Effect of Magnolia officinalis on immediate type allergic reaction

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We studied the effect of aqueous extract of Magnolia officinalis bark(MOAE) on the immediate type allergic reaction. MOAE(0.01 to 1 g/kg) dose-dependently inhibited compound 48/80 induced systemic anaphylaxis in rats. MOAE(0.1 and 1 g/kg) also significantly inhibited local immunoglobulin E (IgE)-mediated passive cutaneous anaphylactic reaction. When MOAE was pretreated at concentrations ranging from 0.01 to 1 g/kg, the plasma histamine levels were reduced in a dose-dependent manner. MOAE(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-dinitrophenyl(DNP) IgE. The level of cAMP in RPMC, When MOAE(0.01 and 0.1 mg/ml) had a significant inhibitory effect on anti-DNP IgE-induced tumor necrosis factor-a(TNF-a) production from RPMC. These results indicate that MOAE inhibits immediate type allergic reaction in vivo and in vitro.

[PD3-3] [04/19/2001 (Thr) 13:30 - 14:30 / Hall 4]

Microphysiometry of Corni Fructus extracts on SaOS-2 Cells

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The microphysiometry instrument manufactured under the name Cytosensor is a relative new bioassay device developed to measure proton excretion rates of living cell populations. Cell physiology and metabolism are linked to acidification of the extracellular environment. Extracellular acidification rate (ECAR) data is generated and plotted against time to display changes in cell metabolism coincident with the addition of chosen receptor antagonist.
The major physiological function of parathyroid hormone(PTH) is maintenance of Ca2+/Pi homeostasis in human via the parathyroid hormone receptor(PTHR) in bone cells. PTH(1-34, 1-27) has been shown to elicit a significant extracellular acidification response in SaOS-2 cells by microphysiometric measurement.
For the first time, application of a herbal medicine, extracts of Corni Fructus to SaSO-2 cells was studied by this instrument for effects on extracellular acidification and compared to PTH driven responses. The result from this experiment can indicate that Corni Fructus extracts may act as a increasing factor of ECAR in human osteoblast-like cells compared with PTH and can be used for screening other herbal extracts or components with known antiosteoporotic effects for PTHR binding activity.

[PD3-4] [04/19/2001 (Thr) 13:30 - 14:30 / Hall 4]

Differentiation of the three kinds of traditional chinese medicine, Sa-Mul-Tang, Bo-Jung-Ik-Ki-Tang, and Shin-Ki-Hwan, from the two behavioral parameters using the elevated plus-maze test.

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Sa-Mul-Tang (Si-Wu-Tang, SMT), Bo-Jung-Ik-Ki-Tang (Bu-Zhong-Yi-Qi- Tang, BJIKT), and Shin-

Ki-Hwan (Shen-Qi-Wan, SKH) have been used for various kinds of deficiency syndromes, such as 'blood', 'qi', and 'yang', respectively. The objects of this study were to determine the effects of water extracts of three different kinds of traditional Chinese medicine, SMT, BJIKT, and SKH, on the anxiolytic and memory activities in the elevated plus-maze test and to clarify the differences among 'blood', 'qi', and 'yang'. The water extracts of SMT, BJIKT, and SKH were orally administered to male rats or mice, at 1.0 g/kg for 10 days. All rats were subjected to behavioral tests for the anxiolytic activity and all mice for the memory test at 10 days. The SMT for the 'blood' had no significant effects on the first time entry to the closed arms and times spent in the open arms at any test times. However, both BJIKT and SKH prolonged the first time entries to the closed arms and also times spent in the open arms ($p<0.05$). In the memory test, SMT only ameliorated the scopolamine (5 mg/kg)-induced learning deficit in mice. From these findings, it can be speculated that the different anxiolytic and memory effects in the elevated plus-maze test may be come from the meanings of 'qi', 'blood', and 'yang' in oriental diagnostics though the cases are restricted. [Supported by the Kyung Hee University Grant 2000-1U0100010]

Poster Presentations - Field D4. Analytical Chemistry

[PD4-1] [04/19/2001 (Thr) 13:30 - 14:40 / Hall 4]

Determination of the metoprolol enantiomers in human urine by gas chromatography/mass spectrometry

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A method for the stereoselective assay of R- and S-enantiomers of metoprolol in human urine was developed using gas chromatography/mass spectrometry with selected-ion monitoring. The method involved purification by liquid-liquid extraction and derivatization with N-methyl-N-(trimethylsilyl) trifluoroacetamide(MSTFA) to form O-silyl ethers followed by subsequent chiral derivatization with (+)-α-methoxy-α -(trifluoromethyl)phenylacetyl chloride to form diastereomeric amide. The reaction is selective and rapid, and diastereomeric derivatives were separated by gas chromatography. Quantitation was performed by selected-ion monitoring quasi-molecular ions of the diastereomers on the electron impact ionization method. The sensitivity, specificity, accuracy and reproducibility of the method were demonstrated to be satisfactory for application to pharmacokinetic studies of metoprolol enantiomers.

[PD4-2] [04/19/2001 (Thr) 13:30 - 14:40 / Hall 4]

Direct enantiomer separation of quinolones including gemifloxacin

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