

In vitro supplementation of *Aster scaber* THUNB (Charm-Chui) extract and immunomodulating effect in mice

Jin Kim*, Hyun-sook Kim. Department of Food and Nutrition, Sookmyung Women's University, Chungpa-dong 2-ka, Yongsan-ku, Seoul 140-742, Korea

Many investigations for searching the functional substances from natural medicinal plants are going on recently. *Aster scaber* THUNB(참취), one of the potent herbal medicinal plants, has long been used as one of the traditional wild plants, and is said to stimulate appetite and may act as a diuretic, antifebrile and painkiller. The present study was performed to evaluate the immunomodulative effect of *Aster scaber* THUNB extract in vitro.

The production capacity of cytokines, IL-1 β , IL-6, TNF- α , secreted by activated mouse macrophage (1×10^6 cells/ml) cultured with two concentrations (10 and 100 μ g/ml) of methanol extracts of *Aster scaber* THUNB and 4 fractions (chloroform, ethylacetate, butanol, and water) obtained from methanol extract was used for the immunocompetence index. Mouse splenocyte proliferation with the presence of various extracts from *Aster scaber* THUNB was also examined by MTT assay.

The production of IL-1 β was significantly enhanced with the presence of water extract in both concentrations (191.05 pg/ml, 213.36 pg/ml, control : 186.54 pg/ml), and butanol extract at the concentration of 100 μ g/ml (210.48 pg/ml). Higher level of IL-6 and TNF- α production was detected by supplementation of all five fractions. Observation on mouse splenocyte proliferation represented that the supplementation of butanol fraction and aqueous fraction of *Aster scaber* THUNB enhanced the proliferation at the level of 10.2~48.1 % and 1.5~32 % respectively compared to that of control in the range of 1~100 μ g/ml.

From these results, it could be suggested that *Aster scaber* THUNB, specially water extract and butanol extract, promotes immune response by modulating cytokine production by activated macrophages and splenocyte proliferation function. Further investigations to see other immune indexes and animal diet study trials are being conducted.