[Pharmacol., **53**, 190-196 (1996)] [Lab. of Pharmacology]

Effect of KE-298 on experimental arthritis in mice.

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KE-298 is a new immunomodulatory agent with a chemical structure stimulator to that D-penicillamine. KE-298 inhibited the severity and development of the collagen-induced arthritis index, the progression of food pad swelling, bone damage and histopathological changes. KE-298 also inhibited the delayed type hypersensitivity (DTH) response to type II collagen, but did not affect the production of anti-type II collagen in arthritic mice. We found that KE-298 at appropriate dose inhibited bacterial lipopolysaccharide (LPS)-induced IL-1β and TNF-α production in mice. These results that these effects of KE-298 are closely related to its immunomodulatory action.

[Biol. Pharm. Bull., **19**, 1136-1140 (1996)] [Lab. of Pharmacology]

Effect of mizoribine on effector T cell-mediated immune responses in mice.

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Mizoribine (MZR) prolonged skin graft survival and suppressed a localized graft-versus-host reaction and sheep red blood cell induced delayed type hypersensitivity (DTH) reaction. In the animal model of type II collagen (CII)-induced arthritis, MZR reduced the arthritic index (edema and bone damege) and histopathological changes in hind limbs. MZR suppressed the DTH reaction to CII but had not effect on anti-CII antibody levels in this arthritic mice. It is suggested that the suppressive effect of MZR on clinical rejection and autoimmune disease is based in its suppression of the effector T cell-mediated immune response, that is cellular immunity, in addition to humoral immunity.

[Ann. N.Y. Acad. Sci., **796**, 91-96 (1996)] [Lab. of Pharmacology]

The role of interleukin-5 (IL-5) in allergic airway hyperresponsiveness in mice.

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To investigate the role of IL-5 in airway inflammation and hyperresponsiveness (AHR), the effects of anti-IL-5 antibody (NC-17), soluble IL-5 receptor (sIL-5R), and some immunosuppressors were studied in mice. NC-17 and sIL-5R inhibited the antigen-induced airway eosinophilia but not AHR. Cyclosporin A (CsA), FK-506 and cyclophosphamide (CY) also inhibited the antigen-induced airway eosinophilia. AHR is, however, inhibited by CsA and FK-506, but not CY. Furthermore, we have examined the effect of repeated antigen provocation in $WBB6F_1$-W/W^v, mast cell-deficient mice. Whereas significant elevation of IL-5 level and the number of eosinophils on bronchoalveolar lavage fluid was observed, airway responsiveness to actylcholine was not changed at all.