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Phytochemical study on the ethanol extract of twig of *Cinnamomun cassia*

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Thirteen compounds were isolated from the ethanol extract of twig of *Cinnamomum cassia*. Their chemical structures were elucidated on the basis of physicochemical data and by comparing with those of published literatures. These compounds were identified as cinnamaldehyde (1), eugenol (2), 2-methoxycinnamaldehyde (3), coumarin (4), β -sitosterol (5), 2-hydroxy cinnamaldehyde (6), cinnamic acid (7), 4-hydroxy-2-methoxycinnamaldehyde (8), lyoniresinol (9), daucosterol (10), 4-hydroxybenzoic acid (11), amygdalactone (12) and eugenol glucopyranoside (13).

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Inhibitory Effect of *Smilacis chinae* L. extract and diosgenin on melanogenesis

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Melanin in human skin is a major defense mechanism against ultraviolet sunlight. But hyperpigmentation such as freckles, chloasma and melasma is seriously cosmetic problems. Recently, it has been focused on the materials that are safer and more effective on hyperpigmentation in human skin.

In this study, we investigated the effect of *Smilacis chinae* L. extract, dioscin, the principal ingredient of *Smilacis chinae* L. and diosgenin, a form of dioscin without sugars attached, on melanin biosynthesis using melan-a cells.

Our results showed that *Smilacis chinae* L. extract and diosgenin significantly inhibited the melanin biosynthesis. Especially, aqueous layer and *n*-BuOH soluble fraction at concentration of 50 ~ 500 μ g/ml of *Smilacis chinae* L. extract decreased melanin level without cell toxicity. Diosgenin at concentration of 5 ~ 10 μ M significantly decreased the melanin level in melan-a cell. But they have no effect on the cell-originated tyrosinase activity, the rate-limiting melanogenic enzyme.

Based on the western blotting analysis, diosgenin suppressed the protein expression of tyrosinase in dose-dependent manners.