〈シンポジウム〉
（抗老化化粧品のストラテジー―シミ対策化粧品のストラテジー）

メラノソームトランスファーの抑制およびその評価

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The Suppression of Melanosome Transfer and Its Evaluation

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Abstract

The research on skin-lightening agents was initially focused on the inhibition of tyrosinase, which is a rate-limiting enzyme in melanogenesis. With the advances in UV-melanogenesis research, various approaches such as inhibition of melanogen were developed to address epidermal coloration problems. Here we focused on the melanosome transfer process from melanocytes to keratinocytes, which has been getting an attention in recent few years. The effect of niacinamide on the melanosome transfer was evaluated in a co-culture model established by using fluorescent dye as a marker. In this model, niacinamide effectively suppressed the transferred amount of melanosomes in a dose dependent and reversible manner. We further investigated the effect of topical niacinamide on facial hyperpigmented spot and basal skin color among Japanese females. In two separate clinical studies, high-resolution facial images were captured. Images were then computer analyzed and visually graded to objectively quantify the changes of before and after treatment. The results from both the studies suggested, daily application of niacinamide moisturizer was effective in reducing hyperpigmented spot area and increasing lightness of skin color compared to the placebos. Although the specific mechanism is yet to be determined, these data suggest niacinamide is an effective skin-lightening agent *via* suppression of melanosome transfer from melanocytes to keratinocytes.

Key words: melanosome transfer, hyperpigmentation, skin-lightening, niacinamide.