[Japan. J. Pharmacol., **61**, 31-39 (1993)] [Lab. of Pharmacology]

Suppression of IgE Production by IPD-1151T (Suplatast Tosilate), a New Dimethyl sulfonium Agent: (2) Regulation of Human IgE Response.

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The ability of IPD-1151T to suppress the induction of human IgE synthesis was investigated. IPD-1151T induced a concentration-dependent suppression of allergen-dependent IgE synthesis in autologous B cell cultures mediated by a helper T cell line. The production of interleukin 4 (IL-4) by peripheral blood mononuclear cells (PBMC) of normal donors was inhibited by IPD-1151T. The agent clearly depressed the expression of IL-4 mRNA in normal PBMC. IPD-1151T had no antagonistic action against IL-4, and it did not affect the production of interferon-γ. The selective suppression of IgE synthesis by IPD-1151T results from the inhibition of IL-4 production.

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Novel Low Immunosuppressive Derivatives of the Antitumor Drug Fluoropyrimidine, UK-21 and UK-25 : Effect on Delayed Type Hypersensitivity and Tumor Immunity.

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The effects of UK-21 and UK-25 on delayed type hypersensitivity (DTH) were examined. Not only UK-21 and UK-25 but also FT-207 and 5-FU produced no suppression of picryl chloride-induced DTH in mice but rather enhance it. UK-21 and UK-25 suppressed sheep erythrocyte-induced DTH, but the activity was lower than those of FT-207 and 5-FU. UK-21 and UK-25 enhanced Meth A tumor-specific DTH, but FT-207 and 5-FU did not. UK-21, UK-25 and FT-207 showed a tendency to enhance or restore the Meth A tumor neutralizing activity of spleen cells in tumor bearing mice. The suppressive effects of UK-21 and UK-25 on the tumor immune response were expected to be low.

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Effect of Murine Recombinant Interleukin-5 on Bronchial Reactivity in Guinea-Pigs.

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The effects of murine recombinant interleukin-5 (IL-5) on bronchial reactivity was examined in guinea-pigs. An intratracheal injection of IL-5 induced airway hyperresponsiveness to acetylcholine which was accompanied with eosinophilia and neutrophilia in blood at 24 hr. Prednisolone inhibited IL-5-induced airway hyperresponsiveness, eosinophilia and neutrophilia. Ketotifen also reduced airway hyperresponsiveness and neutrophilia but not eosinophilia. In contrast, the injection of disodium cromoglycate into the trachea showed the tendency of inhibitory effects. The present data suggest that eosinophilia and neutrophilia in blood may be important for the onset of bronchial hyperresponsiveness caused by IL-5 in guinea-pigs.