MeOH and H_2O (30: 70 then 100 : 0), detection : UV 220nm.Content of 1 in Adenophorae Radix was 0.006 ± 0.003% (n = 43). In addition, total ash content was 6.5 ± 4.0%, and loss on drying was 12.1 ± 2.1%.

[PD4-28] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Quantitative Analysis of Puerarin and Daidzein in Domestic and Imported Puerariae Radix by High Performance Liquid Chromatography

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This study was carried out to investigate the quality control of domestic and imported Puerariae Radix. It was analyzed by HPLC using μ-Bondapak C_{18} column with 35% MeOH containing 1% CH_3CO_2H system as the mobile phase at UV 254nm. Good linearity showed over the range of 10 to 200μg/mℓ(r^2=1) for Puerarin, and 0.5 to 10μg/mℓ(r^2=0.9999) for Daidzein. The average contents of Puerarin and Daidzein were 5.5±1.2%(Domestic), 5.3±0.7%(Imported), and 0.05±0.02%(Domestic), 0.08±0.02%(Imported).The average recovery rates of Puerarin and Daidzein were 101.8±1.9% and 97.2±0.7%, respectively.

[PD4-29] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Studies on the quality control of Araliae continentalis Radix

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The Araliae continentalis Radix is the root of Aralia continentalis Kitagawa, which belongs to the Araliaceae and is distributed in Korea, Japan, Manchuria, China and Sahalane. It is generally used as a folk medicine for its excellent medical action and efficacy in various symptoms such as headache, edema, inflammation, rheumatism and neuralgia. (-)-Pimara-8(14)-15-dien-19-oic acid (1) and 1-kaur-16-en-19-oic acid have been reported as the major constituent of A. continentalis Radix. Essential oils such as limonene, sabinene, myrcene, humulene and sesamin, β-sitosterol are also reported as constituent elements. However, the marker standard for quality control has not been reported yet. It is necessary to select the marker compound and establish the standard for the quality control. In this study, we selected (-)-pimara-8(14)-15-dien-19-oic acid (1) as an analytical marker compound. Quantitative analysis of (1) by GC after methylation showed 1.00±0.29% of (1) in 41 samples collected throughout Korea. Total ash content was 5.22±0.83% and loss on dring was 9.55±1.13%.

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

Quality Control of Codonopsis Radix

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Codonopsis radix, a root of Codonopsis lanceolata (S. et Z.) Trautv., is a source of the traditional medicine and health foods. However quality control method is not established yet. This research is to establish the standard for the quality control of Codonopsis radix. From the root of this plant, 1,2,3,4-tetrahydro-β-carboline -3-carboxylic acid (1) was isolated. This alkaloid was adequate as a marker compound for quality control, since it is a unique constituent of Codonopsis radix. In particular, (1) was not found in Adenophorae radix, a common adulterants of Codonopsis radix. Furthermore, (1) has strong UV absorbance which makes it easy to detect in HPLC analysis. Analytical condition of (1) using HPLC was established as follows; column: RP-18 column, eluant: gradient elution of methanol and water, detection: UV 220nm. Content of (1) in dried Codinopsis radix was

0.0012±0.0005 % (n=13). In addition, total ash content was 4.96±2.72 %, and loss on drying was 11.87±1.26 %.

[PD4-31] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Quantitative Determination of Amygdalin Epimers from Armeniacae Semen by High Performance Liquid Chromatography.

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D-Amygdalin and its conversion product, neoamygdalin, were clearly separated on reverse-phase column chromatography by an optimized eluent of 10 mM sodium phosphate buffer (pH 3.5) containing 8.5% acetonitrile. Linearity for analyzing D-amygdalin and neoamygdalin was observed in the range from 0.05 to 0.5 mM. The detection limits for D-amygdalin and neoamygdalin were ca. 5 uM per injected amount. When extracting amygdalin from a whole piece of Armeniacae Semen in the boiling aqueous solution, there was almost no influence of emulsin; it resulted in higher extraction yield. However, a defect, converting D-amygdalin into neoamygdalin by heating, was found. The problem was solved when 4% citric acid was used as an extractant, and the 4% citric acid also prevented from being affected by emulsin. In addition, the extraction yield remained the same with when methanol is used as an extractant regardless of cutting size. HPLC condition as follows Column : Synergi 4μ Hydro-RP 80Å(4.6㎜×250㎜) Mobile Phase : 10mM Sodium Phosphate buffer(pH 3.5) containing 8.5% Acetonitrile Column Temperature : 10℃ Wavelength : 214㎚

[PD4-32] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Determination of Eupatilin in Human Plasma by Liquid Chromatography/Electrospray Ionization Tandem Mass Spectrometry

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A rapid, sensitive and selective liquid chromatography-tandem mass spectrometric (LC/MS/MS) method for the determination of eupatilin in human plasma was developed. Eupatilin and internal standard, (S)-[N-3-(4-(2-(1-methyl-5-tetrazolyl)-pyridine-5-yl)-3-fluorophenyl)-2-oxo-5-oxazolidinyl]methyl acetamide (DA-7867) were extracted from human plasma by liquid-liquid extraction and analyzed on a phenyl-hexyl column with the mobile phase of acetonitrile-ammonium formate (10 mM, pH 3.0) (60:40, v/v). The analytes were detected using an electrospray ionization tandem mass spectrometry in the multiple-reaction-monitoring mode. The calibration curve was linear (r = 0.999) over the concentration range of 1.00-500 ng mL^{-1} with the lower limits of quantification of 1.0 ng mL^{-1} using 100 mL plasma sample. The coefficient of variation and relative error of this assay ranged from 2.4 to 7.0 % and from –7.0 to -2.0 %, respectively. The recoveries of eupatilin ranged from 64.3 to 65.0 %, with that of DA-7867 (internal standard) being 87.0 ± 5.3 %.

[PD4-33] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

^{1}H-NMR Studies of Chiral Solvating Agent Induced - Chemical Shift Differences of Ibuprofen Enantiomers

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Chiral discrimination of ibuprofen by ^{1}H-NMR using several chiral solvating agents such as (-)-brucine, (-)-cinchonidine, (1R, 2S)-(-)-ephedrine, (S)-(-)-α-methylbenzylamine, (-)-strychnine and L-(-)-tryptophane was investigated. Racemic ibuprofen treated with one equivalent of chiral solvating agent was preferentially crystallized. Chiral purity of each precipitates was measured by chiral HPLC and chemical shift differences(ΔΔδ)