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[Lab. of Public Health]

Rapid screening method for the cause pesticides of acute toxicosis patient by TLC.

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We have investigated a rapid and simple screening method for the identification of pesticides in the case of toxicosis in general hospitals using thin layer chromatography. We used the silicagel plate mixed with a fluorescent substance (FM plate, WAKO), on which the pesticide spots emitted a peculiar color by UV irradiation. Among thirty common pesticides, nineteen pesticides were detected with small detection limits of less than 0.5 μ g and eleven pesticides were with those of 2.5-25 μ g. Standard deviation of Rf values were very small. Pesticides added to water or synthetic gastric juice were efficiently recovered.

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[Lab. of Public Health]

The effect of several antipyretic analgesics on mitomycin C-induced mutagenesis using the wing spot test in *Drosophila melanogaster*

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The effect of several antipyretic analgesics on mitomycin C-induced mutagenesis was investigated using the wing spot test in *Drosophila melanogaster*. Aspirin, ibuprofen and indomethacin showed strong antimutagenicity, while the antimutagenicity of acetaminophen and ethenzamide were weaker. Aspirin inhibited chromosome recombination. A considerable part of the antimutagenicity of aspirin, ibuprofen and indomethacin can be explained by bio-antimutagenicity.

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[Lab. of Public Health]

Toxicity of the brominated flame retardant (tetrabromobisphenol-A)

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The toxicity of tetrabromobisphenol-A (TBBPA), which is a brominated flame retardant and used in large quantities, was investigated. The threshold for the decrease of body weight was from 0.3 to 3.0 mg/kg/day, and the weight ratio of kidney to body increased from 10 mg/kg/day. The hematocrit value and clotting time decreased, and the cholesterol concentration, blood urea nitrogen (BUN) concentration and choline esterase activity increased. Hemolysis occurred from low concentration (0.5 mg/L) and decreased by metabolism with hepatic microsomal enzyme system. When 500 mg/kg of TBBPA was administered, TBBPA concentration increased rapidly, but decreased after 4hr and remained still at 20 hr.