

ABSTRAK

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STUDI AKTIVITAS ANTIOKSIDAN DAN INHIBISI α -GLUKOSIDASE DARI EKSTRAK DAUN JAMBU BIJI (*Psidium guajava* L.)

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(xii + 46 halaman, 7 tabel, 14 gambar, 7 lampiran)

Jambu biji (*Psidium guajava* L.) merupakan tanaman yang umum dibudidayakan di Indonesia. Daun jambu biji memiliki senyawa antioksidan seperti *quercetin*, *myricetin*, kaempferol, guaijaverin, *hyperin*, *avicularin*, dan apigenin yang dapat menghambat aktivitas α -glukosidase. Tujuan dari penelitian ini adalah untuk mempelajari aktivitas antioksidan dan inhibisi α -glukosidase ekstrak tiga varietas daun jambu biji (*Psidium guajava* L.) Penelitian ini dilakukan dalam dua tahap, yaitu penelitian pendahuluan dan penelitian utama. Pada penelitian pendahuluan dilakukan pembuatan serbuk daun jambu biji, dan pada penelitian utama dilakukan ekstraksi serbuk daun jambu biji varietas “Kristal”, “Getas Merah”, dan “Pasar Minggu” menggunakan pelarut ethanol 50%, 70%, dan 95%. Seluruh ekstrak diuji untuk mengetahui karakteristiknya melalui uji total rendemen, total flavonoid, total fenolik, dan aktivitas antioksidan. Ekstrak daun jambu biji terpilih yang memiliki nilai total fenolik dan aktivitas antioksidan tertinggi adalah ekstrak daun jambu biji varietas “Getas Merah” menggunakan pelarut ethanol 50% dengan nilai total fenolik dan aktivitas antioksidan (IC_{50}) sebesar $95,93 \pm 0,62$ mg GAE/g dan $21,35 \pm 0,27$ ppm. Aktivitas inhibisi α -glukosidase ekstrak daun jambu biji terpilih memiliki nilai IC_{50} $67,73 \pm 0,18$ ppm.

Kata Kunci : antioksidan, ekstrak daun jambu biji, ethanol, flavonoid, fenolik, inhibisi α -glukosidase

Referensi : 60 (2002–2019)

ABSTRACT

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STUDY OF ANTIOXIDANT AND α -GLUCOSIDASE INHIBITORY ACTIVITY OF GUAVA (*Psidium guajava* L.) LEAVES EXTRACT

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Guava (*Psidium guajava* L.) is a common plant found in Indonesia. The leaves of guava plant have high antioxidant activity due to its antioxidant compounds such as quercetin, myricetin, kaempferol, guaijaverin, hyperin, avicularin, and apigenin, which could inhibit the activity of α -glucosidase. The objective of this research is to study the antioxidant and α -glucosidase inhibition activity of three different varieties of guava leaves (*Psidium guajava* L.) extract. This research is divided into two stages, preliminary and main stage. The preliminary stage of this research is size reduction of dried guava leaves into powder. The main stage of this research is the extraction of guava leaves powder from “Kristal”, “Getas Merah”, and “Pasar Minggu” variety using 50%, 70%, and 95% ethanol as solvent. All guava leaves extracts were characterized through total rendement, total flavonoid, total phenolic, and antioxidant activity analysis. The chosen guava leaves extract that exhibited the highest amount of total phenolic compound and antioxidant activity was made from “Getas Merah” variety and 50% ethanol as solvent, with total phenolic and antioxidant activity (IC_{50}) value of 95.93 ± 0.62 mg GAE/g and 21.35 ± 0.27 ppm, respectively. The chosen guava leaves extract exhibited α -glucosidase inhibitory activity with IC_{50} value of 67.73 ± 0.18 ppm.

Keywords : α -glucosidase inhibition, antioxidant, ethanol, flavonoid, guava leaves extract, phenolic

References : 60 (2002–2019)