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Inhibition of Anaphylactic Chemical Mediator Release by Tranilast.

HIDEKI YAMAMURA, SHIGEKATSU W. HOHNO, KATSUYA OHATA,
AKIHIDE KODA*, MITSURU KAWAI, MICHIAKI HORIBA

The effect of tranilast on anaphylactic histamine and leukotriene (LT) release from leukocytes from atopic patients and passively sensitized human lung fragments were examined. Treatment with tranilast for 30 min prior to antigen challenge moderately inhibited peptide LT release from leukocytes but did not prevent histamine release. Treatment of tranilast inhibited the release of not only LTB₄, LTC₄, LTD₄ and LTE₄ but also histamine from lung fragments. These results suggest that the suppression of LT as well as histamine release contributes to the antiasthmatic effect of tranilast.

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Mechanism of the desmutagenic effect of humic acid.

TAKAHIKO SATO*, YOUKI OSE, HISAMITSU NAGASE, KOHJI HAYASE

The mechanism of an apparent desmutagenic effect of humic acid was investigated. Various components of humic acid did not show a desmutagenic effect, but lignin did a desmutagenic effect. The desmutagenic effect of humic acid was decreased by ozone treatment, and the degree of decrease corresponded with a decrease in KMnO₄ consumption. Benzo [a] pyrene was treated by humic acid, extracted by ethyl acetate and the extract was investigated by gas chromatography. The decomposition product was not found and the amount of benzo [a] pyrene was decreased. This suggests that the desmutagenic effect of humic acid was caused by adsorption rather than by decomposition. Humic acid had the largest adsorption activity at its critical micelle concentration. Adsorbed benzo [a] pyrene could be released by ultrasonication.

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Antimutagenic factors in aquatic plants.

TAKAKO FUJIMOTO, YOUKI OSE*, TAKAHIKO SATO, HIROAKI MATSUDA,
HISAMITSU NAGASE, HIDEAKI KITO

Antimutagenic activity was screened on water extracts from 13 kinds of aquatic plant. Curled pondweed, European cut-grass and smartweed had an large antimutagenic effects. Antimutagenic factors in these extracts were heat-resistant. The factors in curled pondweed and European cut-grass reduced the mutagenicities of benzo [a] pyrene and 2-nitrofluorene, but did not reduce the mutagenicity of AF-2. The factor in smartweed reduced the mutagenicity of benzo [a] pyrene, but did not reduce the mutagenicity of 2-nitrofluorene and AF-2. The factor in curled pondweed had molecular weight (mol. wt.) above 300,000. The factors in European cut-grass and smartweed existed in both fractions with mol. wt. above and below 300,000. The active factors in curled pondweed and smartweed may act as the desmutagen, but that in European cut-grass does not.