

〈教育セミナー〉

シワのサイエンス～成因から改善アプローチまで～

皮膚の保湿メカニズム

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Moisturization of the Skin

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Abstract

The skin is the largest tissue surrounding our body, and is essential for maintenance of our life. The epidermis, including stratum corneum, plays a pivotal role in barrier function, which is essential for terrestrial living organisms, as well as retaining in moisture to keep itself supple. In addition to these biological functions, the skin locates the outermost layer affecting its appearance and tactile perception. Moisturized skin is supple and beautiful. This review summarizes molecular and structural mechanisms in skin moisturization and recent advances in skin moisturization. Free amino acids are major component of natural moisturizing factors in the stratum corneum, which are derived from degradation of filaggrin protein. Recent studies have revealed that several proteases are involved in degradation of filaggrin into free amino acids. Other constituents of natural moisturizing factors include organic acids and mineral ions, which are derived, at least in part, from sweat and sebum. In addition to these low molecular natural moisturizing factors, properties of structural protein such as keratins may affect moisture retention activity in the stratum corneum. Thus, skin moisturization is composed of heterogeneous factors and its improvement can be achieved by various skincare approaches.

Key words: amino acid, moisturization, natural moisturizing factors, stratum corneum.