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The study of dicotyledons development as raw materials and application in repair cosmetics

Yi-Yun Chen[1](陳依筠), Chia-Hua Liang[1]*(梁家華)

[1] Department Cosmetic Science and Institute of Cosmetic and Science, Chia Nan University of Pharmacy & Science

This study investigated the antioxidant, antimelanogenesis and against UV protection properties of dicotyledons in water and ethanol extraction.The antioxidant activities were evaluated by measuring activities of free-radical scavenging and total antioxidant contents. Cytotoxicity measurement was demonstrated by keratinocytes (HaCaT cells) and melanoma (B16F10 cells) and we found that the water extract had less cytotoxic than ethanol extracts. Thus, we accessed the *ex vivo* test by water extracts, such as the reactive oxygen species (ROS) and glutathione(GSH) formation in H_2O_2-treated in HaCaT cells were tested.

The antimelanogenesis assay was analyzed by measuring tyrosinase activities, melanin contents and regulated-protein expressions in B16F10 cells. The water extractsof dicotyledons could downregulated-protein expressions of MITF, MC1R, TRP-2, TRP-1 and tyrosinase. Additionally, the against UV protection properties of dicotyledons water extracts were studied. The results showed that dicotyledonswater extracts could promote the proliferation in HaCaT cells and avoid SKH-1 mice skin from UVB damage after UVB-irradiated.

These results demonstrated thatwater extracts of dicotyledons had antioxidant, antimelanogenesis and against UV protection properties. Thus, these can be used as whitening and repair cosmetics additive.