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Two phenolic flavonoids were isolated from the traditional medicine of Eastern Asia, *Caesalpinia sappan* L (Leguminosae). Brazilin (1) showed a significant inhibitory activity against inducible Nitric Oxide Synthase (iNOS) in lipopolysaccharides (LPS)-induced macrophage RAW 264.7 cells with an IC₅₀ value of 1.68 mg/ml, which is more potent than the positive control, L-N⁶-(1-iminoethyl)lysine (IC₅₀ 3.49 mM). On the other hand, caesalpine J (2) was found to be inactive in the present iNOS assay system despite of their structural similarities. This result suggests that brazilin (1) may be a potential candidate to treat human diseases associated with iNOS such as inflammation, ischemia, and aging.

[PD2-19] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

A New Benzofuran from the Stem-bark of *Styrax japonica*

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Styrax japonica Sieb. et Zucc. (Styracaceae) is a deciduous tree growing in Korea, Japan, and China. The pericarps of this plant have been used as a folk medicine for treatment of cough. Jegasaponins, deacyl jegasaponins and benzofurans have been reported from the fruits and seeds of this plant, and these compounds have been shown antisweet and cytotoxic activities. As a part of a research aimed at the discovery of biological active compounds from plant sources, we have studied a chemical constituent of the stem-bark of *S. japonica*. The stem-bark was extracted with MeOH. The MeOH extract was suspended in H₂O and extracted with hexane and EtOAc. The resulting H₂O solution was further fractionated on Diaion HP-20 with H₂O, 50% MeOH and MeOH, successively. The MeOH-soluble fraction was chromatographed on a column of reverse phase C-18 to yield three compounds (1-3). The structures of compounds were determined as 5-(3''-hydroxypropyl)-7-methoxy-2-(3',4'-dimethoxyphenyl)-benzofuran 3''-O-[β-D-xylopyranosyl-(1→2)-β-D-glucopyranoside] (1), egonol (2) and egonol 3''-O-[β-D-xylopyranosyl-(1→2)-β-D-glucopyranoside] (3) by chemical and spectroscopic means. Among these, compound 1 was the first to be reported from natural sources.

[PD2-20] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

The Neuroprotective Activity Of Lignans Isolated From *Machilus thunbergii*

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The CH₂Cl₂ fraction of the bark of *Machilus thunbergii* Sieb. et Zucc. (Lauraceae) significantly protected primary cultures of rat cortical cells exposed to the excitotoxic amino acid, L-glutamate. Several lignans including (-)-isoguaiacin, meso-dihydroguaiaretic acid, machilin A, (+)-galbelgin, licarin A, (-)-sesamin, and (+)-guaiacin were isolated from the CH₂Cl₂ fraction using by bioactivity-guided isolation techniques. Among these lignans, (-)-isoguaiacin, meso-dihydroguaiaretic acid, licarin A and (+)-guaiacin had significant neuroprotective activities against glutamate-induced toxicity in primary cultures of rat cortical cells at concentration ranging from 0.1 μM to 10.0 μM. These lignans significantly reduced the calcium influx that routinely accompanies glutamate-induced neurotoxicity. To exert neuroprotective activity, they should have both methoxy group and hydroxy group in benzene ring.

[PD2-21] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Platycodin D Induced NF-κB Activation and Apoptosis in Immortalized Keratinocytes

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