Baiq Naili Dewi Atika, 2019. Aktivitas neproprotektif Ekstrak Metanol Buah Okra (*Abelmoschus esculentus* L.) Pada *Mus musculus* Yang Diinduksi Sodium Nitrit. Tesis ini di bawah bimbingan: Dr. Sri Puji Astuti Wahyuningsih, M.Si. dan Dr. Dwi Winarni, M.Si., Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Tujuan penelitian ini adalah untuk mengetahui aktivitas nefroprotektif dari ekstrak metanol buah okra (*Abelmoschus esculentus* L.) akibat induksi sodium nitrit pada serum mencit berdasarkan uji total penolik dan flavonoid, aktivitas superoksida dismutase, aktivitas catalase, kadan *blood urea nitrogen*, kadar kreatinin dan histologi ginjal. Ekstraksi buah okra menggunakan pelarut metanol. Tiga puluh mencit jantan dewasa BALB/c usia 8-10 minggu dengan berat badan ±30 g, dibagi menjadi enam kelompok: kontrol normal, kontrol negatif (induksi sodium nitrit), dan kelompok perlakuan (induksi sodium nitrit dan pemberian ekstrak metanol buah okra pada dosis 50, 100, 200, dan 400 mg/kg BB). Mencit diinduksi sodium nitrit dengan dosis 50 mg/kg BB dan diberi diberi variasi dosis ekstrak metanol buah okra selama 19 hari melalui *gavage*. Pada akhir perlakuan, serum dikumpulkan untuk mengevaluasi aktivitas superoksida dismutase (SOD) aktivitas catalase, kadan *blood urea nitrogen*, kadar kreatinin dan organ ginjal diambil untuk analisis histologi ginjal. Data aktivitas catalase, kadan *blood urea nitrogen*, kadar kreatinin dan histologi ginjal dianalalisis secara statistik dengan α = 0,05. Kadar flavonoid yang didapatkan adalah 5.68 g dan kadar fenolik yang didapatkan 12.92 g yang menunjukkan bahwa ekstrak metanol buah okra memiliki aktivitas antioksidan. Hasil penelitian membuktikan bahwa pemberian ekstrak metanol buah okra dapat mengembalikan aktivitas SOD dan catalase, menurunkan kadar BUN dan kreatinin seperti normal, serta dapat memperbaiki struktur histologi ginjal seperti normal. Dosis pemberian ekstrak metanol buah okra yang optimal adalah 100 mg/kg BB.

Kata Kunci: ekstrak metanol buah okra, sodium nitrit, aktivitas nefroprotektif, aktivitas SOD, aktvitas catalse, kadar BUN, kadar kreatinin, dan histologi ginjal

Baiq Naili Dewi Atika, 2019. Nephroprotektive activity of Okra Pods Extract (*Abelmoschus esculentus)* in Sodium nitrite-Induced Mice. This thesis was under supervision of: Dr. Sri Puji Astuti Wahyuningsih, M.Si. and Dr. Dwi Winarni, M.Si., Departement of Biology, Faculty of Science and Technology, Airlangga University, Surabaya

ABSTRACT

This aim study was conducted to determine the effect of antioxidants from methanol extract of okra pods (*Abelmoschus esculentus*) in sodium nitrite-induced mice based on total phenolic and flavonoid test, superoxide dismutase activity, catalase activity, levels of blood urea nitrogen, levels of creatinine and kidney hisology. Okra pods were extracted using methanol solvent. Thirty adult male BALB/c mice (8-10 weeks, ±30 g) were divided into six groups: normal control, negative control (sodium nitrite exposure), and treatment group (sodium nitrite exposure and okra pods extract at doses of 50, 100, 200, and 400 mg/kg BW). These mice were exposed to sodium nitrite 50 mg/kg BW and were administrated with variation dose of okra pods extract for 19 days through gavage. Subsequently, serum was collected to evaluate the superoxide dismutase (SOD) catalase activity, levels of blood urea nitrogen, levels of creatinine and kidney hisology. Data of SOD activity, catalase activity, levels of blood urea nitrogen, levels of creatinine and kidney hisology were statistically analyzed by $\alpha = 0,05$. The flavonoid levels obtained were 5.68 g and the phenolic content obtained was 12.92 g. It showed that the extract of okra pods had antioxidant activity. The results of this study showed that administration of methanol extract of okra pods could restore SOD activity and catalase (CAT) activity as normal, reduced BUN levels and creatinine levels as normal, and can improve kidney histology as normal. The optimal dose of methanol extract of okra pods is 100 mg/kg BW.

Keywords : okra pods extract, sodium nitrite, nephroprotektive activity, SOD activity, catalase activity, BUN and kreatinine serum level, and kidney histology