

ABSTRAK

AKTIVITAS ANTIVIRUS (H5N1) DAN ANTIBAKTERI (*STAPHYLOCOCCUS AUREUS* dan *ESCHERICHIA COLI*) TERHADAP EKSTRAK AIR DAUN KEMANGI (*Ocimum sanctum* L.) MENGGUNAKAN METODE *FREEZE DRYING*

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Latar Belakang: Daun kemangi (*Ocimum sanctum* L.) dapat digunakan sebagai antibakteri dan antifungi. Pada riset sebelumnya daun kemangi dilaporkan dapat dijadikan produk seperti *hand sanitizer*. Selain itu, daun kemangi dapat menghambat pertumbuhan bakteri *Escherichia coli*, *Staphylococcus aureus*, dan *Salmonella thyphi*. Namun demikian, uji antivirus pada daun kemangi belum pernah dilaporkan. Maka dari itu penelitian ini bertujuan untuk mengetahui aktivitas antivirus dan antibakteri yang terdapat pada ekstrak air daun kemangi.

Metode: Daun kemangi diekstraksi dengan metode infundasi dilanjutkan dengan *freeze drying*. Selanjutnya, ekstrak air daun kemangi dilakukan uji dengan metode *Hemagglutination Assay* dan uji aktivitas antibakteri terhadap *Staphylococcus aureus* dan *Escherichia coli* menggunakan metode difusi sumuran

Hasil Penelitian: Pada antivirus yang terbaik pada konsentrasi 12.5%, 25%, dan 35% mendapatkan hasil *touch* artinya bahwa hasilnya negatif, sehingga berefek sebagai antivirus terhadap H5N1. Namun, ekstrak air daun kemangi hanya konsentrasi 35% yang dapat menghambat pertumbuhan bakteri *S. aureus* dan *E. coli* dengan diameter zona hambat berturut-turut sebesar 16,44 mm dan 11,99 mm. Hasil skrining fitokimia ekstrak air daun kemangi terbukti mengandung senyawa flavonoid, tanin, alkaloid, dan saponin.

Kesimpulan: Ekstrak air daun kemangi (*O. sanctum* L.) mempunyai efek antivirus terhadap virus Influenza A (H5N1) dan antibakteri.

Kata Kunci: Antibakteri, Antivirus, Daun Kemangi, H5N1, *Ocimum Sanctum* L.

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ABSTRACT

ACTIVITY OF ANTIVIRAL (H5N1) AND ANTIBACTERIAL (*STAPHYLOCOCCUS AUREUS* AND *ESCHERICHIA COLI*) WITH AQUEOUS EXTRACTS OF BASIL LEAVES (*OCIMUM SANCTUM L.*) USING FREEZE DRYING METHODS

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Background: Basil leaves (*Ocimum sanctum L.*) can be used as antibacterial and antifungal. In previous research, basil leaves were reported to be used as products such as handsanitizers. In addition, basil leaves can inhibit the growth bacteria of *escherichia coli*, *staphylococcus aureus* and *salmonella thyphi*. However, antiviral tests on basil have not been reported. Therefore, this study aims to determine the antiviral and antibacterial activity contained in the water extract of basil leaves.

Methods: Basil leaves were extracted by the infundation method followed by freeze drying. Furthermore, the water extract of basil leaves were tested using the hemagglutination assay method and the antibacterial activity test against *staphylococcus aureus*, then for the *escherichia coli* using disk difussion method.

Results: In the best at antiviral concentrations is 12.5%, 25%, and 35% got the touch results, which means the results were negative, so it had an effect as an antivirus against H5N1. However, only 35% water extract of basil leaves can inhibit the growth of *S. aureus* and *E. coli* bacteria with each inhibition zone diameters of 16.44 mm and 11.99 mm. The results of phytochemical screening of basil leaf water extract proved to contain flavonoid compounds, tannins, alkaloids, and saponins.

Conclusion: The aqueous extract of basil (*Ocimum sanctum L.*) has an antiviral effect against Influenza A virus (H5N1) and antibacterial.

Keywords: Antibacterial, Antiviral, Basil leaves, H5N1, *Ocimum sanctum L.*

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