INHIBITORY EFFECTS OF WATER EXTRACTION FROM CORDYCEPS MILITARIS WU ON TYROSINASE ACTIVITY AND MELANIN FORMATION IN B16F10 MURINE MELANOMA CELLS

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ABSTRACT

Cordyceps militaris is a kind of medicinal fungi, has been used for the treatment of skin-related disorders in traditional medicine. The aim of the present study is to investigate the antimelanogenesis effect of the water extraction of C. mil WU by cell viability assay, cellular tyrosinase assay and melanin content assay using B16F10 murine melanoma cells. The experimented results showed that the C. mil WU extracts had potential to act as antimelanogenesis by their abilities to inhibit tyrosinase activity in cellular tyrosinase derived from melanin-forming B16F10 murine melanoma cells. The tyrosinase inhibitory activity was correlated to the inhibition of melanin production in α-MSH-stimulated and unstimulated B16F10 cells. The C. mil WU extracts significantly reduced the tyrosinase activity and melanin content of α-MSH-stimulated B16F10 cells in a dose-dependent manner, with 53% and 48% inhibition at 0.1292 mg/mL, respectively. On the other hand, western blotting analysis showed that at 0.0646 mg/mL of C. mil WU extracts treatment for 24 h down-regulated the expression levels of MITF, in a dose-dependent manner. In summary, the expression of microphthalmia-associated transcription factor (MITF), a key regulator of melanogenesis, was significantly decreased by C.mil WU extracts. C.mil WU extracts may be useful for treating hyperpigmentation and as a skin-whitening agent in cosmetics industry.

Keywords: INHIBITORY EFFECTS

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