

Screening of Anti-Inflammatory Effects of Ethanol Extracts from 9 *Aster* Genus Flowers

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Plants of the *Aster* genus, which have various morphological variations according to geographical distribution, have been used to treat bruises, headaches, and dizziness since ancient times. Some *Aster* plants have reported biological activities such as antioxidant and anti-inflammatory activities. However, little is known about biological studies using flowers of the *Aster* genus. In this study, to evaluate whether the flowers of the *Aster* genus are useful as functional materials, it was screened whether they were involved in the secretion of inflammatory cytokines and the production of nitric oxide (NO) in LPS-induced macrophages. To determine the concentration to be treated, the cytotoxicity of 9 *Aster* genus flowers in RAW 264.7 was investigated. Except for *Aster pilosus*, it was confirmed that there was no toxicity at 100µg/ml. RAW 264.7 cells were stimulated with LPS to induce overproduction of NO, and as a result of analyzing the inhibitory effect of the sample, NO production was significantly inhibited in a concentration-dependent in all *Aster* genus flowers except for *Aster pilosus*. The result of measuring the inhibition of pro-inflammatory cytokines such as TNF-α and IL-6 by *Aster* genus flower extract, 8 *Aster* genus flowers except for *Aster pilosus* significantly decreased the expression level of TNF-α and IL-6.

Key words: *Aster* genus flower, Cytokine, Nitric oxide, Macrophage, Anti-inflammatory

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