

Cyanidin 3 - rutinoside chloride (CRC) Regulates Pro-inflammatory Mediators in PMACI-stimulated HMC-1 Cells

Yong-deok Jeon, AYE AYE, Young-Jae Song, Ju-Ryoun Soh and Jong-Sik Jin

Department of Oriental Medicine Resource, Chonbuk National University, Iksan, Korea

Cyanidin 3 - rutinoside chloride (CRC) is major anthocyanin, found in *Schisandra chinensis*, is known to have antioxidant, anticancer, anti-inflammatory, tonic, and anti-aging effects in Korea, China and Japan. In the present study, the human mast cell line (HMC-1) was used to investigate the effects on the production of pro-inflammatory mediators. In this study, CRC showed no cytotoxicity in HMC-1. CRC significantly inhibited the secretion of inflammatory cytokines such as tumor necrosis factor (TNF)- α and interleukin (IL)-6 in PMA plus A23187 calcium ionophore (PMACI)-stimulated HMC-1 cells. In addition, CRC suppressed the serum levels of IgE. Furthermore, CRC decreased the PMACI-stimulated phosphorylation of mitogen activated protein kinases (MAPKs) such as p-ERK, p-JNK and p-P38. These results indicate that the pharmacological actions of CRC suggest their potential activity for treatment of allergic inflammation through the down-regulation of mast cell activation.

Key words: Cyanidin 3 - rutinoside chloride (CRC), HMC-1, Inflammation, Cytokine, MAPKs

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