

## **Hepatoprotective effect of supercritical carbon dioxide extracted dabai pulp oil and its defatted pulp**

### **ABSTRACT**

All food scientists must utilize plants for their application as functional foods to reduce hypercholesterolemia incidence through diet. *Canarium odontophyllum* (dabai) is a novel source for new healthy oil and functional foods. In this work, we evaluate the hepatoprotective effects of supercritical carbon dioxide (SC-CO<sub>2</sub>) extracted dabai pulp oil (DPO) and defatted dabai pulp (DDP) against hypercholesterolemia elicited by a high-cholesterol diet in rats. Our results show that DPO and DDP supplementation exerted beneficial hypocholesterolemic effects against the high-cholesterol diet-fed rat. Nevertheless, supplementation with DDP revealed superior total cholesterol, low-density lipoprotein, and HMG-CoA reductase lowering efficacy ( $p < 0.05$ ). Supplementation of either DPO or DDP did not significantly affect AST and ALT levels than normal rats ( $p > 0.05$ ). Therefore, DDP and DPO are considered as having no toxicological significance. The histological section of rats treated with DPO and DDP showed improved steatosis in hepatocytes. HPLC analysis revealed that DPO and DDP contained syringic acid, which plays an important role in the beneficial effect. In conclusion, our results support the hypocholesterolemic and hepatoprotective effects of DPO and DDP in the hypercholesterolemic rats model.

**Keyword:** Antioxidant; Functional food; Hepatoprotective; Hypercholesterolemia; Waste