

**Potensi Infusa Kulit Manggis (*Garcinia mangostana* L) Terhadap  
Hepatotoksisitas dan Stres Oksidatif Tikus Wistar (*Rattus norvegicus*,  
Berkenhout, 1769) Betina**

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**ABSTRAK**

Indonesia merupakan negara berkembang yang memiliki kekayaan alam dan biodiversitas yang sangat melimpah, hal tersebut didukung oleh letak geografis Indonesia sebagai suatu negara kepulauan. Banyak jenis tanaman yang berpotensi sebagai obat, salah satunya adalah Manggis. Kulit manggis di percaya memiliki berbagai macam khasiat dan dipercaya dapat mengurangi hepatotoksik dan stres oksidatif karena mengandung antioksidan. Penelitian menggunakan rancangan acak lengkap (RAL) dengan 4 kelompok perlakuan dan 2 kelompok kontrol, masing-masing kelompok terdiri dari 6 ekor tikus wistar betina. Uji toksisitas dilakukan selama 1 bulan diperoleh dosis H<sub>2</sub>O<sub>2</sub> sebesar 1 %. Penelitian dilakukan selama 2 bulan, tikus dibuat dalam keadaan hepatotoksik dengan memberikan H<sub>2</sub>O<sub>2</sub> *per oral* dengan dosis 1 % selama 2 bulan. Terapi dilakukan pada bulan kedua dengan memberikan infusa kulit manggis pada kelompok perlakuan dengan dosis sebesar 0,25 %, 0,50 %, 1 %, dan 2 %. Hasil pengukuran SGPT dan SGOT menunjukkan infusa kulit manggis dapat menurunkan kadar SGPT-SGOT dalam darah secara nyata ( $p < 0.005$ ). Pengujian kadar ROS dilakukan menggunakan larutan *Nitro Blue Tetrazolium* (NBT) dan n,n-dimetil formamide dan berdasarkan uji statistik *one way ANOVA*, infusa kulit manggis berpengaruh dalam menurunkan kadar ROS dalam hati hewan uji. Pengujian kadar *Malondialdehyde* (MDA) dilakukan menggunakan *Thiobarbituric Acid Reactive Substance* (TBARS) *Assay*. Hasil penelitian menunjukkan bahwa infusa kulit manggis memberikan dampak positif bagi penurunan kadar MDA di dalam hati. Berdasarkan hasil penelitian dapat disimpulkan bahwa infusa kulit manggis dapat mencegah hepatotoksisitas dan stress oksidatif pada tikus wistar betina.

**Kata Kunci:** Infusa Kulit Manggis, Hepatotoksik, *Reactive Oxygen Species* (ROS), *Malondialdehyde* (MDA)

**The Potency of Mangosteen's Peel Infused Water (*Garcinia mangostana* L) On the Hepatotoxicity and Oxidative Stress of Female Wistar Rat (*Rattus norvegicus*, Berkenhout, 1769)**

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**ABSTRACT**

Indonesia is a developing country which has the abundant natural resources and biodiversity. That fact is also supported by the geographical condition of Indonesia as an archipelago country. There are many varieties of plants which are potentially utilized as medicine, one of them is mangosteen. Mangosteen's peel is believed to possess many efficacies and it is also believed to decrease the hepatotoxic and oxidative stress because containing the antioxidant. This research used the complete random design (RAL) which was divided into 4 groups of treatment and 2 groups of control, each group consisted of 6 female wistar rats. The toxicity test was conducted continually for 1 month and the obtained dosage of H<sub>2</sub>O<sub>2</sub> was 1 %. The research was conducted for 2 months where the rats were conditioned in the hepatotoxic condition by continuously given H<sub>2</sub>O<sub>2</sub> *per oral* with the dosage 1 % for 2 months. Therapy was conducted on the second month by giving the mangosteen's peel infused water to the groups of treatment with the dosages 0,25 %, 0,50 %, 1 %, and 2 %. The measurement result of SGPT and SGOT showed that the mangosteen's peel infused water was capable to decrease the level of SGPT-SGOT in the blood ( $p < 0.005$ ). The test of ROS level was conducted using the *Nitro Blue Tetrazolium* (NBT) solution and *n,n-dimethyl formamide* based on the *one way* ANOVA statistical test, the mangosteen's peel infused water affected the decreasing of ROS level in the liver of the tested animals. The testing of *Malondialdehyde* (MDA) level was conducted using *Thiobarbituric Acid Reactive Substance* (TBARS) Assay. The result of the research showed that the mangosteen's peel infused water gave positive effects to the decreasing of MDA level in the liver. Based on the result of the research, it was concluded that the mangosteen's peel infused water was able to prevent hepatotoxicity and oxidative stress on the female wistar rat.

**Keywords:** *Mangosteen's Peel Infused Water, Hepatotoxic, Reactive Oxygen Species (ROS), Malondialdehyde (MDA)*