Eupatilin is a major active component of Stillen?(Artemisia Herba Extract) having a potent antigastritic effect. We investigated the physical properties of eupatilin using high performance liquid chromatography. Solubility, stability & partition coefficient of eupatilin were investigated. pH-stability of eupatilin was examined over the broad range through pH1-9 at 37℃ & it has good stability above the broad range pH. The solubility of eupatilin was extremely low but the value of logP was more than 2. Also, a high performance liquid chromatographic method was developed for the determination of eupatilin in rat plasma. The method involved deproteinization of biological sample with the same volume of acetonitrile, 0.2M zinc sulphate, and 0.15M barium hydroxide. The mobile phase employed was ammonium acetate buffer(1% ammonium acetate and 0.5% acetic acid) – acetonitrile (58:42,v/v) and the flow rate was 1.0 ml/min. The quantitation limit of eupatilin in rat plasma was 10 ng/ml. No interferences from endogenous substances were found.

[PD4-11] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Cyclooxygenase Inhibitory Activity of Ginsenosides from Panax ginseng

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P. ginseng C.A. Meyer is one of the most widely used herbal medicine in Asia. It has been used for the treatment of many disorders. Its major constituent is known to be ginsenosides, and there are many documents about bioactivities of ginsenosides such as anti-oxidant, anti-tumorigenic, anti-fatigue, and anti-inflammatory activities. Some of these activities are supposed to have some correlation with inhibitory action of cyclooxygenase (COX). Ginsenosides from P. ginseng and sapogenins were evaluated for their inhibitory effects against both cyclooxygenase-1 and -2 (COX-1 and -2). Inhibitory activity was evaluated by measuring prostaglandin E_2 (PGE_2) production from arachidonic acid with an ELISA reader. As a results, Rg_3(S), and Rg_5 and Rk_1 showed COX-2 inhibitory activity in a selective manner (COX-1: IC_{50} = >100, 77.01 μg/mL, COX-2: IC_{50} = 35.47, 18.6 μg/mL). Protopanaxatriol (PPT) showed moderate activity on COX-1 and -2 (COX-1: IC_{50} = 39.16, COX-2: IC_{50} = 35.56 μg/mL), while Re, Rg3 (R), and protopanaxadiol (PPD) showed little activity.

[PD4-12] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

HPLC Analysis of Phytosphingosine and Its Metabolites in Mammalian Cells with TCPO- H_2O_2 Chemiluminescence Reaction

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Sphingolipids has been known to induce apoptosis, cell proliferation, differentiation and migration in a variety of cell types . Recently, its phosphate form was suggested that they may act both as an agonist ligand to S1PRs and a second messenger in intracellular action. Phytosphingosine(PHS) is not easily detected due to trace component of cellular lipids in mammalian and human tissues while this is a major sphingolipid in yeast and plants. We therefore developed highly sensitive and reproducible analytical method for PHS and its phosphate by oxalic acid bis(2,4,6-tri-chlorophenyl) ester(TCPO)-hydrogen peroxide(H_2O_2) chemiluminescence. The NDA derivatives of PHS exhibited stable fluorescences and was enhanced their detectability at low concentrations by post-column chemiluminescence detection with TCPO- H_2O_2. The dried lipid extracts or sphingoid base standards for the calibration curve were dissolved in 40 ul of ethanol. NDA derivatization was accomplished by adding the following stock solutions: 40 ul 0.05M $NaHCO_3$ / 0.1M NaOH buffer(pH 10.5), 20 ul 13% (w/v) NaCN, and 20 ul 0.5%(w/v) NDA. The tube was tightly sealed with PTFE film and heated at 67℃ in a water bath for 90 min, glycine was added to stop the derivatization reaction. we successfully measured the amount of PHS and PHS-1-P in LLC-PK_1 cells. Collectively, this method can be thus used to detect and distinguish PHS and PHS-1-P with high sensitivity from other sphingolipids in mammalian cells.

[PD4-13] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]