

LOADED WITH ANTIOXIDANTS

C. sappan has phenols and can serve as a good natural source of potent antioxidants .

BIOLOGICAL AND PHARMACEUTICAL BULLETIN : Antioxidant Activity of *Caesalpinia sappan* Heartwood.

EVIDENCE BASED COMPLEMENTARY AND ALTERNATIVE MEDICINE

Antioxidant polyphenolic compounds from plants, in particular, fruits and vegetables, have been shown to have antioxidant health promoting properties. High values of phenolic compounds were estimated in C. sappan heartwood **150mg/g**

All biological systems that operate under aerobic conditions are exposed to oxidants that are generated either intentionally or as byproducts . Multiple species of oxidants are being generated, as implied by the first letters of the terms “reactive oxygen species” (ROS) and “reactive nitrogen species” (RNS) . When present in foods or body at lower concentrations than that of an oxidizable substrate, antioxidants considerably delay or prevent the oxidation of that substrate. Antioxidants may help the body to protect itself against various forms of oxidative damage that are caused by ROS and RNS, which are associated with various diseases including cancer, diabetes, shock, arthritis, and acceleration of the ageing process .

Antioxidant activity of *Caesalpinia sappan* heartwood was studied both by *in vitro* and *in vivo* models. The ethyl acetate, methanol and water extracts exhibited strong antioxidant activity as evidenced by the low IC50 values in both 1,1-diphenyl-2-picryl hydrazyl (DPPH)

and nitric oxide methods. The values were found to be less or comparable to those of ascorbic acid and rutin, the standards used.

RESULTS:

Administration of the successive methanol and water extracts at **50** and **100 mg/kg** body weight given for four days prior to carbon tetrachloride (CCl₄) treatment caused a significant increase in the level of superoxide dismutase (SOD) and catalase and a significant decrease in the level of thiobarbituric acid reactive substances (TBARS), when compared to CCl₄ treated control in both liver and kidney.

These changes observed at **100 mg/kg** body weight treatment were comparable to those observed for standard vitamin E at **50 mg/kg** treatment. The results support significant antioxidant nature of *Caesalpinia sappan* heartwood extracts.

These results provide an informative and quantitative summary of data that sappan wood has antioxidant properties which help in neutralizing the free radicles and helps in the prevention of ageing .

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<https://www.hindawi.com/journals/ecam/2013/864892/>