

Nypa fruticans Wurmb Exerts Anti-Inflammatory Effects through NF- κ B and MAPK Signaling Pathway

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Nypa fruticans Wurmb is a mangrove plant belonging to Araceae family. *N. fruticans* is typically found in Southeast Asia, and in some parts of Queensland, Australia. *N. fruticans* has phytochemicals, phenolics, and flavonoids. In this study, we investigated the anti-inflammatory effects of the ethyl acetate fraction of *N. fruticans* (ENF) on the production and expression of cytokines and inflammatory mediators through the major signal transduction pathways. ENF attenuated the level of cytokines in a dose-dependent manner and decreased the production of nitric oxide (NO). ENF decreased the expression of cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS) via alleviating transcription of nuclear factor-kappa B (NF- κ B) by an inhibitor of nuclear factor-kappa B (I κ B) degradation. Furthermore, mitogen-activated protein kinase (MAPK) signaling pathways (ERK1/2, JNK1/2, and p38) are known to be involved in the inflammatory response. Phosphorylations of ERK1/2, JNK1/2, and p38 were significantly decreased compared with the ENF-untreated control. Conclusively, ENF was related to alleviating various pro-inflammatory mediators through I κ B/NF- κ B and MAPK signaling pathways, including p65 translocation to the nucleus.

Key words: Inflammation, Nitric oxide, *Nypa fruticans*, Mitogen-activated protein kinase

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