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Hibiscus hamabo Exerts Anti-inflammatory Effects in Lipopolysaccharide-induced RAW 264.7 Cells

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Hibiscus hamabo is a deciduous shrub that grows around salt marshes and is considered a semi-mangrove plant found in Asia. There are no studies on the biological activity of *H. hamabo* except for studies on the anthocyanin content. We investigated the anti-inflammatory effects of *H. hamabo* extract (HHE) on lipopolysaccharide (LPS)-induced RAW 264.7 cells. As nuclear factor-kappa B (NF-kB) induced by LPS moves into the nucleus, inducible NO synthase (iNOS), cyclooxygenase-2 (COX-2), and inflammatory cytokines are promoted and the inflammatory reaction begins. The nitric oxide (NO) production decreased by the treatment of HHE. Moreover, mRNA levels of inflammation-related cytokines, such as tumor necrosis factor-α (TNF-α), interleukin (IL)-6, and IL-1β, were significantly suppressed by HHE. Similarly, the expressions of iNOS and COX-2 were also decreased. The phosphorylation of p65, a subunit of NF-κB, was suppressed by HHE. As a result, HHE can be used as an effective natural material for the anti-inflammatory agent.

Key words: *Hibiscus hamabo,* Inflammation, Lipopolysaccharide, Nuclear factor-κB

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