

INTISARI

Daun sukun (*Artocarpus altilis* (Park.) Fosberg) secara empiris digunakan oleh masyarakat sebagai terapi tambahan pada stroke. Beberapa penelitian menunjukkan senyawa flavonoid terprenilasi dan tergeranilasi yang disolasi dari tanaman sukun mempunyai aktivitas sebagai anti agregasi platelet dan aktivitas lainnya yang berhubungan dengan penyakit kardiovaskuler seperti antioksidan, antiaterosklerotik dan antiinflamasi. Ekstrak etanol daun sukun (EEDS) mengandung senyawa flavonoid terprenilasi dan tergeranilasi dan juga senyawa lainnya sehingga diharapkan terjadi efek penghambatan agregasi platelet dan antitrombotik oleh senyawa-senyawa yang terkandung di dalamnya.

Aktivitas anti agregasi platelet EEDS (100, 250, 500, 750 dan 1000 $\mu\text{g/mL}$) ditentukan menggunakan metode turbidimetri pada *platelet rich plasma* (PRP) darah manusia yang diinduksi *Adenosine diphosphate* (ADP) 10 μM dengan menggunakan ticagrelor (100 $\mu\text{g/mL}$) sebagai kontrol positif. Aktivitas antitrombotik *in vivo* ditentukan berdasarkan persentase proteksi EEDS dengan dosis 200, 300 dan 400 mg/Kg BB terhadap *acute pulmonary thromboembolism* pada mencit jantan galur swiss yang diinduksi epinefrin (0,072 mg/Kg BB) dan kolagen (6 mg/Kg BB) dengan ticagrelor (11,7 mg/Kg BB) sebagai kontrol positif.

Hasil penelitian menunjukkan EEDS mampu menghambat agregasi platelet yang diinduksi ADP dengan IC_{50} 259,57 $\mu\text{g/mL} \pm 13,46$. Uji *in vivo* menunjukkan EEDS 400 mg Kg/BB mempunyai aktivitas antitrombotik karena secara signifikan mampu memberikan proteksi terhadap *acute pulmonary thromboembolism* yang diinduksi epinefrin dan kolagen sebesar 71,48% dan menurunkan jumlah trombus serta diameter trombus dibandingkan dengan kontrol negatif.

Kata kunci : daun sukun, anti agregasi platelet, antitrombotik, turbidimetri, *acute pulmonary thromboembolism*

ABSTRACT

Leaves of breadfruit (*Artocarpus altilis* (Park.) Fosberg) empirically used as an adjunctive therapy in stroke. Some studies reported that prenylated and geranylated flavonoids isolated from the breadfruit plants have activity as platelet aggregation inhibition and other activities associated with cardiovascular diseases such as antioxidants, anti-inflammatory and antiatherosclerotic. Ethanolic extract of leaves of breadfruit contains prenylated and geranylated flavonoids and other compounds were expected have effects of inhibition of platelet aggregation and antithrombotic.

Anti platelet aggregation activity of ethanolic extract of leaves of breadfruit (100, 250, 500, 750 and 1000 μg / mL) was evaluated using turbidimetry method in human platelet rich plasma (PRP) induced by adenosine diphosphate (ADP) 10 μM using ticagrelor (100 mg / mL) as positive control compound.

Antithrombotic activity in vivo is determined by the protection percentage of ethanolic extract breadfruit leaves to acute pulmonary thromboembolism in male mice Swiss strain induced by epinephrine (0.072 mg/KgBW) and collagen (6 mg /KgBW) with ticagrelor (11.7 mg / Kg BW) as positive control compound.

The results showed that ethanol extract of leaves of breadfruit had activity to inhibit ADP induced platelet aggregation with IC_{50} 252.23 ± 6.46 μg / mL. In vivo test showed that ethanolic extract of leaves of breadfruit 400 mg/Kg BW had antithrombotic activity due to its capacity to provide protection against acute pulmonary thromboembolism induced by epinephrine and collagen, to reduce amount of thrombus and diameter of thrombus compared to the negative control.

Keywords: breadfruit leaves, anti platelet aggregation, anti thrombotic, turbidimetry, acute pulmonary thromboembolism