

〈原 著〉

高分子乳化能を有する新規キトサン誘導体の 化粧品素材としての有用性

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Usefulness of New Chitosan Derivative Forming Polymer Emulsion as Cosmetic Ingredients

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Abstract

We examined chitosan derivatives forming polymer emulsion as cosmetic ingredients. Partially myristoyl chitosan pyrrolidone carboxylic acid salt (PMCP) showed strong emulsifying activities and was able to emulsify various oils. The use of PMCP made it possible to prepare usual surfactant-free O/W emulsions. By an *in vitro* skin irritation test using human skin model, PMCP showed no decrease of cell viability and no induction of IL-1 α release. PMCP was found to be nontoxic, biodegradable polymer. Furthermore, antibacterial activity against MRSA and moisturizing effect for human skin were increased compared with chitosan pyrrolidone carboxylic acid salt. From these results, it was assumed that PMCP had possible function as biodegradable cationic polymer-surfactant exhibiting high safety. Hence, PMCP may be a useful material for various cosmetics.

Key words: chitosan derivative, usual surfactant-free emulsion, polymer emulsion, *in vitro* skin irritation test.