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エイジングケア 2007—シミ・シワの皮膚科学から化粧品開発まで—

メラニン生成制御への多面的アプローチ
マグノリグナンの作用メカニズムと色素沈着改善効果

杉山義宣

Various Approaches to the Regulation of Melanin Synthesis: The Mechanism of Down-Regulated Melanin Synthesis by a Biphenyl Derivative, Magnolignan®, and Its Effects on Hyperpigmentation

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Abstract

Spots of pigment and darkened areas on the skin are a common aesthetic concern. Though the melanocytes decrease with age, hyper-pigmented spots appear on the surface of aged skin. The precise mechanism behind this process remains obscure. Some believe that spots are associated with an imbalance between the synthesis and exclusion of the melanin in the epidermis. A biphenyl derivative, 2,2′-dihydroxy-5,5′-dipropyl-biphenyl (Magnolignan®; ML), down-regulated melanin synthesis *in vitro via* a novel mechanism involving the inhibition of tyrosinase maturation. A lotion formulated with ML improved the pigmentation score and the L^* value against UV-induced hyperpigmentation after 3 weeks of application in a double-blind test. The same formulation was also effective for the treatment of senile lentigo and melasma in Japanese subjects in clinical studies. Thus, the inhibition of tyrosinase maturation in melanocytes is thought to at least partly improve the appearance of hyperpigement spots with age.

Key words: Magnolignan®, melanin, tyrosinase, maturation, hyperpigmentation.