〈原　著〉

皮膚を用いた *In vivo* 遺伝毒性試験（皮膚小核試験）の開発

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Study of an *In Vivo* Genotoxicity Test for the Skin (Skin Micronucleus Test)

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Abstract

We have developed an *in vivo* genotoxicity test (Skin Micronucleus (MN) Test) that uses skin as the target organ. To evaluate the test, as well as to determine the reproducibility and applicability of the method, we applied it to test the effect of mitomycin C (MMC) as model clastogens and 5 skin carcinogens, (*N*-ethyl-*N*′-nitro-*N*-nitrosoguanidine (ENNG), *N*-methyl-*N*′-nitro-*N*-nitrosoguanidine (MNNG), 4-nitroquinoline 1-oxide (4 NQO), 7, 12-dimethylbenz [*a*]anthracene (DMBA), and benzo [*a*] pyrene (B [a] P)) on SD rat, ICR mouse, and hairless mouse skin. MMC and all five skin carcinogens studied significantly and dose-dependently induced MN over a short treatment period in SD rats, ICR mice, and hairless mice. These results suggest that (1) the experimental conditions used in this study was adequate for screening the MN induction potential of skin carcinogens, and (2) the technique we used was applicable to several laboratory animals. Therefore, the skin MN test is suited for a first screening of chromosome aberrations induced in early stages of chemical induced skin cancer.

Key words: genotoxicity, skin micronucleus test, skin carcinogen.