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Author(s)	IWASAKI, Tosio
Citation	Japanese Journal of Veterinary Research, 41(1), 21-21
Issue Date	1993-05-27
Doc URL	https://hdl.handle.net/2115/2413
Type	departmental bulletin paper
File Information	KJ00002377626.pdf

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DETECTION OF *P53* GENE MUTATIONS IN URETHANE-INDUCED MOUSE LUNG TUMORS BY POLYMERASE CHAIN REACTION-SINGLE-STRAND CONFORMATION POLYMORPHISM

Tosio IWASAKI

Department of Radiation Biology,
Faculty of Veterinary Medicine,
Hokkaido University, Sapporo 060, Japan

P53 is a tumor suppressor gene which gets much attention because its mutations are found to occur in various kinds of human cancers. In this study, the exons 7 and 8 of the *p53* gene were analyzed by polymerase chain reaction-single-strand conformation polymorphism (PCR-SSCP). It is reported that mutations in codons 248 and 249 (exon 7) and 273 (exon 8) occurr at high frequency in human cancer. Genomic DNAs were extracted from urethane-induced A/He mice lung tumors, and the 92bp fragment including exon 7 of the *p53* gene and the 131bp fragment including exon 8 of the *p53* gene were amplified by the PCR method. In 20 tumors from 3 mice, PCR-SSCP of DNA fragments containing exon 7 did not show any mobility shifts. Similarly, PCR-SSCP analyses of DNA fragments containing exon 8 in 20 tumors from 3 mice did not show any mobility shifts. A sample which did not show any mobility shifts was sequenced and the squence was the same as in the normal mouse *p53* gene. It was suggested that exons 7 and 8 of the *p53* gene did not mutate. This result was confirmed by the observation of mobility shifts of human mutated *p53* gene as a positive control using the same apparatus. It was also hypothesized that the mutations in exons 7 and 8 of the *p53* gene might not play a major role in urethane-induced mouse lung tumors in comparison with human tumors, and that the mutations might occur as a late event in the mouse lung tumor progress.