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Paeoniflorin Protects RAW 264.7 Macrophages from LPS-Induced Toxicity

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Macrophages are the cells primarily responsible for innate immune responses. Lipopolysaccharide (LPS) from Gram-negative bacteria activates macrophages, a critical step in controlling infections, but overwhelming macrophage activation causes a severe inflammatory state. Herein, we evaluated the protective effects of paeoniflorin (PF) by assessing its dose-dependent effects on cell viability in MTT assays and DNA damage in comet assays in LPS-treated RAW 264.7 macrophages. In the comet assays, we analyzed olive tail moment, tail length, and a percent of tail DNA as the markers for DNA strand breaks. PF-pretreatment for 24 h significantly protected RAW 264.7 cells against LPS-induced cell death and DNA damage. This study characterized PF as a protective agent against toxicity induced by LPS.

Key words: Lipopolysaccharide RAW 264.7 macrophages MTT assay comet assay

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The Correlativity of LPS and *Lycium fructus* Extract to Lipid Metabolism

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This study was performed to investigate the effect of *Lycium chinense* Millere extract (LC) on lipid metabolism in lipopolysaccharide-induced rat. LC of 100 mg/kg concentration was intraperitoneally administered into rats at dose of 1.5 ml/kg for 20 days. On the day 21, 5 mgl/kg of LPS was injected 4 hours before anesthetization. Total-lipid, triglyceride(TG) and malondialdehyde(MDA) concentration increased in LPS-treatment group, however these values showed to decrease in the LC group. Also total cholesterol and HDL-cholesterol decreased in LPS-treatment group. But LC group increased both of them. In summary, this animal test showed that the LC treated group was generally improved lipid metabolism. These results showed that LC had the lipid-lowering effects against the hepatotoxicity-inducing LPS.

Key words: Lipopolysaccharide, MDA, HDL, *Lycium fructus,* lipid metabolism