

[PA1-32] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Studies on General Pharmacological Properties of *Rhus verniciflua*

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The general pharmacological properties of flavonoid and urushiol, in *Rhus verniciflua* (Anacardiaceae) were investigated in mice, rats and guinea pig. The influences of these components were evaluated on central nervous system (CNS), cardiovascular system, respiratory system, intestinal propulsion and autonomic nervous system. Among dose 50, 100 and 200 mg/kg, the administration of flavonoid (200 mg/kg) showed analgesic effect and extended sleeping duration time. As well in digestive system, it significantly increased intestinal propulsion. The flavonoid pretreatment remarkably inhibited the contractile response induced by acetylcholine and histamine in isolated guinea pig ileum. On the experiment of urushiol, urushiol (50 mg/kg) showed undesirable effect (reducing spontaneous activity, relaxing muscle and increasing body temperature, etc) in central nervous system. It seems to act as a depressant in CNS. Furthermore it completely blocked the intestinal propulsion. From the above results, it is suggested that flavonoid has potential in autonomic nervous. Urushiol affects central nervous system.

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Identification and Characterization of Matrix Metalloproteinase-2 (MMP-2) and Tissue Inhibitor of Metalloproteinase-2 (TIMP-2) Expressed in primary Hamster Tracheal Surface Epithelial cells

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Matrix metalloproteinases (MMPs) are zinc-dependent endopeptidases and are implicated in the remodeling of the extracellular matrix (ECM). In several inflammatory diseases of airway, it has been known that MMPs are secreted from immune cells and play an important role in the process of inflammation. The purpose of the present study was to identify and characterize collagenolytic enzyme expressed from primary hamster tracheal surface epithelial (HTSE) cells and to study its relevance to chronic airway inflammatory diseases. To investigate characteristics of collagenolytic enzyme activity, [³H]collagen-digestion assay was used. The activity of enzyme was sensitive to EDTA which could be typically expected from the divalent cation dependency of MMPs. To identify the subtypes of MMP, Western blot, zymography and RT-PCR were performed. The data revealed that HTSE culture expresses MMP-2 along with the tissue inhibitor of metalloproteinase-2 (TIMP-2), a known endogenous inhibitor of MMP-2. Retinoic acid-depletion and phorbol 12-myristate 13-acetate (PMA) treatment, which resembles the condition of airway inflammatory diseases, increased the expression and activity of MMP-2 from HTSE cells, which implicate a possible role of the MMP-2 in the chronic airway inflammatory disease.

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THE RELAXATION IN RESPONSE TO CARBACHOL IN CAT LES MUCLE

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