

Melanin Biosynthesis Inhibitory and Antioxidant Activities of Quercetin-3'-O- -D-glucoside Isolated from *Allium cepa*

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In the course of searching for new whitening agents, we have found that the methanol extract of dried skin of *Allium cepa* shows potent melanin biosynthesis inhibitory activity in B16 melanoma cells. Bioassay-guided fractionation led to the isolation of quercetin-3'-O- -D-glucoside (**1**) from the methanol extract of dried skin of *A. cepa*, which inhibited melanin formation in B16 melanoma cells with an IC₅₀ value of 38.8 μ M and mushroom tyrosinase with an IC₅₀ value of 6.5 μ M using L-tyrosine and 48.5 μ M using L-dihydroxyphenylalanine as substrates, respectively. In addition, the antioxidant activity of **1** was evaluated in the oxygen radical absorbance capacity assay; it showed 3.04 μ mol Trolox equivalents/mmol. **1** was shown to be a promising ingredient that could be useful for treating hyperpigmentation and for protecting against oxidative stress.

Key words: Quercetin-3'-O- -D-glucoside, Antimelanogenesis, Antioxidant