

## **Potential lipid-modulating and hepatic protective effects of *Citrus amblycarpa* and *Dimocarpus longan* leaf extracts in high-fat diet-induced rats**

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### **ABSTRACT**

*Citrus amblycarpa* and *Dimocarpus longan* are minor fruit plants whose leaves have traditionally been used in herbal medicine. In this study, we explored the potential lipid-modulating activity and effects on liver histology of ethanol extracts derived from *C. amblycarpa* and *D. longan* leaves, administered either individually or in combination, in a rat model of diet-induced hypercholesterolemia. The leaf extracts were obtained through maceration using 96% ethanol. Hypercholesterolemia was induced by administering a high-fat emulsion in combination with propylthiouracil for 14 days. Following induction, the animals received *C. amblycarpa* leaf extract (612.5 mg/kg body weight), *D. longan* leaf extract (200 mg/kg body weight), or a 1:1 combination of both extracts. Total cholesterol levels were measured, and liver tissues were evaluated through histopathological examination. Phytochemical analysis confirmed the presence of several bioactive compounds, including flavonoids, saponins, tannins, alkaloids, terpenoids, and steroids in both extracts. The combination treatment tended to show a greater reduction in total cholesterol levels and more favorable liver histological features compared to the single-extract treatments.

**Keywords:** *Citrus amblycarpa*, *Dimocarpus longan*, hypercholesterolemia, lipid metabolism, liver histology, medicinal plants