

The Antidiabetic Properties of Indonesian *Swietenia mahagoni* in Alloxan-Induced Diabetic Rats

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Abstract : Diabetes mellitus (DM) is a metabolic disease that can be indicated by the high level of blood glucose. The objective of this study was to observe the antidiabetic properties of ethanolic extract of Indonesian *Swietenia mahagoni* Jacq. seed on the profile of pancreatic superoxide dismutase and β -cells in the alloxan- experimental diabetic rats. The *Swietenia mahagoni* seed was obtained from Leuwiliang-Bogor, Indonesia. Extraction of *Swietenia mahagoni* was done by using ethanol with maceration methods. A total of 25 male Sprague dawley rats were divided into five groups; (a) negative control group, (b) positive control group (DM), (c) DM group that was treated with *Swietenia mahagoni* seed extract, (d) DM group that was treated with acarbose, and (e) non-DM group that was treated with *Swietenia mahagoni* seed extract. The DM groups were induced by alloxan (110 mg/kgBW). The extract was orally administrated to diabetic rats 500 mg/kg/BW/day for 28 days. The extract showed hypoglycemic effect, increased body weight, increased the content of superoxide dismutase in the pancreatic tissue, and delayed the rate of β -cells damage of experimental diabetic rats. These results suggested that the ethanolic extract of Indonesian *Swietenia mahagoni* Jacq. seed could be proposed as a potential anti-diabetic agent.

Keywords : beta cells, diabetes, hypoglycemic, rat, *Swietenia mahagoni*

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