

〈原 著〉

益母草 (*Leonurus sibiricus* L.) の皮膚細胞内 SOD 活性促進効果

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**Stimulating Effects of Yakumosou (*Leonurus sibiricus* L.) on Intracellular SOD Activity in Skin**Hiroshi TANAKA,\* Hiroyuki YAMABA,\* Tomio OKADA,\*  
Tomonori KATADA,\* Satoru NAKATA\***Abstract**

Reactive oxygen species generated in cutaneous tissue can cause severe damage to biological molecules leading development of skin aging, thus exogenous antioxidants have been using for modulation of oxidative stress. Radical scavenging enzymes including superoxide dismutase (SOD), catalase and glutathione peroxidase exist in the skin essentially and protect skin from oxidative damages. However, their activity are reported to decrease age-dependently. The stimulation of endogenous antioxidants, therefore, may be effective for prevention of skin aging, owing to a suppression of oxidative damages. So we carried out the screening of agents which stimulate radical scavenging activity in skin cells and confirmed that Yakumosou extract stimulates SOD activity in keratinocytes. This stimulation of SOD activity is considered to be caused by the acceleration of SOD production, because Yakumosou extract increased SOD mRNA expression in keratinocytes. Yakumosou extract suppressed UVB-induced oxidative damage in keratinocytes. Furthermore it prevented sunburn cell formation and UVB-induced immune suppression in mice, in which reactive oxygen species are considered to play pivotal roles. The present results demonstrate Yakumosou extract-induced stimulation of intracellular SOD activity which might cause a prevention of skin aging, due to a stimulating influence on a potent antioxidant system.

**Key words:** Yakumosou, reactive oxygen species, SOD, sunburn cell, immune suppression.