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# KAJIAN AKTIVITAS PENURUN KADAR GLUKOSA DARAH EKSTRAK BATANG BROTOWALI (*Tinospora crispa* (L) *Miers.hen jin* )SECARA *INVIVO*

# ABSTRAK

**Latar Belakang :** Salah satu tanaman yang berpotensi sebagai tanaman obat antidiabetes adalah brotowali *(Tinospora crispa L).*Kandungan metabolit sekunder batang brotowali seperti flavonoid, alkaloid dan terpenoid golongan borapetoside berpotensi menurunkan kadar glukosa darah. Kandungan senyawa terpenoid berfungsi menurunkan serum gula darah, senyawa flavonoid merangsang sekresi insulin dan sensitivitas insulin. Alkaloid untuk meregenerasi sel beta pankreas yang rusak menyebabkan terjadinya peningkatan jumlah insulin di dalam tubuh sehingga terjadi penurunan kadar glukosa darah dalam tubuh.

**Tujuan** : Tujuan penelitian ini adalah untuk melakukan kajian literatur terhadap aktivitas antidiabetes ekstrak dan serbuk batang brotowali *(Tinospora crispa L)*secara *invivo*.

**Metode :** Metode penelitian yang digunakan *review* jurnal dari 5 jurnal yang terindeks nasional (Sinta) dan internasional (Scopus) tentang aktivitas antidiabetes batang brotowali *(Tinospora crispa L)* yang diterbitkan dari tahun 2013-2019.

**Hasil :** Ekstrak batang Brotowali (*Tinospora crispa L*) memiliki aktivitas sebagai antidiabetes berdasarkan parameter glukosa darah dengan dosis optimal ekstrak etanol batang brotowali sebesar 250 mg/kg BB 1x sehari peroral selama 14 hari dan 0,3-1 mg/kg BB intraperitoneal 2 x sehari selama 7 hari, serbuk batang brotowali sebesar 500mg/kgBB peroral selama 21 hari.

**Simpulan :** Ekstrak batang brotowali (*Tinospora Crispa L*) memiliki aktivitas antidiabetes dengan variasi dosis dan lama pengujian berdasarkan uji invivo.

**Kata Kunci :** Ekstrak Batang Brotowali, Serbuk, Kadar Glukosa Darah, Invivo

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**ACTIVITY OF BROTOWALI STEM EXTRACT ON BLOOG GLUCOSE LEVEL INVIVO (Tinospora crispa (L) Miers.hen jin ) ON BLOOD GLUCOSE LEVEL**

**ABSTRACT**

**Background:** Stem brotowali is one of the plants that have the potential to be used as an anti-diabetic medicinal plant (*Tinospora crispa L*). The borapetoside group of secondary metabolites found in brotowali stems, such as flavonoids, alkaloids, and terpenoids, has the potential to lower blood glucose levels. In diabetics, the presence of terpenoid compounds can decrease serum blood sugar levels. Insulin secretion and sensitivity are triggered by flavonoid compounds. Alkaloids that help regenerate damaged pancreatic beta cells cause an increase in insulin levels in the body, leading to a decrease in blood glucose levels.

**Objective:** The goal of this research was to conduct a literature review on the anti-diabetic activity of brotowali stems (*Tinospora crispa L*) extracts and powders in vivo.

**Methods:** The research method used was a journal review that used secondary data from 5 journals about the antidiabetic activity of brotowali stem (*Tinospora crispaL*) published between 2013 and 2019 that were indexed Sinta (nationally) and Scopus (internationally).

**Results:** Brotowali stem extract (*Tinospora crispa L*) has antidiabetic activity based on blood glucose parameters, with an optimal dose of 250mg/kgBB orally for 14 days and 0.3-1mg/kgBB intraperitoneally 2x a day for 7 days, and a brotowali stem powder dose of 500 mg/kg orally for 21 days.

**Conclusion:** Brotowali (*Tinospora Crispa L*) extract and powder have antidiabetic activity with variations in dosage and duration of testing based on in *vivo*.

**Keywords:** Brotowali Stem Extract, Powder, Blood Glucose, In vivo