

Physiological Activity of *Magnolia kobus* A. P. DC. Leaf Extracts and Enhancement of Skin Permeation Using PCL-PEG Polymer Micelles and Cell Penetrating Peptide

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In this study, *Magnolia kobus* leaf extract as a natural material of cosmetics have been developed. As a result of measuring anti-oxidant, anti-wrinkle, whitening effects of hydrothermal and ethanol extract, the total polyphenol contents were 39.68 mg/g and 60.95 mg/g each; and the DPPH radical scavenging activity IC<sub>50</sub> values were 476.03 µg/mL and 161 µg/mL each; the SOD-like activities were 79.8% and 97.75% each at a concentration of 100 µg/mL; the elastase active inhibitions were 55.17% and 57.77% each at a concentration of 1000 µg/mL; the tyrosinase active inhibitions were 27.36% and 75.58% each at a concentration of 4000 µg/mL. To solve the problem of insolubility with ethanol extract, PCL-PEG micelle was used to make ethanol extract soluble. And to improve skin permeability, cell penetrating peptide R6 was used and the cumulative amounts permeated was increased by a maximum of 1.65 times.