PC-18

Analysis on Antioxidant Activity and Agronomic Characteristics of Extract from Smilacis Chinae Radix

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[Abstract]
The *Smilacis chinae Radix* refers to the root of *Smilax chinae L* distributed in mountain and filed of Korea, and it is a vine shrub in the Lilaceae family, called Berchemia berchemiaefolia, and is referred to as *Smilacis chinae Radix* in it's a natural medicine name. Antibacterial, inflammatory, and antioxidant activity were studied in *Smilacis chinae Radix*. In this study, biological activities such as antioxidant (DPPH, ABTs, TPC), cytotoxicity, wrinkle improvement, and whitening improvement to increase the utilization value of *Smilacis chinae Radix* and identify the botanical value. Therefore, we tried to explore the applicability of *Smilacis chinae Radix* as a functional cosmetic material. *Smilacis chinae Radix* (SCR) was dried and extracted with ethanol. In order to measure the biological activity of the SCR, antioxidant activity, inhibition activities of collagenase, tyrosinase and cell viability were measured. The DPPH (1,1-diphenyl-2-picryl hydrazyl) radical scavenging activity in the extract with a concentration of 400μg/mL is 91.22% ± 0.41%%. ABTs (2,2'-azinobis-3-ethylbenzothiazoline-6-sulfonic acid) radical scavenging activity in the extract with a concentration of 400μg/mL is 99.60% ± 0.03%. Total polyphenol contents (TPC) are 0.203 ± 0.05 mg GAE/mg Ext when SCR was 1mg/mL. And the Cell viability for HaCaT derived human keratinocyte and Raw264.7, a mouse-derived macrophage was determined using the MTT assay. When cell was treated with 100μg/mL of SCR, HaCaT cell showed cell viability of 78.09 ± 0.1% and Raw264.7 cell showed cell viability of 91.88 ± 0.42%. From the above results, we have shown the possibility that the CSR have antioxidant ability, inhibition activity of collagenase and tyrosinase and cell safety ability which can be useful in a functional cosmetic material.

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