〔Int. Arch. Allergy Immunol., **97**, 187-193 (1992)〕 [Lab. of Pharmacology]

Effects of NZ-107 on Bronchoconstriction in Guinea Pigs.

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The effect of 4-bromo-5-(3-ethoxy-4-methoxybenzylamino)-3(2H)-pyridazinone (NZ-107) on bronchoconstriction in guinea pigs was studied. Antigen-induced bronchoconstriction in metyrapone-treated animals was more severe than that in saline-treated ones. NZ-107 significantly inhibited antigen-induced bronchoconstriction in both saline- and metyrapone-treated animals. NZ-107 showed a tendency to inhibit accelerated severe asthmatic respiration in metyrapone-treated animals more strongly than in those treated with saline. When a subthreshold dose of platelet-activating factor was injected, airway responsiveness against histamine was clearly increased. NZ-107 inhibited the platelet-activating factor-induced airway hyperreactivity.

〔Int. Arch. Allergy Immunol., **98**, 57-63 (1992)〕 [Lab. of Pharmacology]

Effect of NZ-107, a Newly Synthesized Pyridazinone Derivative, on Antigen-Induced Contraction of Human Bronchial Strips and Histamine Release from Human Lung Fragments or Leukocytes.

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Effects of 4-bromo-5-(3-ethoxy-4-methoxybenzylamino)-3(2H)-pyridazinone (NZ-107) on antigen-, histamine- and leukotriene C_4 (LTC_4)-induced constriction of isolated human tracheal muscle, and histamine release from human lung tissues and leukocytes were investigated. NZ-107 inhibited antigen-, histamine- and LTC_4-induced contraction of tracheal muscle. NZ-107 clearly inhibited the antigen-induced release of histamine and LTC_4 from human lung tissue. The antigen-induced histamine release from atopic human leukocytes was inhibited by NZ-107.

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Responses of Isolated Japanese Monkey Tracheal Muscle to Allergic Mediators.

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The responsiveness of isolated Japanese monkey (Macaca fuscata) tracheal muscle to antigen, carbachol, histamine, leukotriene C_4 (LTC_4), U-46619 and substance P (SP) was investigated. Passively sensitized Japanese monkey tracheal muscle contracted weakly but persistently after antigen challenge. Histamine and SP produced no contraction in Japanese monkey tracheal muscle, whereas carbachol, LTC_4 and U-46619 caused concentration-dependent contraction. Therefore, antigen-induced contraction of isolated Japanese monkey tracheal muscle is not a useful model for human allergic bronchoconstriction *in vitro*.