

[Prostaglandins, 52, 447-461 (1996)]

[Lab. of Pharmacology]

**Cysteinyl leukotrienes do not mediated lipopolysaccharide-induced
airway hyperresponsiveness in guinea pigs.**

TAKASHI UNO, HIROYUKI TANAKA, HIROICHI NAGAI*

Inhalation of bacterial lipopolysaccharide (LPS) by guinea pigs caused airway hyperresponsiveness (AHR) to acetylcholine. Exposure to 0.01% LPS resulted in an elevation of cysteinyl leukotrienes (cys-LTs) content in bronchoalveolar lavage fluid (BALF). The cys-LTs antagonist, ONO-1078, inhibited the AHR, but not ICI-204,219, another its antagonist. In order to investigate the inhibitory mechanism of ONO-1078, the effect on the LPS-induced production of tumor necrosis factor (TNF) was studied. The amount of TNF in BALF increased after LPS exposure. The inhalation of TNF- α resulted in AHR. ONO-1078 inhibited the production of TNF in BALF. These results suggest that TNF plays an important role in the onset of LPS-induced AHR.

[Methods Find Exp. Clin. Pharmacol., 18, 573-577 (1996)]

[Lab. of Pharmacology]

**Effects of nicotine and exposure to cigarette smoke on suppression
of local graft-versus-host reaction induced by immunobilization
stress in mice.**

YUTAKA GOMITA, KATSUSHI FURUNO, NAUYUKI MATSUKA, KAZUHISA YAO,
RYOZO OISHI, MASAHIKO NISHIBORI, KIYOMI SAEKI, HIROICHI NAGAI*, AKIHIDE KODA,
YOSHIHARA SHIMIZU

The effects of immobilization stress on graft-versus-host (GVH) reaction and the effects of nicotine and cigarette smoke on them were evaluated in two experiments by applying the stimulator before and immediately after spleen cell transplantation and by applying stimulation after transplantation. These experiments suggest that nicotine and cigarette smoke induce recovery of immune response by immunobilization stress, especially by increasing the competence of antigen recognition.

[Gen. Pharmacol., 28, 301-303 (1996)]

[Lab. of Pharmacology]

**Effects of TYB-2285 on the accumulation of eosinophils in the air-
way induced by antigen exposure in actively sensitized Brown Nor-
way rats.**

TAKANARI TOMINAGA, AKIHIKO WATANABE, JUN-ICHI TSUJI, AKIHIDE KODA,
HIROICHI NAGAI*, YOSHIO KUMAZAWA, HIDEO SHIMADA

The effect of TYB-2285 on the antigen-induced airway eosinophilia was investigated in Brown Norway rats. The accumulation of eosinophils was inhibited by the oral administration of TYB-2285 in a dose-dependent manner. In contrast, mast cell stabilizers such as ketotifen, tranilast, or disodium cromoglycate did not inhibit the antigen-induced airway eosinophilia. The present study demonstrated that TYB-2285, unlike other mast cell stabilizers, inhibits the antigen-induced airway eosinophilia. It also suggests that this drug might be effective in asthmatic patients.