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[Lab. of Pharmacology]

The model of arthritis induced by superantigen in mice.

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Subcutaneous injection of Staphylococcal enterotoxine B (SEB) produced by *Staphylococcus aureus*, caused severe arthritis in DBA/1J mice which had been previously immunized with bovine type II collagen. The severity of this arthritis was dose-dependent and prolonged joint inflammation with erosion of bone was observed. Anti-type II collagen antibodies were detected in the serum of arthritic mice. Effector T cells against type II collagen were also detected by means of delayed type hypersensitivity in the skin. Moreover, a significant decrease in the ratio between T cells and B cells and an increase in the ratio between CD4⁺ cells and CD8⁺ cells were observed in spleen cells from arthritic mice. Prednisolone suppressed the induction and development of clinical signs of the arthritis in mice.

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[Lab. of Pharmacology]

Antiallergic effect of ZCR-2060: antihistaminic action.

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The antihistaminic effect of 2-[2-[4-(diphenylmethyl)-1-piperadiny]ethoxy]benzoic acid maleate (ZCR-2060), a newly synthesized antiallergic agent, was investigated. ZCR-2060 selectively antagonized histamine-induced contraction of isolated guinea pig ileum and trachea. ³H-Mepyramine specific binding to membranes from guinea pig lung and brain was markedly inhibited by ZCR-2060 concentration-dependently. ZCR-2060 significantly inhibited the histamine-induced cutaneous reaction in rats, and its action was long-lasting. Thiopental-induced sleep and spontaneous ambulatory activity in mice, however, were unaffected by ZCR-2060 even at higher doses. ZCR-2060 is a potent, selective and long-acting histamine H₁-receptor antagonist with no side effect.

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[Lab. of Pharmacology]

**Antiallergic effects of ZCR-2060: effect on allergic cutaneous reactions
and rhinitis models in mice and rats.**

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The antiallergic action of 2-[2-[4-(diphenylmethyl)-1-piperadiny]ethoxy]benzoic acid maleate (ZCR-2060) was investigated in mice and rats. ZCR-2060 markedly inhibited passive cutaneous anaphylaxis, histamine-, compound 48/80- and calcium ionophore A23187-induced cutaneous reactions, and IgE-mediated biphasic skin reaction. The antigen- and histamine-induced nasal vascular permeability increase in rats were clearly inhibited in a dose-dependent fashion by ZCR-2060. Moreover, ZCR-2060 significantly inhibited antigen-induced anaphylactic histamine release from rat peritoneal mast cells and carrageenin-induced paw edema in rats.