subjected to successive solvent partitioning to give n-hexane (32g), methylene chloride (20g), ethyl acetate (8g) and BuOH (30g) soluble portions. The repeated column chromatographic separation of the n-hexane layer resulted in the isolation of eight terpenoids. Their structures have been established by spectroscopic means. The isolation and characterization of the compounds will be discussed in this poster. 1) Imann, F., Jakupovic, J., Hashemi-Nejad, M., Huneck, S., Clerodane diterpenoids from Aster alpinus. Phytochemistry, 24(3), 608-610 (1985) 2) Cheng, D., Shao, Y., Terpenoid glycosides from the roots of Aster tataricus. Phytochemistry, 35(1), 173-176 (1994)

**[PD2-12] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Hepatoprotective flavonol glycosides from the aerial parts of Rodgersia podophylla

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*College of Pharmacy Seoul National University*

Activity-guided separation for the aerial parts of Rodgersia podophylla A. Gray gave a new acylated flavonoid, quercetin 3-O-α-L-(5²-acetyl)-arabinofuranoside (1), together with six known flavonoids (2-7). Their hepatoprotective activities were determined by using the primary cultures of rat hepatocytes injured by $H_2O_2$. Quercetin 3-O-α-L-(3²-acetyl)-arabinofuranoside (3), kaempferol 3-O-α-L-rhamnopyranoside (5) and quercetin 3-O-α-L-rhamnopyranoside (6) exhibited hepatoprotective activities comparable to silybin at the concentration of 50 mM (45.7, 50.8 and 57.3 %, respectively), and the new flavonoid 1 showed hepatoprotective activity at the concentration of 100 mM ( 50.1 %).

**[PD2-13] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Nitric Oxide and $PGE_2$ production Inhibitory Activities of Phenolic Compounds from Sophora japonica Linne

Hyun Jung Kim°, Jae Geul Sim, Seung Hwan Yeom, Min Kee Kim, Jae Hee Lee, Min Won Lee
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Phytochemical examination of Sophorae Fructus yielded six phenolic compounds. The structures were elucidated as genistein(1), genistin(2) and genistein 7-O-α-L-rhamnopyranoside(3) by phytochemical and spectral evidences. The other compounds(4, 5, 6) are understudied by 2D-NMR. Nitric Oxide and $PGE_2$ production inhibitory activities in INF-γ, LPS stimulated RAW 264.7 cell were examined. Compound 2 and 4 showed significant nitrogen monoxide(NO) production inhibitory activity in IFN-γ, LPS stimulated RAW 264.7 cell. These compounds also showed significant $PGE_2$ production inhibitory activity. These results suggest that the phenolic compounds which were isolated from Sophora japonica might be developed as a anti-inflammatory agent.

**[PD2-14] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Platelet Anti-aggregating and Anti-oxidative Activities of 12-O-(4'-O-methyl-galloyl)-bergenin, a Novel Compound Isolated from Crassula cv. "Himaturi"

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Platelets play critical roles in both hemostasis and thrombosis. It was reported that platelet aggregation is associated with an increase in superoxide production and can be inhibited by hydroxyl radical scavengers. In the course of our search for the anti-platelet, anti-coagulant and/or anti-oxidative components from plants, the MeOH extract of Crassula cv. "Himaturi" (Crassulaceae) was observed to have both anti-aggregatory and anti-coagulant effects. A novel compound, 12-O-(4'-O-methyl-galloyl)-bergenin (1), was isolated as an active component from the EtOAC soluble fraction. The structure of the compound was determined by IR, MS, $^1H$- and $^{13}C$-NMR spectral data including HMBC and COSY etc. Compound 1 showed 100~140 folds higher potency on arachidonic acid induced platelet aggregation ($IC_{50}$ ; 0.64μM) than acetylsalicylic acid. It also showed strong antioxidative

effect ($EC_{50}$ ; 23.9 μM) which is comparable to L-ascorbic acid.

**[PD2-15] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Phenolic Glycosides from the Leaves of Ternstroemia japonica

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Ternstroemia japonica (Theaceae) is widely distributed in Korea, Japan, Taiwan and China. The tree is a useful source of lumber, dye and horticulture. Its fruits have been used as folk medicine in Japan for the treatment of chest pain or numbness. Previously, we have isolated saponins and jacaranone derivatives from the fruits. In our continuous study on the same plant, the leaves of Ternstroemia japonica were extracted with MeOH and the MeOH extract was fractionated with solvents. The n-BuOH soluble fraction was separated by repeated column chromatographies on silica gel and Sephadex LH-20, and further purified by reversed phase HPLC. As a result, four flavonoids (1-4) and three new diphenyl glucosides (5-7) were isolated, together with a known phenyl glucoside (8) . The structures were established on the basis of spectral analysis.

**[PD2-16] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Inhibitory effects of pinosylvin on prostaglandin $E_2$ and nitric oxide production in lipopolysaccharide-stimulated mouse macrophage cells

Park Eun-Jung°, Min Hye-Young, Kim Moon-Sun, Pyee Jae-Ho, Ahn Yong-Hyun, Lee Sang Kook
*College of Pharmacy, Ewha Womans University, Seoul, Korea, Dankook University*

The inhibitors of prostaglandin biosynthesis and nitric oxide production by corresponding inducible isozyme have been considered as potential anti-inflammatory and cancer chemopreventive agents. In our continuous search for cancer chemopreventive agents from natural products, we have evaluated the inhibitory potential of $PGE_2$ and NO production in lipopolysaccharide (LPS)-induced mouse macrophage RAW 264.7 cells. As a result, pinosylvin (3,5-dihydroxy-trans-stilbene), a stilbenoid, mainly found from the heartwood and leaves of the Pinus sylvestris, showed potential inhibitory activity of LPS-induced $PGE_2$ and NO production in a dose-dependent manner. Pinosylvin also suppressed the LPS-induced iNOS protein expression. Further study revealed that pinosylvin exhibited antioxidant activity by the DPPH free radical scavenging potential and inhibitory effect of xanthine oxidase activity. In addition, pinosylvin inhibited COX-2 overexpressed human colon cancer cell (HT-29) growth in a time- and dose-dependent manner. These findings suggest that pinosylvin might be a promising candidate for developing cancer chemopreventive agent .

**[PD2-17] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## Lignans from the Stem Barks of Kalopanax septemlobus

Hong Seong Su°, Han Xiang Hua, Park Seon Soon, Lee kyong Soon, Lee Myung Koo, Hwang Bang Yeon, Ro Jai Seup
*College of Pharmacy, Chungbuk National University*

As a part of an ongoing collaborative program to discover novel bioactive components of plant origin, the stem barks of Kalopanax septemlobus were extracted with MeOH, and successively partitioned with $CH_2Cl_2$, EtOAc, BuOH and water. Repeated column chromatographic separation of the $CH_2Cl_2$ fraction resulted in the isolation of four compounds. Their structures were identified as vladinol E (1), (-)-simulanol {4-[3-hydroxymethyl-5-((E)-3-hydroxypropenyl)-7-methoxy-2,3-dihydrobenzofuran-2-yl]-2,6-dimethoxy-phenol} (2), vladinol F (3), and (±)-secoisolariciresinol (4). This is the first report on the isolation of these compounds from Kalopanax species.

**[PD2-18] [ 2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function ]**

## iNOS inhibitory activity of brazilin from Caesalpinia sappan