

However, they exhibited minor or even no cross-reactivities with PPD (0.11%) and other ginsenosides tested (G-Re: 0.85%; G-Rg<sub>1</sub>: 0.51%; G-Rb<sub>1</sub>: <0.01%; IH-901: 0.03%). The ELISA was compared with HPLC; there was a good correlation (r=0.959). Therefore, this ELISA method can be a very useful tool for measuring trace amounts of G-F<sub>1</sub>.

[PD2-2] [ 10/20/2000 (Fri) 11:30 - 12:30 / [Hall B] ]

**Three oligosaccharides from the roots of *Rhododendron yedoense* var. *poukhanense***

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The research about hair-growing agents has been an exciting subject since a long time ago. After the side effect, hirsuties, of minoxidil that was developed as depressant had been used treating the depilation, the studies of hair-growing agents have been taken an increasing interest. *Rhododendron yedoense* Max. et Regel var. *poukhanense* Nakai (Ericaceae) is a deciduous and latifoliate shrub growing in Korea and Japan. The roots of this plant have been known to be effective as hair-growing agents in the traditional medicine. But the phytochemical studies as well as hair growth effect of this plant have never been reported. To inquire into the constituents of this plant, the roots were extracted with 95% MeOH and MeOH Ext. was subsequently fractionated into four parts: chloroform, ethylacetate, n-butanol and water fractions. Chromatographic separation of the n-butanol fraction has yielded three oligosaccharides. Their structures were elucidated by chemical and spectral evidences.

[PD2-3] [ 10/20/2000 (Fri) 11:30 - 12:30 / [Hall B] ]

**Annoline, Gonionenin and Xylomaticin: A novel and two known bioactive mono-tetrahydrofuran acetogenins from *Annona cherimolia* seeds**

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The large number of research works on acetogenins from the Annonaceae is due to their broad range of potential biological rules, for example, cytotoxic, antitumor, antiparasitic, pesticidal, antimicrobial, and immunosuppressive activities. Currently, their number is more than 350. *Annona cherimolia* (Annonaceae) is a tree native of tropical south America (Peru), now cultivated for its edible fruits ("cherimoya") in a small pseudo-tropical area in the south of Spain. Our previous works on the seeds extract resulted in the isolation of nine novel and seven known acetogenins. Through further fractionation work, directed by the brine shrimp lethality test (BST), we have now isolated a novel (annoline) and two known (gonionenin and xylomaticin) bioactive acetogenins. All of the compounds are acetogenins of annonacin type. Annoline and gonionenin have a mono-THF ring with two flanking hydroxyls and possesses a double bond in their molecules. The structure of gonionenin and xylomaticin were known but were newly isolated from this plant.

[PD2-4] [ 10/20/2000 (Fri) 11:30 - 12:30 / [Hall B] ]

**Pyrrrole derivatives from *Lycium chinense***

Dried fruits of *Lycium chinense* were extracted with EtOH and evaporated in vacuo. The extract was suspended in water and partitioned CHCl<sub>3</sub>-MeOH mixture (5:1). The extract was fractionated by RP column chromatography using MeOH to give 7 fractions. Fraction 3 was chromatographed on SiO<sub>2</sub> (CM=10:1→0:1), sephadex LH-20 column (MeOH), and then was purified by HPLC (AcCN-H<sub>2</sub>O=25:75) to afford compound 1. Fraction 4 was subjected to SiO<sub>2</sub> column chromatography to give 6 subfractions. HPLC (AcCN-H<sub>2</sub>O=25:75) of subfraction 2, 5 afforded compound 2, 3 respectively. The structures of these compounds were identified as 4-[2-formyl-5-(hydroxymethyl)-1H-pyrro-1-yl]butanoic acid (1), 4-[2-formyl-5-(methoxymethyl)-1H-pyrro-1-yl]butanoic acid (2), 4-[2-formyl-5-(methoxymethyl)-1H-pyrro-1-yl]butanoate (3).

[PD2-5] [ 10/20/2000 (Fri) 11:30 - 12:30 / [Hall B] ]

### Quantitative analysis of orcinol and acute toxicity of *Gyrophora esculenta*

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In previous study, *Gyrophora esculenta* showed significant inhibitory effect on  $\alpha$ -glucosidases *in vitro* and blood glucose elevation *in vivo*. In the isolating process of active substance, orcinol was separated from *Gyrophora esculenta*. Orcinol is known to be toxic, therefore, in this study, it was analyzed by the TLC densitometry method for quantitative determination from *Gyrophora esculenta*. The average amount of orcinol of *Gyrophora esculenta* was 0.2%. For the purpose of removing orcinol, the water extract of *Gyrophora esculenta* was sequentially fractionated by organic solvents, and the acute toxicity of each fraction was assessed in mice. Among them, the LD<sub>50</sub> of butanol fraction was 1.19g/kg(p.o.) and the weight increase of mice in that group was somewhat retarded.

[PD2-6] [ 10/20/2000 (Fri) 11:30 - 12:30 / [Hall B] ]

### Separation of *Cornus Officinalis* components by Centrifugal Partition Chromatography

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Centrifugal Partition Chromatography(CPC) method has advantages for separation of compounds from complex natural product mixtures, such as herbal medicines, by reducing material losses and allowing a higher stationary phase to sample volume ratio than allowed by Counter Current Chromatography(CCC) or HPLC. With these advantages, CPC may be a separation method of choice in the area of natural products, especially in supporting the bioassay-guided fractionation of extracts. The most important factor for successful CPC separation is an appropriate two phase solvent system, and so designing a solvent system is the focal point of the isolation operation. Here we separated and identified four iridoids and other two compounds from fruits extracts of *Cornus officinalis*(Cornaceae) that are used as a traditional medicine in Korea, Japan, and China for kidney tonic, analgesic, diuretic and antiosteoporotic effect of type 1 osteoporosis, using two different solvent systems: dichloromethane -methanol -n-propanol-water(5:6:1:4) and chloroform-methanol-water(9:12:8) using both two ascending and descending modes.