid. Biji pepaya (*Carica Papaya* L) memiliki aktivitas antibakteri, senyawa yang terkandung alkaloid, saponin, dan flavanoid. Penelitian ini untuk mengetahui aktivitas antibakteri dari kombinasi ekstrak daun teh hijau (*Camellia Sinensis* L) dan biji pepaya (*Carica Papaya* L), dengan perbandingan efek teraktif dari kombinasi ekstrak terhadap bakteri *Escherichia coli* ATCC 25992.

Ekstraksi daun teh hijau dan biji pepaya menggunakan metode maserasi dengan pelarut etanol 96%. Ekstrak tunggal diuji dengan metode dilusi konsentrasi teh hijau 100% ,80%, 40%, 20%, 10%, 5%, 2,5%, 1,25%, 0,62%, 0,312%, dan ekstrak biji pepaya 40%, 20%, 10%, 5%, 2,5%, 1,25%, 0,62%, 0,31%, 0,15%, 0,07%. Ekstrak diuji kombinasi dengan metode difusi cakram dengan perbandingan daun teh hijau dan biji pepaya (1:1) ekstrak teh hijau 10% : ekstrak biji pepaya 20%, (1:2) ekstrak teh hijau 10% : ekstrak biji pepaya 40%, dan (2:1) ekstrak teh hijau 20% : ekstrak biji pepaya 20%. Hasil yang didapat dianalisis menggunakan analisis statistic SPSS versi 21. Dilakukan pengujian kombinasi untuk menentukan pola kombinasi.

Hasil penelitian uji dilusi dengan hasil KBM daun teh hijau dengan konsentrasi 10% dan biji pepaya dengan konsentrasi 20% sudah mampu membunuh pertumbuhan bakteri. Hasil uji difusi kombinasi ekstrak daun teh hijau dan biji pepaya dengan menggunakan kombinasi (2:1) memiliki aktivitas antibakteri terhadap bakteri *Escherichia coli* ATCC 25992 dengan rata-rata diameter 27,29 mn. Hasil uji pola interaksi kombinasi menggunakan kombinasi teraktif (2:1) didapat hasil yaitu berpola sinergisme.

Kata kunci : *Camellia Sinensis*, *Carica Papaya* L,*Escherichia coli* ATCC 25992, dilusi, difusi, kombinasi

ABSTRACT

APRIANI A, 2021 ANTIBACTERIAL ACTIVITY TEST OF COMBINATION OF GREEN TEA (*Camellia sinensis L*) LEAF (*Camellia sinensis L*) EXTRACT AND PAPAYA (*Carica papaya L*) SEED EXTRACT AGAINST *Escherichia coli* ATCC 25922, PROPOSAL SKRIPSIBU, FACULTY, Supervised by Dr. apt. Ismi Rahmawati, M.Sc. and right. Taufik Turahman, M. Farm.

Green tea leaves (*Camellia Sinensis L*) have antibacterial activity, compounds containing flavanoids, tannins, saponins, and alkaloids. Papaya seeds (*Carica Papaya L*) papaya seed plant has antibacterial activity, compounds contained alkaloids, saponins, and flavanoids. This study was to find out the antibacterial activity of the combination of green tea leaf extract (*Camellia Sinensis L*) and papaya seeds (*Carica Papaya L*), with a comparison of the active effects of the combination of extracts against escherichia coli bacteria ATCC 25992.

Extract green tea leaves and papaya seeds using the maceration method with a 96% ethanol solvent. Single extracts were tested using a series of green tea concentrations of 100%, 80%, 40%, 20%, 10%, 5%, 2.5%, 1.25%, 0.62%, 0.31%, and papaya seed extract 40%, 20%, 10%, 5%, 2.5%, 1.25%, 0.62%, 0.31%, 0.15%, 0.07%. Extract is tested in combination with disc diffusion method with comparison of green tea leaf extract and papaya seeds (1:1) 10% green tea extract: papaya seed extract 20%, (1:2) green tea extract 10%: papaya seed extract 40%, and (2:1) green tea extract 20%: papaya seed extract 20%. The results were analyzed using SPSS statistic analysis version 21. Combination testing is done to determine the pattern of the combination.

The results of the study that the dilution test with the results of Minimal Kill Concentration (KBM) green tea leaves with a concentration of 10% and papaya seeds with a concentration of 20% have been able to kill the growth of bacteria. Results of a combination diffusion test of green tea leaf extract and papaya seeds using a combination (2:1) It has antibacterial activity against escherichia coli bacteria ATCC 25992 with an average diameter of 27.29 mm. The results of the combination interaction pattern test using the most active combination (2:1) obtained results that are patterned synergistically.

Keywords: *Camellia Sinensis*, *Carica Papaya L*, *Escherichia coli* ATCC 25992, dilution, diffusion, combination