Inhibitory Effect of Methanolic Extract and Eugenol of Caryophyllata Flos on Dendritic Cells

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Caryophyllata Flos is dried flower buds of *Eugenia caryophyllata* Thunb. which belong to Myrtaceae families. It has been reported to have an activity of asthma and allergic relief. However, the molecular and cellular mechanisms of the immune response remain unclear. Especially, the critical compounds contribute the effect on dendritic cell (DC), a critical role in regulation of innate and adaptive immunity, is still unknown. In this study, the effects of methanolic extract and the major compound eugenol of Caryophyllata Flos on DC activation. Our results clearly showed that methanolic extract and eugenol decreased the production of cytokines (IL-12 and IL-6) in a dose-dependent manner in LPS-induced DCs and inhibited LPS-induced DC maturation as the expression levels of MHC class I, MHC class II and costimulatory molecules on LPS-induced DCs were decreased. In addition, contact hypersensitivity responses were inhibited in mice cosensitized with the methanolic extract or eugenol. Therefore, we demonstrate for the first time that the Caryophyllata Flos and its active ingredient eugenol exhibit an immunosuppressive effect on DC function.

Key words: Caryophyllata Flos, dendritic cell, eugenol, immunosuppressive, contact hypersensitivity