

## A Study on the Functional cosmetic agent of Fermented Ponciri Fructus Extracts

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In this study, fermented ponciri fructus extract with *Lactobacillus bulgaricus* (KCTC 3635) was tested to use as possible cosmetic agent. As safety test, MTT assay on mouse melanoma cell was done. As cosmetic effect test, tyrosinase and DOPA-oxidase inhibition assay, elastase and collagenase inhibition assay, measurement of polyphenol and flavonoid content, antioxidation assay, antimicrobial test and stability test were performed. Cell viability of fermentation extract was showed lower cell toxicity by MTT assay at all concentration. Antioxidant effect was significant (89% at 1,000  $\mu\text{g}/\text{mL}$ ) by DPPH free radical scavenging assay. Fermentaion extracts indicated 58% tyrosinase inhibition and 28% DOPA-oxidase inhibition at 1,000  $\mu\text{g}/\text{mL}$ . Compared to adenosine and vitamin C, antiwrinkle effect of fermentation extract was strong. Fermentaion extract did not show antimicrobial activity for normal skin flora. Lotion formulation containing 5% fermentation extract was prepared and stability was tested for 28 days and was stable at room temperature. These results suggest that fermented ponciri fructus extract has significant antioxidant and anti-wrinkle activity for natural cosmetic agent.