

## Effect on Melanogenic Protein Expression of Acanthoic Acid isolated from *Acanthopanax koreanum* in Murine B16 Melanoma

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Melanogenesis is a well-known physiological response of human skin that may occur because of exposure to ultraviolet light, for genetic reasons, or due to other causes. In our effort to find new skin lightening agents, acanthoic acid (AA) was investigated for its ability to inhibit melanogenesis. The effects of AA isolated from *A. koreanum* on the expression of  $\alpha$ -MSH-induced melanogenic factors (tyrosinase, tyrosinase related protein (TRP)-1, TRP-2 and MITF (microphthalmia-associated transcriptional factor)) were investigated in murine B16F10 melanoma cells. The results indicate that AA was an effective inhibitor of melanogenesis in B16F10 cells. To elucidate the mechanism of the effect of AA on melanogenesis, we performed Western blotting for melanogenic proteins. AA inhibited melanogenic factors (tyrosinase, TRP-1, TRP-2) expressions. In this study, we also confirmed that AA decreased the protein level of MITF proteins, which would lead to a decrease of tyrosinase and related genes in B16F10 melanoma cells. In order to apply AA to the human skin, the cytotoxic effects of the AA were determined by MTT assays using human keratinocyte HaCaT cells. Based on these results, we suggest that AA be considered a possible anti-melanogenic agent and might be effective against hyperpigmentation disorders for topical application.

**Key words :** *Acanthopanax koreanum*, melanogenic factors, acanthoic acid, B16F10 cells, HaCaT