

[Mutat. Res., **346**, 1-8 (1995)]

[Lab. of Radioisotope]

Effect of cigarette smoke on the mutagenic activation of various carcinogens in hamster.YUKIO MORI*, KAZUNORI IIMURA, FUMIO FURUKAWA, AKIYOSHI NISHIKAWA,
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Male hamsters were exposed for 2 weeks to smoke produced by commercial non-filter cigarettes in a Hamburg type II smoking machine. The mutagenic activities of heterocyclic amines on strain TA98 in the presence of liver S9 mix were induced up to 3.7 times above controls including sham smoke control, while no significant alteration of mutagenicity was observed with *N*-nitrosobis(2-oxopropyl)amine (BOP) on TA100. Cigarette smoking (CS) of hamsters induced selectively cytochrome P4501A2 which can not activate BOP. The present findings could explain, in part, the anticarcinogenic effect of CS on BOP induced pancreatic tumors in hamsters.

[Carcinogenesis, **16**(3), 457-459 (1995)]

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Inhibitory effects of sulfation inhibitors on initiation of pancreatic ductal carcinogenesis by *N*-nitrosobis(2-oxopropyl)amine in hamsters.MASAHIRO TSUTSUMI, OSAMU NOGUCHI, SHUNJI OKITA, KOHSUKE HORIGUCHI,
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To elucidate the involvement of sulfotransferase (STase) in the metabolic activation of β -oxypropyl nitrosamines, the effects of sulfation inhibitors on *N*-nitrosobis(2-oxopropyl)amine (BOP)-induced initiation were examined in a rapid production model for pancreatic carcinomas in hamsters. The inhibitors can selectively reduce the induction of ductal adenocarcinomas, suggesting that STase is involved in BOP-induced pancreatic carcinogenesis in hamsters and that BOP is metabolized to β -hydroxyalkyl nitrosamines followed by activation to proximate sulfuric acid esters.

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Initiation of hepatocarcinogenesis by endogenously formed *N*-nitrosobis(2-hydroxypropyl)amine, *N*-nitrosodiethanolamine and *N*-nitroso-2,6-dimethylmorpholine in rats.

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Initiation activities of endogenously formed *N*-nitrosobis(2-hydroxypropyl)amine (NBHPA), *N*-nitrosodiethanolamine (NDELA) and *N*-nitroso-2,6-dimethylmorpholine (NDMM) from corresponding precursor amines and sodium nitrite were investigated in a modified short-term assay for rat hepatocarcinogenesis by measuring hepatic foci positive for γ -glutamyltranspeptidase. The results clearly demonstrate hepatocyte initiation activities of endogenously formed carcinogens, presumably NBHPA, NDELA and NDMM.