

〈ノート〉

シリカゲルを素材とする新規紫外線防御物質の モルモット皮膚における安全性の評価

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Safety Evaluation of a New Ultraviolet Rays Protection Agent Based on Silica Gel in Guinea Pig Skin

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Abstract

It is important to protect the skin from ultraviolet (UV) rays radiation to prevent skin disorders and aging. But to use organic UV absorbents of low molecular weight to protect the skin from UV rays is considered difficult for safety because they are absorbed into the skin. Therefore it is necessary to conduct through studies on their safety. On the other hand, although inorganic UV scattering agents are superior to organic UV absorbents on safety, they have the disadvantage of difficulty to use because they are low transparency. With the aim to resolve above problems, we developed new type of UV protection agent chemically bounded on silica gel with *p*-methoxy cinnamamide moiety as the UV absorbent. It was recognized that this material produced no irritation by a cutaneous-irritant test using guinea pigs, and had high transparency at visible light superior to titanium dioxide. From our studies, it is considered that the chemically modified silica gel is effective as a new sunscreen agent.

Key words: ultraviolet protection, silica gel, silane coupling agent, *p*-methoxy cinnamic acid, skin irritant test.