[PD2-40] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Three New Flavonoids Of Spatholobus suberectus

Yoon Jeong Seon[1o], Lim Song Won[1], Yang Hyekyeong[1], Ahn Taekyeong[1], Kim Eun-Sil[1], Sung Sang Hyun[2], Kim Young Choong[1]*
College of Pharmacy, Seoul National University, Elcom Science

Six compounds were isolated from the 90% MeOH fraction of the vine stem of Spatholobus suberectus Dunn (Leguminosae) using silica gel, reverse phase column chromatography and RP-HPLC. Structures of compounds 1-6 were elucidated by spectroscopic parameters of IR, EI MS, FAB MS, 1D-NMR and 2D-NMR spectrum and identified as pseudobaptigenin (1), genistein (2), (2R)-7-hydroxy-6-methoxyflavanone (3), (3R,4R)-2",4"-dihydroxy-6,7-methylenedioxy-isoflavan-4-ol (4), (3R,4R)-7,2"-dihydroxy-4"-methoxyisoflavan-4-ol (5), sativan (6), respectively. Compounds 3, 4 and 5 have been newly reported in nature.

[PD2-41] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Inhibitory effects of the extract of Viscum album on the proliferation of human tumor cell lines

Seo Jee Hee[o], Choi Yeon Hee, Kim Jung Sook, Kim Seong-Kie, Choi Sang Un, Kim Young Sup, Ryu Shi Yong, Kim Young-Kyoon
Korea Research Institute of Chemical Technology, and College of Forrest Science, Kookmin university

A bioassay-guided fractionation of the whole extract of Viscum album (a parasitic plant : Loranthaceae) led to the isolation of two triterpenoidal components, oleanolic acid (1), β-amyrin acetate (2), homoflavoyadorinin B (3) as well as large quantity of free fatty acid mixtures as active ingredients of the extract responsible for the antitumoral property. The EtOAc soluble part and BuOH soluble part of the extract demonstrated a significant inhibition on the proliferation of cultured human tumor cells such as A549 (non small cell lung), SK-OV-3 (ovary), SK-MEL-2 (melanoma), XF498 (central nerve system) and HCT-15 (colon) in vitro, whereas the remaining water soluble part exhibited a poor inhibition. The intensive phytochemical investigation of the EtOAc soluble part and BuOH soluble part of the extract has resulted in the conclusion that the oleanolic acid (1) and large amounts of free fatty acid mixtures were attributed to the in vitro antitumoral property of the whole extract of Viscum album

[PD2-42] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Phenolic glycosides from Pyrola japonica-(Ⅱ)

Kim JuSun[o], Kang SamSik, Son KunHo[1], Chang HyeunWook[2], Kim HyunPyo[3], Bae KiHwan[4]
Natural Products Research Institute and College of Pharmacy, Seoul National University, 1Department of Food and Nutrition, Andong National University, 2College of Pharmacy, Yeongnam University, 3College of Pharmacy, Kangwon National University, 4College of Pharmacy, Chungnam National University

Two known compounds, syringaresinol monoglucoside(8), chimaphilin(14), together with three new compounds, (9)[mp. 106~111℃, $C_{29}H_{44}O_{13}$], (10)[mp. 180~182℃, $C_{15}H_{20}O_9$] and (11)[mp. 100~105℃, $C_{18}H_{28}O_8$] were isolated from the BuOH fraction of Pyrola japonica(Pyrolaceae). The structures of the known compounds were determined by chemical and spectroscopic methods. The assignments of the ^{1}H- and ^{13}C-NMR spectra of these compounds were carried out by two-dimensional ^{1}H-^{1}H-COSY, NOESY and ^{1}H-^{13}C multiple-bond, multiple-quantum spectroscopic correlation techniques. The characterization of the three new compounds is now in progress.

[PD2-43] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Antiinflammatory and Antiangiogenic Activities of Flavonoids Isolated from

Belamcandae Rhizoma

Jung Sang Hoon°, Ahn Kwang Seok, Lee Yeon Sil, Shin Kuk Hyun, Kim Yeong Shik°
Natural Products Research Institute, College of Pharmacy, Seoul National University, 28 Yeonkun-dong, Jongro-gu, Seoul 110-460, Korea

The present study was carried out to clarify whether isoflavonoids isolated from Belamcandae Rhizoma (Iridaceae) inhibit inflammation and angiogenesis by the experimental methods in vitro and in vivo. Among the isolated isoflavonoids, such as irigenin, irisflorentine, and iristectorene B inhibited nitric oxide (NO) production, as measured by nitrite formation at 3-30 μM. Also these compounds reduced cyclooxygenase-2 (COX-2) and inducible nitric oxide synthase (iNOS) enzyme expression in a concentration dependent manner, when measured by western blotting, at 3-30 μM. Irigenin, irisflorentine and iristectorene B decreased angiogenesis of chick embryos in the chorioallantoic membrane assay. These compounds also reduced the proliferation of calf pulmonary arterial endothelial (CPAE) cells and found to possess relatively weak gelatinase/collagenase inhibitory activity in vitro. These compounds, when administered subcutaneously at the dose of 30 mg/kg for 20 days to mice implanted with murine Lewis lung carcinoma (LLC), caused a significant inhibition of tumor volume. Therefore, antiangiogenic activities of isoflavonoids from Belamcandae Rhizoma might be due to antiproliferative activities under inhibition the induction of COX-2 and iNOS enzyme.

[PD2-44] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Antioxidant activity of flavonoid compounds from Cudrania tricuspidata Leaves

Chon InJu°, Kim JinPyo, Ham InHye, Sung WhanGil, Whang WanKyunn
Department of Immunology, College of Pharmacy, Chung-Ang University, Seoul 156-756, Korea and Kyungnam Research Institute of Herbal Medicine

Cudrania tricuspidata have been used for anti-inflammatory, anti- hepatotoxic, anti-hypertensive and anti-diabetic activities. In this study, in order to investigate the efficacy of antioxidant activity, the bio-activity guided fraction and isolation of physiologically active substance were performed. H_2O, 30%, 60%, 100% MeOH and acetone fractions were examined antioxidant activity by DPPH method. It was revealed that 30%, 60%, 100% MeOH frations have significantly antioxidant activity. From 30% MeOH fraction, two dihydro flavonoid glycosides (dihydroquercetin 7-O-glucoside, dihydrokaempferol 7-O-glucoside) were isolated and 60% MeOH fraction, six flavonoid glycosides (quercetin 3-O-rutinose, quercetin 3-O-glucoside, quercetin 7-O-glucoside, kaempferol 3-O-rutinose, kaempferol 3-O-glucoside, kaempferol 7-O-glucoside) were isolated. To investigate the antioxidant activities of each compounds, we were measured radical scavening activity with DPPH method and anti-lipid peroxidative efficacy on low density lipoprotein(LDL) with TBARS assay.

[PD2-45] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Two acyl phenol glucosides as Inhibitors of iNOS from Popolus davidiana in LPS-activated macrophages

Kim Ji Sun°, Lee Hwa Jin, Kim Yong Kyun, Ryu Jae-Ha
Sookmyung Women's University, Kookmin University

Nitric oxide (NO) produced in large amounts by inducible nitric oxide synthase (iNOS) is known to be responsible for the vasodilation and hypotension observed in septic shock and inflammation. Inhibitors of iNOS, thus, may be useful candidate for the treatment of inflammatory diseases accompanied by the overproduction of NO. We prepared alcoholic extracts of woody plants and screened the inhibitory activity of NO production in lipopolysaccharide (LPS)-activated macrophages after the treatment of these extracts. Among 83 kinds of plant extracts, 23 kinds of extracts showed potent inhibitory activity of NO production above 60% at the concentration of 80 μg/ml. Some of potent extracts showed dose dependent inhibition of NO production of LPS-activated macrophages at the concentration of 80, 40, 20 μg/ml. Especially, Artemisia iwayomogi, Machilus thunbergii, Populus davidiana and Populus maximowiczii showed the most potent inhibition above 70% at the concentration