

中文題目：傘形科普通蔬菜及相關 Coumarins & Flavonoids 之免疫調節活性
英文題目：Immunomodulatory Activities of common Vegetables and Spices of Umbelliferae and its related Coumarins and Flavonoids

作者：林繼謨 & 王志鴻
服務單位：花蓮慈濟醫學中心內科

Background and Purpose: Carrots, celery, coriander, fennel and parsley of the Umbelliferae family have been used as common vegetables and spices in many different cultures of the world. In this study, we evaluated the immunomodulatory activities of coumarins and flavonoids obtained from the above foods on human peripheral blood mononuclear cells (PBMC).

Methods and Results: Studies were conducted on lymphocyte transformation, ELISA assay and flow cytometry. At non-cytotoxic concentrations, the above phytoconstituents exhibited three types of immunomodulation including type 1 of PHA, ConA and quercetin (increased lymphocyte activation and IFN- γ secretion); type 2 of isopimpinellin (enhanced lymphocyte activation) and type 3 of rutin, bergapten and xanthotoxin (elevated IFN- γ secretion). The augmentation of lymphocyte proliferation was closely correlated to an increase in the number of lymphocyte cells including CD8⁺ T cells and activated PBMC, whereas elevation of IFN- γ secretion was due to the activated CD8⁺ T cells.

Conclusions: Results provided the evidence of a health-modulating effect of these vegetables and spices which possessed a direct role in immunomodulatory function. Some of non-nutritional constituents of these foods such as coumarins and flavonoids also exhibited a similar immunomodulatory activity.