

ABSTRACT
INHIBITION TEST OF PETAI SEED EXTRACT (*Parkia speciosa* Hassk.)
AGAINST *ESCHERICHIA COLI* BACTERIA BY DISC DIFFUSION
METHOD

By

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Escherichia coli is one of the normal flora in the body, especially in the digestive tract. Some strains of this bacterium are pathogenic and can cause infectious diseases. Petai (*Parkia speciosa* Hassk) has the potential to be a medicinal plant. Phytochemical compounds in petai seeds such as alkaloids, flavonoids, saponins and terpenoids are known to have antibacterial activity. This study aims to determine the inhibition of petai seed extract against *Escherichia coli* bacteria.

Experimental research on disc diffusion method by testing 6 treatment groups, namely extract concentration 25%, 50%, 75%, 100%, positive control (chloramphenicol) and negative control (aquadest) 4 times. The extraction of petai seeds is carried out using methanol solvents. Sterile disc paper containing the treatment substance is placed on a culture of *Escherichia coli* bacterial media, the clear zone formed is measured as inhibition. The data obtained was statistically analyzed.

The results showed that the average diameter of the barrier zone was 0 mm (25%), 0 mm (50%), 7.25 mm (75%), 8.25 mm (100%), 24 mm (chloramphenicol), and 0 mm (aquadest).

The conclusion of this study is petai seed extract (*Parkia speciosa* Hassk.) has a weak antibacterial effect against *Escherichia coli* bacteria. There was a significant difference between the concentration of petai seed extract and the growth of *Escherichia coli* bacteria.

Keywords: antibacterial, petai seeds (*Parkia speciosa* Hassk.), *Escherichia coli*, disc diffusion method

ABSTRAK
UJI DAYA HAMBAT EKSTRAK BIJI PETAI (*Parkia speciosa Hassk.*)
TERHADAP BAKTERI *Escherichia coli* DENGAN METODE DIFUSI
CAKRAM

Oleh

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Escherichia coli merupakan salah satu flora normal pada tubuh khususnya pada saluran pencernaan. Beberapa strain dari bakteri ini bersifat patogen yang dapat menyebabkan penyakit infeksi. Petai (*Parkia speciosa Hassk.*) berpotensi sebagai tanaman obat. Senyawa fitokimia pada biji petai seperti alkaloid, flavonoid, saponin dan terpenoid diketahui memiliki aktivitas antibakteri. Penelitian ini bertujuan untuk mengetahui daya hambat ekstrak biji petai terhadap bakteri *Escherichia coli*.

Penelitian eksperimental metode difusi cakram dengan pengujian terhadap 6 kelompok perlakuan yaitu konsentrasi ekstrak 25%, 50%, 75%, 100%, kontrol positif (kloramfenikol) dan kontrol negatif (*aquadest*) sebanyak 4 kali pengulangan. Ekstraksi biji petai dilakukan menggunakan pelarut metanol. Kertas cakram steril yang mengandung zat perlakuan diletakkan diatas kultur media bakteri *Escherichia coli*, zona bening yang terbentuk diukur sebagai daya hambat. Data yang diperoleh dianalisis secara statistik.

Hasil penelitian menunjukkan rerata diameter zona hambat yaitu 0 mm (25%), 0 mm (50%), 7,25 mm (75%), 8,25 mm (100%), 24 mm (kloramfenikol), dan 0 mm (*aquadest*).

Kesimpulan penelitian ini adalah ekstrak biji petai (*Parkia speciosa Hassk.*) memiliki efek antibakteri yang lemah terhadap bakteri *Escherichia coli*. Terdapat perbedaan signifikan antara konsentrasi ekstrak biji petai terhadap pertumbuhan bakteri *Escherichia coli*.

Kata kunci : antibakteri, biji petai (*Parkia speciosa Hassk.*), *Escherichia coli*, metode difusi cakram