

〈シンポジウム〉

(これからの Cosmeceutical Field に向けて)

## 配合成分の皮内動態制御

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### Skin Disposition of Pharmaceutical and Cosmeceutical Ingredients

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#### Abstract

There are many kinds of pharmaceutical and cosmetic topical formulations. Ideal target sites of the drugs and cosmeceutical materials applied on skin are different depending on the kind of topical formulations. Most of cosmetic compounds have a potent efficacy in the skin surface or the shallow skin layers, not in the deep skin tissues or the systemic circulation. The skin disposition of the cosmetics is thus much different from that of therapeutic drugs, such as nitroglycerin and indomethacin. The skin disposition of materials topically applied can be determined by their partition coefficient from the formulations to the skin layer, diffusion coefficient across the skin barrier, and a fraction not to be taken up into the cutaneous blood vessels from the upper dermis (or a fraction to penetrate into the deeper tissues). Skin disposition of the compounds may be an important determinant for the topical side effects such as skin irritation as well as the efficacy. MTT assay test using cultured human skin model, Living Skin Equivalent-high, strongly supports that the skin irritation (skin viability) caused by a surfactant, cetylpyridinium chloride, is influenced directly by its skin concentration or skin disposition.

**Key words:** skin disposition, cosmetics, cosmeceuticals, efficacy, skin irritation.