

Anti-allergic effect of Drynaria fortunei extract in murine mast cells

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꽃재보 추출물의 비만 세포에서의 항알러지 효과

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Objectives

Mast cell-mediated allergic inflammation is involved in many diseases such as asthma and anaphylaxis, and atopic dermatitis. In this study, we investigated the effect of 70% ethanol extract from *Drynaria fortunei* (DFE) on the histamine release and the production of pro-inflammatory cytokines including tumor necrosis factor (TNF)- α , interleukin (IL)-4, and IL-8 in murine mast cells.

Materials and Methods

Dried bark of *Drynaria fortunei* was extracted twice with 70% ethanol (with 2h reflux), and the extract was then concentrated under reduced pressure. The decoction was filtered, lyophilized, and stored at 4°C. The yield of dried extract from starting crude materials was about 21.08%. The extract was dissolved in PBS and then filtered through a 0.22- μ m syringe filter for experiments.

The effect of ethanol extract from *Drynaria fortunei* (DFE) on the compound 48/80-induced histamine release, and the phorbol 12-myristate 13-acetate (PMA) plus calcium ionophore A23187-induced cytokine production in murine mast cell line, MC/9 was investigated by an enzyme-linked immunosorbent assay (ELISA).

Results

DFE inhibited the release of histamine from murine mast cells by compound 48/80 in a dose-dependent manner. DFE also dose-dependently inhibited the PMA and A23187-induced increase in TNF- α , IL-4, and IL-8 production from the murine mast cells. These results show that DFE had an inhibitory effect on the allergic reaction. Our studies provide that DFE might contribute to the treatment of mast cell-derived allergic inflammatory disease.

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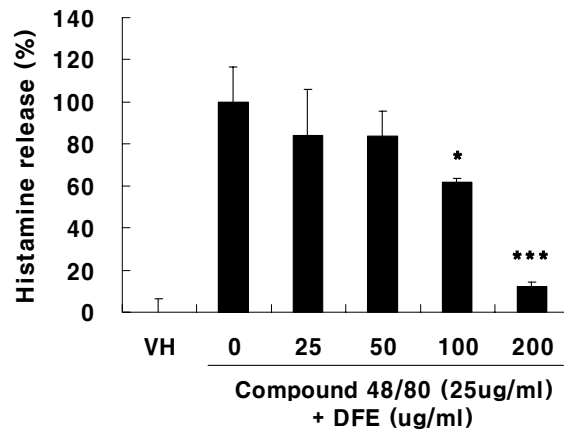


Fig. 1. Effects of DFE on compound 48/80-induced histamine release of MC/9 cells.

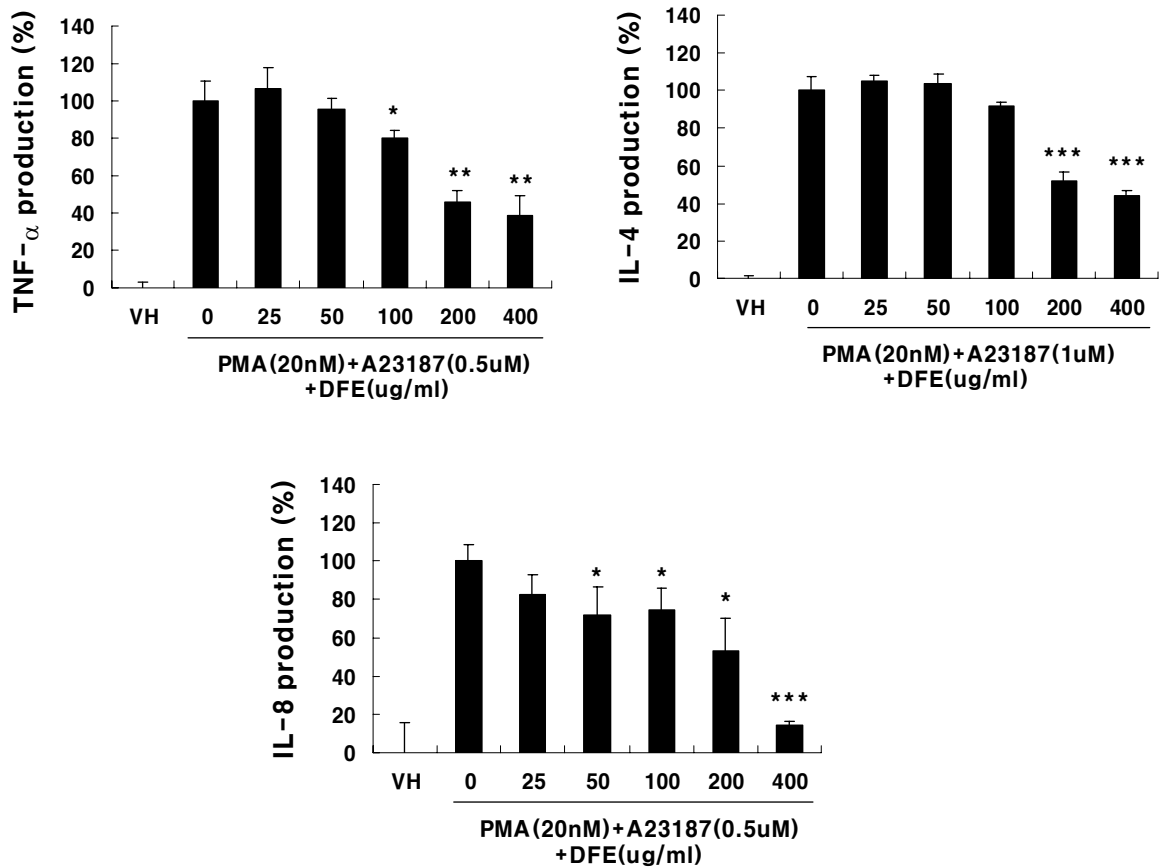


Fig. 2. Effects of DFE on PMA plus A23187-induced cytokine (TNF- α , IL-4, IL-8) production in MC/9 cells.