[*J. Immunol.*, **164**, 3855-3861 (2000)] [Lab. of Pharmacology]

An Essential Role of Mast Cells in the Development of Airway Hyperresponsiveness in a Murine Asthma Model.

Tetsuo KOBAYASHI, Toru MIURA, Tomoko HABA, Miyuki SATO, Isao SERIZAWA, Hiroichi NAGAI* and K ISHIZAKA

Immunization of BALB/c mice with OVA, followed by three bronchoprovocations with aerosolized OVA, resulted in the development of airway hyperresponsiveness and allergic inflammation in the lung accompanied by severe infiltration of eosinophils. OVA treatment failed to induce the hyperresponsiveness in WBB6F1-w/w^v mice. Reconstitution of WBB6F1-w/w^v mice with BMMC restored the capacity of developing hyperresponsiveness.

[*Pharmacology*, **60**, 208-214 (2000)] [Lab. of Pharmacology]

Effect of Am-80, a Retinoid Derivative, on 2,4-Dinitrofluorobenzene-induced Contact Dermatitis in Mice.

Satoru NIWA, Takashi OCHI, Yosuke HIRANO, Ting WANG, Naoki INAGAKI, Koichi SHUDO and Hiroichi NAGAI*

The effect of Am-80, one of the retinoic acid derivatives, on hapten-induced contact sensitivity in BALB/c mice was investigated. Am-80inhibited late phase response at 24hr in a dose-dependent manner, but not early phase response at 3hr. Am-80 inhibited the expression of IFN-γ and IL-6, but not TNF-α or IL-4. Furthermore, Am-80 inhibited the antigen-induced IFN-γ and IL-6 production *in vitro*. Therefore, Am-80 inhibits hapten-induced contact hypersensitivity through the direct inhibition of inflammatory cytokines.

[*Clin. Exp. Allery*, **30**, 874-881 (2000)] [Lab. of Pharmacology]

Allergen-induced Airway Inflammation and Bronchial Responsiveness in Interleukin-5 Receptor α Chain-deficient Mice.

Hiroyuki TANAKA, Naoki KAWADA, Takatoshi YAMADA, Kenji KAWADA, Kiyoshi TAKATSU and Hiroichi NAGAI*

The role of IL-5 receptor α chain in the onset of bronchial hyperresponsiveness (BHR) to acetylcholine was investigated using IL-5 receptor α chain knockout (IL-5R α-KO) mice. Immunization and provocation with OVA established airway eosinophilic inflammation and BHR in wild-type mice. In IL-5R α-KO mice, the inflammation was attenuated and no hyperresponsiveness was observed. Present results indicate that IL-5 receptor α chain plays an important role in the development of antigen-induced airway eosinophilia and BHR.

[*Eur. J. Pharmacol.*, **400**, 73-79 (2000)] [Lab. of Pharmacology]

Evaluation of Anti-scratch Properties of Oxatomide and Epinastine in Mice.

Naoki INAGAKI*, Masafumi NAGAO, Nobuaki NAKAMURA, Hirokazu KAWASAKI, Katsuhiro IGETA, Keiichi MUSOH and Hiroichi NAGAI

Anti-scratch effects of oxatomide and epinastine were examined in mice. Oxatomide and epinastine failed to affect the scratching behavior in BALB/c mice caused by hapten application. They inhibited the scratching behavior in ICR mice associated with PCA potently, and that in ddy mice induced by substance P partially. PCA-associated scratching behavior in ICR mice was inhibited by an antagonistic action on histamine H1 receptors. Substance P-induced scratching behavior was inhibited by an action independent of histamine H1 receptors.