

[Arch. Toxicol., 66, 514-517 (1992)]

[Lab. of Health and Physical Education]

Effect of Triphenyltin Chloride on the Release of Histamine from Mast Cells.

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The effects of triphenyltin chloride (TPTC) on the release of histamine from rat and mouse mast cells *in vitro* and *in vivo* were investigated. The results are summarized as follows.

- 1) At doses between 1 and 3 mg/kg, TPTC inhibited the dye leakage due to passive cutaneous anaphylaxis mediated by IgE antibody in mouse era. At the same doses, TPTC inhibited the swelling due to reversed cutaneous anaphylaxis mediated by IgG antibody in rat.
- 2) Histamine release by antigen and IgE antibody in rat peritoneal cavity was inhibited by the administration on TPTC at doses between 0.3 and 3 mg/kg.
- 3) Histamine release by calcium ionophore A23187 from purified rat peritoneal mast cells *in vitro* was inhibited by TPTC at concentrations between 10^{-7} and 10^{-6} M.

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[Lab. of Health and Physical Education]

Effects of Exercise and Calcium-intake on Bone Hardness and Bone Constituents in Aged Mice.

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Effects of exercise and differing calcium intake on bone hardness and bone constituents were examined using mice (40 weeks old) in successive stages of senescence to contribute to our understanding of preventive measures against osteoporosis. The results are summarized as follows.

- 1) The velocity of diminution was small in the mice kept on stock diet as compared to those on a low Ca diet. The highest bone hardness was observed in the mice kept in forced exercise and stock diet group at every stage.
- 2) Bone constituents, Ca, P and hydroxyproline, showed no differences in concentration per weight of bone. But higher total content in the femur was obtained in the mice kept on a stock diet.

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[Lab. of Health and Physical Education]

Effects of *Eleutherococcus* Extracts on Oxidative Enzyme Activity in Skeletal Muscle, Superoxide Dismutase Activity and Lipid Peroxidation in Mice.

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The effects of a 70% methanolic extract and its fractions obtained from *Eleutherococcus* (EL), and effects of forced running exercise on oxidative enzyme activity in skeletal muscle, superoxide (SOD) activity and lipid peroxidation (LPO) were studied. EL extracts were given p.o. at 170 mg/kg per day (6 days/week) for 6 weeks. As a results, endurance training and administration of EL extracts were enhanced the activities of oxidative enzymes in skeletal muscle and also SOD in mice, resulting in improved aerobic rates, and also might intensify the functions of the host defense system against injury caused LPO.