

## ABSTRAK

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**RASA PAHIT DAN AKTIVITAS INHIBISI  $\alpha$ -GLUKOSIDASE DAUN SAMBILOTO DENGAN PENGGUNAAN BERBAGAI JENIS ADSORBEN**  
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(xv + 52 halaman; 10 gambar; 7 tabel; 12 lampiran)

Daun sambiloto (*Andrographis paniculata*) adalah daun herbal yang banyak digunakan karena memiliki berbagai sifat fungsional, namun memiliki rasa yang sangat pahit sehingga kurang disukai. Tujuan dalam penelitian ini adalah untuk mengetahui pengaruh adsorben dan waktu pendidihan terhadap intensitas rasa pahit, senyawa fitokimia, dan aktivitas inhibisi  $\alpha$ -glukosidase daun sambiloto. Adsorben yang digunakan adalah bentonit, diatomit, dan attapulgit aktif dengan waktu pendidihan 5, 10, dan 20 menit. Daun yang telah diberi perlakuan kemudian dianalisis sensori (intensitas rasa pahit), total fenolik, total flavonoid, dan aktivitas inhibisi  $\alpha$ -glukosidase. Hasil menunjukkan perlakuan attapulgit aktif dengan waktu pemasakan 20 menit mampu mengurangi intensitas rasa pahit paling besar, diikuti bentonit dan diatomit. Sedangkan bentonit dengan waktu pendidihan 20 menit mampu mengurangi aktivitas inhibisi  $\alpha$ -glukosidase paling besar, diikuti attapulgit aktif dan diatomit. Berkurangnya intensitas rasa pahit mempengaruhi pengurangan senyawa fitokimia (total fenolik dan total flavonoid), dan aktivitas inhibisi  $\alpha$ -glukosidase karena adanya korelasi. Perlakuan attapulgit aktif dengan waktu pendidihan 20 menit merupakan perlakuan terbaik karena mampu mengurangi intensitas rasa pahit hingga 56% dan mempertahankan aktivitas inhibisi  $\alpha$ -glukosidase pada  $IC_{50}$  711,455 ppm.

Kata kunci: daun sambiloto, adsorben, bentonit, diatomit, attapulgit, aktivitas antidiabetes,  $\alpha$ -glukosidase

Referensi: 90 (2000-2020)

## ABSTRACT

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### **BITTERNESS AND $\alpha$ -GLUCOSIDASE INHIBITION ACTIVITY OF SAMBILOTO LEAVES USING TYPES OF ADSORBENTS**

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(xv + 52 pages; 10 figures; 7 tables; 12 appendices)

Green chiretta (*Andrographis paniculata*) leaves is a medicinal herb that widely used due to its functional properties, but have a very bitter taste thus it is less liked. The aim of this study was to know the effect of different types of adsorbents and boiling time towards bitterness intensity, phytochemical compounds, and  $\alpha$ -glucosidase inhibition activity. The adsorbent used were bentonite, diatomite, and activated attapulgate with boiling time. Treated leaves then analyzed for its sensory (bitterness intensity), total phenolic, total flavonoid, and  $\alpha$ -glucosidase inhibition activity. The results showed the treatment of activated attapulgate with 20 minutes of boiling time was able to reduce bitterness intensity the most, followed by bentonite and diatomite respectively. While bentonite with 20 minutes of boiling time was able to reduce  $\alpha$ -glucosidase inhibition activity the most, followed by activated attapulgate and diatomite respectively. The reduced bitterness intensity affects the reduction of phytochemical compounds (total phenolic and total flavonoid) and  $\alpha$ -glucosidase inhibition activity because of their correlation. The treatment of activated attapulgate with 20 minutes of boiling time was the best treatment because it can reduce bitterness intensity to 56% and maintain the  $\alpha$ -glucosidase inhibition activity with  $IC_{50}$  711,455 ppm.

Keywords: green chiretta leaves, adsorbent, bentonite, diatomite, activated attapulgate, antidiabetic activity,  $\alpha$ -glucosidase

References: 90 (2000-2020)