[PD3-3] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Inhibitory effect of IgE-mediated anaphylactic reaction by Mentha arvensis in rats

Shin TY°1, Kim TK1, Lim JP1, Eom DO1, Kim YK1, Lee YM2 and Kim HM2

1College of Pharmacy, Woosuk University/2College of Pharmacy, Wonkwang University

This study was undertaken to determination the inbibitory effects of IgE-mediated anaphylactic reaction by Mentha arvensis water extract(MAWE). This paper deals with an evaluation of the effect of MAWE on the anti-DNP IgE antibody induced anaphylactic reaction in rats. We also investigated the influence of MAWE on anti-DNP IgE antibody-induced tumor necrosis factor-a(TNF-a) production.
MAWE inhibited passive cutaneous anaphylaxis(PCA) when intravenously, intraperitoneally and orally administered. MAWE dose-dependently inhibited anaphylactic histamine release from RPMC activated by anti-DNP IgE antibody. Moreover, MAWE had a inhibitory effect on anti-DNP IgE antibody induced TNF-a production from RPMC.
This results suggest that MAWE inhibited the IgE-mediated anaphylactic reactionin rats.

[PD3-4] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Inhibitory effect of mast cell-mediated immediated-type allergic reactions in rats by Perilla frutescens

Shin TY°1, Kim SH1, Suh ES1, Park HJ1, Choi YK1, Chae BS2, Lee YM3 and Kim HM3

1College of Pharmacy, Woosuk University/2College of Science and Engineering, Woosuk University/3College of Pharmacy, Wonkwang University

We investigated the effect of aqueous extract of Perilla frutescens(Labiatae)(PFAE) on the mast cell-mediated immediated-type allergic reactions. PFAE(0.05 to 1 g/kg) dose-dependently inhibited systemic allergic reaction induced by compound 48/80 in rats. PFAE(0.1 and 1 g/kg) also significantly inhibited local allergic reaction activated by anti-DNP IgE. When PFAE was pretreated at the same concentrations with systemic allergic reaction test, the plasma histamine levels were reduced in a dose-dependent manner. PFAE(0.001 to 1 mg/ml) dose-dependently inhibited the histamine release from rat peritoneal mast cells(RPMC) activated by compound 48/80 or anti-DNP IgE. The level of cyclic AMP in RPMC, When PFAE(1 mg/ml) was added, transiently and significantly increased about 4-fold compared with that of basal cells. Moreover, PFAE(0.001 and 0.01 mg/ml) had a significant inhibitory effect on anti-DNP IgE-induced tumor necrosis factor-α production. These results indicated that PFAE inhibites mast cell-mediated immediate-type allergic reactions in vivo and in vitro.

[PD3-5] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

The Study of Korean Traditional Medicine for Diabetes Mellitus

Yoon G , Cheon SH

College of Pharmacy, Chonnam National University

In Korea, there are a lot of traditional herbal medicines that were prescribed for Diabetes Mellitus. In order to find antidiabetic agents from Korean traditional medicines, we made Gamibaekhotang (GMBHT) based on Dongyibogam(東醫寶鑑). Gypsum Fibrosum, Anemarrhenae Rhizoma, Glycyrrhizae Radix, Trichosanthis Radix, Liriopis Tuber, and Schizandrae Fructus are the ingredients of GMBHT. We found that distilled water extract of GMBHT had hypoglycemic activity. The crude

extract was chromatographed on silica gel, to give six(I~VI) fractions. Each fraction was tested for its hypoglycemic activity and the fractions II and III showed the most antidiabetic activities. Antidiabetic activity was measured with alloxan-induced diabetic mice. We are in the process of determining the key substance(s) in the two fractions.

[PD3-6] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Antiinvasive, Antiangiogenic and Antitumor Activity of Ephedra sinica Extract

Nam Nguyen-Hai°, Lee Chang-Woo,* Kim Hwan-Mook* and Ahn Byung-Zun

College of Pharmacy, Chungnam National University, Taejon 305-764, Korea; *Korea Research Institute of Bioscience and Biotechnology, KIST, Taejon 305-600, Korea

Ephedra sinica Stapf, (Ephedraceae) is a shrub or small erect herb widely growing in northeastern Asia. The dry haulms of Ephedra sinica, together with that of E. Intermedia Schrenk et C. A. Mey. or E. Equisetina Bge. of the same family, commonly known as Mahuang, is one of the oldest and most widely used in the Orient as a diaphoretic, antiasthmatic, and diuretic. The dry root of these plants has also been used as an antisudorific.
Horikawa et al. have noted a moderate inhibition of mutagenicity and carcinogenicity of benzo[a] pyrene, 1,6-dinitropyrene and 3,9-dinitrofluoranthene by some medicinal herbs including E. sinica. However, no further report on the antitumor activity of this plant has been recorded to date. In the course of screening medicinal plants for antiangiogenic activity, we found that the methanol (MeOH) extract of E. sinica profoundly inhibited the tube-like formation of HUVEC in in vitro model at a non-cytotoxic concentration. Encouraged by this result we have thoroughly investigated the antiangiogenic and antitumor activity of this plant.
The MeOH was fractionated against ethyl acetate, butanol in sequence. A remained part (the water fraction), at 30 mg/kg/day, showed an inhibitory activity on the growth of tumor mass in BDF1 mice inoculated with B16F10 murine melanoma cells comparable to that of adriamycin administered at 2 mg/kg/day. Also, it was observed that the water fraction, at 30 ug/mL - a non-cytotoxic concentration, inhibited the tube-like formation induced by HUVEC and the invasion of B16 melanoma cells through a matrix membrane by more than 90 % in in vitro angiogenesis and invasion assays. From these results, it could be postulated that the antitumor activity of this water fraction might be attributed to its antiangiogenic and antiinvasive activities.

[PD3-7] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

The Anti-inflammatory and Analgesic Activities of An-Tae-Eum

Lee JH°, Eun-Rhan Woo, Moon YH

College of Pharmacy, Chosun University, Kwangju 501-759, Korea

An-Tae-Eum(ATE) has been used as a prescription for threatened abortion associated with pregnancy in traditional medicine. This study was aimed to determine that ATE might cure the arthritis during the pregnant period.

The anti-inflammatory activity of ATE was examined by using carrageenin induced edema, croton oi induced granuloma pouch, and adjuvant arthritis in rats. In addition, the analgesic and antipyretic effects of ATE were investigated by using general experimental methods in mice. The oral administration of ATE has been shown anti-inflammatory activity in 1 % carrageenin induced edema in rats, especially the anti-inflammatory activity of 600 mg/kg of ATE was more potent comparing with than that of 300mg/kg of ATE. Also, it significantly inhibited granuloma and exudation in mice. In the adjuvant arthritis experiment, the ATE decreased the hind paw edema after 5 days of oral administration. In addition, it inhibited the writhing syndrome induced by 0.7 % acetic acid in mice. The antipyretic activity of ATE was also observed through the typhoid vaccine experiment.