〔Mutat. Res., **162**, 173 (1986)〕

Desmutagenic effect of humic acid.

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Humic acid inhibited the mutagenicities of benzo〔a〕pyrene and 3-aminoanthracene (+S9 mix) as well as 2-nitrofluorene and 1-nitropyrene (−S9 mix), but not the mutagenicities of 4NQO, AF-2 and MNNG (−S9 mix). Humic acid acts as a desmutagen, which acts on the mutagens directly before they act on cells, and not as an antimutagen which blocks the processes changing normal cells to mutants. The desmutagenic effect was not decreased by heat treatment (120°C, 15 min). Humic acid was fractionated according to molecular weight (mol. wt.) and the desmutagenic effect increased with an increase of mol. wt. The desmutagenic effect of the fraction with mol. wt. above 300,000 was decreased centrifugation. The desmutagenic ability of humic acid may result from soluble components and adsorption to small particles.

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Antimutagenicity of Extracts from Crude Drugs in Chinese Medicines.

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The antimutagenicity of extracts from crude drugs was studied by the Ames bioassay system. The crude drugs chosen were medical plants used very frequently as Chinese medicines. Each crude drugs was extracted with hot water similar to the method of Chinese medical treatment. Antimutagenic activities were measured by using of two strains, TA98 and TA100. Benzo (a) pyrene was used as mutagen and the preincubation method was adapted. Antimutagenicity was found with 4 kinds of crude drugs, *Paeoniae radix*, *Bupleuri radix*, *Hoelen* and *Glycyrrhizae radix*. Each extacts showed a different type of antimutagenic action from the others.

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Chemical Methylation of Mercury (II) Salts by Polydimethylsiloxanes in Aqueous Solution.

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Mercury (II) salts in water are readily converted to methylmercury by thermal energy in the presence of polydimethylsiloxanes. The ability to methylate mercuric ion was infuluenced by both siloxanes and incubating conditions. The amount of methylmercury produced was dependent upon molecular weight of siloxanes, and decreased with increasing molecular weight. The production from linear siloxanes was higher than that of cyclic siloxanes. In addition reaction temperature, solution pH and incubation time were also responsible for methylation of mercuric chloride. A rapid increase of methylmercury production was observed at higher temperature. Among the pHs highest production was observed at pH3.