

〈原 著〉

Skin phototoxicity and photosensitivity test of *trans*-urocanic acid in guinea pigs

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モルモットを用いたトランス型ウロカニン酸の 皮膚光毒性と光感作性試験

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Summary

The phototoxicity and photosensitivity studies of *trans*-urocanic acid in Dunkin-Hartley strain guinea pigs were performed. The test sample was prepared by dissolving 2.0% *trans*-urocanic acid in an emulsion base, since it is slightly soluble in various solvents (acetone, ethanol and water, etc.) according to the report of Reeve.³⁾

In the phototoxicity study, the test sample and the emulsion base caused no response. On the other hand, the ethanol solution of 0.01% 8-methoxypsoralen which was used as a positive control showed phototoxicity, produced erythema only at the skin site irradiated with ultraviolet rays.

In the photosensitivity study, no skin reaction was recorded in any of the guinea pigs treated with the test sample. No animal treated with the emulsion base showed skin reactions at the skin site irradiated with ultraviolet rays, but one animal exhibited a slight erythema (score: 1) at the non-irradiated skin site 48 hours and 3 days after application. This reaction is considered to be due to a weak primary skin irritation or sensitization of the emulsion base.

The olive oil with 6-methylcoumarine (5.0%) used as a positive control caused a well-defined erythema at the irradiated skin site, thus showing photosensitivity.

These results show that *trans*-urocanic acid produced no skin reactions suggesting phototoxicity or photosensitivity.

要 約

ハートレイ系モルモットを用いて、*trans*-Urocanic Acidの皮膚における光毒性、光感作性試験を行った。*trans*-Urocanic Acidは種々の溶媒に溶けないため、Reeveらの報告に従い、エマルジョン基剤に溶解した。光毒性試験において、2.0% *trans*-Urocanic Acid配合エマルジョンとエマルジョン基剤は全例、皮膚反応を認めなかった。陽性対照として用いた0.01% 8-Methoxypsoralenは紫外線照射部位のみに明らかな紅斑を生じ、光毒性を認めた。光感作性試験において、2.0% *trans*-Urocanic Acid配合エマルジョンは全例、皮膚反応を認めなかった。エマルジョン基剤は紫外線照射部位に皮膚反応を認めなかったが、未照射部位に48hr、3日後、1例に軽度な紅斑（評価点1）を認めた。この反応はエマルジョン基剤の弱い皮膚一次刺激性あるいは感作性によるものと考えられる。一方、陽性対照の5% 6-methylcoumarineは紫外線照射部位に明らかな紅斑を生じ、光感作性を認めた。以上の結果より、*trans*-Urocanic Acidは光毒性および光感作性を示唆する皮膚反応を認めなかった。

Key words: *trans*-urocanic acid / Phototoxicity / Photosensitivity (guinea pig).