

〈原 著〉

## 香粧品およびその原料のマウス皮膚ポリアミン 生合成系酵素へおよぼす影響 —皮膚刺激性物質を中心として—

小黒多希子\*, 神永 博子\*, 吉田 武美\*, 黒岩 幸雄\*,  
小松 千明\*\*, 末木 博彦\*\*, 飯島 正文\*\*, 藤澤 龍一\*\*

### Effects of Cosmetic Ingredients on Polyamine Biosynthetic Enzymes in Mouse Epidermis – with Special Reference to Skin Irritating Agents –

Takiko OGURO\*, Hiroko KAMINAGA\*, Takemi YOSHIDA\*  
Yukio KUROIWA\*, Chiaki KOMATSU\*\*, Hirohiko SUEKI\*\*  
Masafumi IJIMA\*\*, Ryuichi FUJISAWA\*\*

#### Abstract

We examined the effects of cosmetic ingredients on mouse epidermal ornithine decarboxylase (ODC) and S-adenosylmethionine decarboxylase (SAMDC), which are rate-limiting enzymes involved in polyamine biosynthesis, and are highly inducible enzymes by various stimuli.

We found that various cosmetic ingredients were able to increase epidermal ODC and SAMDC activities. Of fragrance materials, benzyl salicylate (5%) significantly increased ODC and SAMDC activities, 3- and 3-fold of the control levels, respectively. Citral and eugenol also increased ODC and SAMDC activities to 3- and 2-fold, and 3- and 2-fold, respectively. Geraniol increased ODC and SAMDC activities to 2- and 3-fold of the control levels, respectively.

The present findings suggest that the abilities of cosmetic ingredients to increase ODC and/or SAMDC activities tended to coincide to their skin irritating effects.

**Key words:** Skin irritation, Ornithine decarboxylase, S-adenosylmethionine decarboxylase, Mouse epidermis