

POTENSI ANTIOKSIDAN EKSTRAK ETANOLIK DAUN
***Swinglea glutinosa* (Blanco) Merr. TERHADAP**
STRES OKSIDATIF TIKUS (*Rattus norvegicus* Berkenhout, 1769)

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INTISARI

Swinglea glutinosa (Blanco) Merr. merupakan anggota Famili Rutaceae yang dilaporkan memiliki berbagai macam aktivitas biologis, seperti antiparasit, antimalaria, imunomodulator dan masih banyak lagi. Potensi tanaman *Swinglea glutinosa* terutama pada bagian daun masih belum banyak dieksplorasi. Selain itu, pengaruh ekstrak etanolik daun *Swinglea glutinosa* terhadap stres oksidatif yang diamati melalui aktivitas SOD, profil leukosit dan ekspresi gen iNOS pada hepar pada hewan uji *Rattus norvegicus* galur Sprague Dawley yang diinduksi CCl₄ masih belum diketahui. Penelitian ini dilakukan dengan tujuan untuk mempelajari bagaimana pengaruh pemberian ekstrak etanolik daun *Swinglea glutinosa* terhadap stres oksidatif setelah perlakuan induksi CCl₄ pada tikus putih. Penelitian dilakukan secara *in vivo* dengan mengamati aktivitas enzim SOD, profil leukosit meliputi jumlah WBC, neutrofil dan limfosit serta ekspresi iNOS pada organ hepar. Hasil penelitian secara statistik menunjukkan tidak ada perbedaan yang signifikan antar kelompok perlakuan, namun secara keseluruhan pada sampel yang diinduksi CCl₄, pemberian ekstrak etanolik daun *Swinglea glutinosa* mampu menurunkan aktivitas enzim SOD, jumlah WBC dan neutrofil, serta ekspresi gen iNOS dan meningkatkan jumlah limfosit usai perlakuan induksi dengan CCl₄ yang menyebabkan peningkatan nilai pada tiap parameter selain limfosit. Melalui hasil penelitian, ekstrak etanolik daun *Swinglea glutinosa* berpotensi untuk dikembangkan lebih lanjut sebagai antioksidan.

Kata kunci: *Swinglea glutinosa*, Antioksidan, CCl₄, iNOS, SOD, Stres Oksidatif.

**ANTIOXIDANT POTENCY OF ETHANOLIC LEAVES EXTRACT
FROM *Swinglea glutinosa* (Blanco) Merr. AGAINST
OXIDATIVE STRESS IN RATS (*Rattus norvegicus* Berkenhout, 1769)**

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ABSTRACT

Swinglea glutinosa (Blanco) Merr. is a member of the Rutaceae family which is reported to have various biological activities, such as antiparasitic, antimalarial, immunomodulatory, and many more. The potency of *Swinglea glutinosa* plants, especially the leaves part, has not been widely explored. In addition, the effect of an ethanolic leaf extract from *Swinglea glutinosa* on oxidative stress observed through SOD activity, leukocyte profile, and liver iNOS gene expression in *Rattus norvegicus* Sprague Dawley strain induced by CCl₄ is still unreported. This research was conducted to study the effect of giving ethanolic leaf extract from *Swinglea glutinosa* to oxidative stress after CCl₄ induction treatment in rats. The study was conducted in vivo by observing the activity of the SOD enzyme, the leukocyte profile including the number of WBCs, neutrophils, and lymphocytes, and the expression of liver iNOS gene. The results of the study statistically showed that there was no significant difference between the treatment groups. Still, overall, on the CCl₄-induced sample, administration of ethanolic leaf extract from *Swinglea glutinosa* was able to reduce the activity of the SOD enzyme, the number of WBC and neutrophils as well as the expression of the liver iNOS gene, and increase the number of lymphocytes after induction treatment with CCl₄ that caused an increase in the value of each parameter other than lymphocytes. The research results show that the ethanolic leaves extract from *Swinglea glutinosa* can be further developed as an antioxidant.

Key words: *Swinglea glutinosa*, Antioxidant, CCl₄, iNOS, SOD, Oxidative Stress.