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

HIROMI MORI, TAKAHIKO SATO*, HISAMITSU NAGASE, MISA ANDOU, YOSHIMICHI SAKAI, SACHIKO YAMAGUCHI, FUTOSHI YAMAZAKI

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 (PM plate, WAKO), on which the pesticide spots emit a peculiar color by UV irradiation. Among thirty common pesticides, nineteen pesticides were detected with small detection limits of less than 0.5 μg and eleven pesticides were with those of 2.5-25 μg. Standard deviation of Rf values were very small. Pesticides added to water or synthetic gastric juice were efficiently recovered.

[Lab. of Public Health, 42, 136-141 (1996)]

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

TAKAHIKO SATO*, KOUJI NAGAOKA, HISAMITSU NAGASE, MIKI NIKAWA, HIDEAKI KITO

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 etozanamide were weaker. Aspirin inhibited chromosome recombination. A considerable part of the antimutagenicity of aspirin, ibuprofen and indomethacin can be explained by a bi-antimutagenicity.

[Toxicol. Environ. Chem, 55, 159-171 (1996)]

Toxicity of the brominated flame retardant (tetrabromobisphenol-A)

TAKAHIKO SATO*, KAZUSHI WATANABE, HISAMITSU NAGASE, HIDEAKI KITO, MIKI NIKAWA

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 administrated, TBBPA concentration increased rapidly, but decreased after 4hr and remained still at 20 hr.