[Life Sciences, 54, 1403-1409 (1994)] [Lab. of Pharmacology]

Potentiation of antigen-induced histamine release from rat peritoneal mast cells through a direct interaction between mast cells and non-mast cells.

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Histamine release from rat peritoneal exudate cells (PEC) and purified mast cells (PMC) was examined comparatively. Antigen-induced and IgE-dependent histamine release from PMC was very low when compared to that of PEC, although both PEC and PMC released comparable amount of histamine upon stimulation with compound 48/80 and calcium ionophore A23187. Non-mast cells in PEC potentiated the lowered antigen-induced histamine release from PMC concentration- and time-dependently. The incubation supernatant of non-mast cells, however, failed to potentiate the histamine release from PMC.

[Life Sciences, 54, PL471-475 (1994)] [Lab. of Pharmacology]

Time course study for antigen-induced airway hyperreactivity and the effect of soluble IL-5 receptor.

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The role of IL-5 in allergic airway hyperreactivity in mice was studied after three inhalations of antigen using soluble α-chain of murine recombinant IL-5 receptor (sIL-5R α). Whereas IL-5 and IL-4 were produced in significant amounts, IL-1, IL-2 and γ-interferon (γ-IFN) were not detected even after three antigen inhalations. Monocytes and eosinophils but not neutrophils increased significantly after the third antigen exposure. The airway responsiveness to acetylcholine increased after the third aeroantigen-challenge. sIL-5R α, administered after each antigen-challenge, suppressed BAL eosinophilia with little effect on airway hyperreactivity.

[Cancer Chemother. Pharmacol., 34, 216-224 (1994)] [Lab. of Pharmacology]

Novel lowly immunosuppressive antitumor fluorouridine derivative, UK-21: antitumor activity and effect on humoral immune response in mice.

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Antitumor and immunosuppressive activities of UK-21 were examined in mice. UK-21 suppressed the growth of L-1210, P388 and EL4 leukemias, and both the growth of Lewis lung carcinoma and its subsequent metastasis to the lung. UK-21 showed antitumor activity at doses almost 10 times lower than those of 5-fluorouracil (5-FU). The suppressive effect of UK-21 on IgM and IgG antibody formation in mice immunized with ovalbumin was clearly weaker than that of 5-fluorouridine, 5-FU and cyclophosphamide (CY). The suppressive effects of UK-21 on thymus weight and white blood cell counts were very weak in comparisone with those of 5-FU and CY.