

[Arch. Int. Pharmacodyn. Ther., 313, 161-175 (1991)]

[Lab. of Pharmacology]

**Pharmacological Study of Bacterial Lipopolysaccharide-Induced
Airway Hyperresponsiveness in Guinea Pigs.**

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Bacterial lipopolysaccharide (LPS)-induced airway hyperreactivity in guinea pigs was investigated. Inhalation of LPS resulted in an increase in airway muscarinic reactivity. Metopirone, an inhibitor of 11β -hydroxylase, increased LPS-induced bronchial hyperreactivity. In metopirone-treated guinea pigs, LPS caused increased vascular permeability and increased number of leukocytes in the pulmonary capillaries. Prednisolone, alone or with cyclophosphamide, inhibited LPS-induced hyperreactivity and inflammatory signs in the airway. Tranilast and ketotifen inhibited hyperreactivity and increased vascular permeability.

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**Diagnosis of Drug Allergy by Lymphocyte Stimulation Test with
Ethidium Bromide Fluorescence Assay.**

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Lymphocyte stimulation test (LST) using ethidium bromide (EB) fluorescence assay was developed as a method for diagnosis of drug allergy. LST using EB fluorescence assay was established by examining the lymphocyte activating activity by phytohemagglutinin (PHA). PHA at concentrations between 0.001-1.2% activated lymphocytes, and interleukin 2 at concentrations between 1-100 ng/ml potentiated PHA-induced lymphocyte activation. The LST was carried out on 22 cases of suspicious drug-induced hepatitis. As a result, 9 cases were positive. LST carried out in remission state gave higher positive incidence (50%).

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IPD-1151T: a Prototype Drug for IgE Antibody Synthesis Modulation.

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IPD-1151T ((\pm)-[2-[4-(3-ethoxy-2-hydroxypropoxy) phenylcarbamoyl]-ethyl] dimethylsulfonium p-toluenesulfonate) inhibits not only antigen-induced histamine release from mast cells but also IgE antibody formation. Although the drug given orally inhibited IgE antibody formation in mice, IgM and IgG antibodies were unaffected. It also inhibited ongoing IgE formation. IPD-1151T clearly decreased the titer of specific IgE antibody in mite sensitive patients. Antigen-induced production of interleukin 4 from a helper T cell line prepared from peripheral blood lymphocytes of an allergic patients was reduced with the addition of the agent.