[PD2-24] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Studies on chemical constituents form roots of Angelica koreana

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To investigate biological active constituents from natural products, we have studied the roots of Angelica koreana Max. (Umbelliferae). Fifteen compounds were isolated from the MeOH extract by column chromatography on a silica gel. The compounds were identified as isoimperatorin, oxypeucedanin, oxypeucedanin hydrate, osthol, nodakenin, 2-hydroxy-4-methylacetophenone, cimifugin, falcarindiol, heraclenin, pabulenol, umbelliferone, demethylsuberosin, hamaudol, sec-O-glucosylhamaudol, and prim-O-glucosylcimifugin, respectivelv, by spectroscopic means. Among these, the latter eight compounds were isolated for the first time from this plant.

[PD2-25] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

In vitro Inhibitory Effect of Coptidis Rhizoma before and after Processing and Berberine on the Advanced Glycation Endproducts(AGEs) formation

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One of the consequences of hyperglycemia is the excessive nonenzymatic glycation of proteins known as Millard reaction. Under hyperglycemia the irreversibly formed advanced glycation endproducts(AGEs) do not return to normal when hyperglycemia is corrected and continue to accumulate over the lifetime of protein. AGEs are largely involved in the pathogenesis of diabetic complications. To find possible AGEs inhibitor, BSA was added to a mixture of sugars and unprocessed-, processed Coptidis Rhizoma, Berberine, its standard compound or AG(Aminoguanidine HCl: positive control). After incubating during 30days, it was found that Berberine and unprocessed Coptidis Rhizoma showed significant inhibiting effects on the AGEs formation with IC_{50}(%) at concentration of 6.73±0.16 ㎍/㎖ and 17.05±5.96 ㎍/㎖ relative to AG(35.16±4.84 ㎍/㎖)and two kinds of processed Coptidis Rhizoma(66.58±0.56㎍/㎖, 80.01±1.60㎍/㎖). These results revealed that Coptidis Rhizoma without processing and its major compound(Berberine) had a more potent inhibitory action on AGEs formation than AG, suggesting the possibility of developing candidate for diabetic complications such as diabetic retinopathy and nephropathy.

[PD2-26] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Flavonoids from the stem bark of Albizzia julibrissin

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From the EtOAc fraction of the MeOH extract of Albizzia julibrissin (Leguminosae), a rare 5-deoxy flavone (geraldone), a 3',4',7,8-tetrahydroxyflavanone, an isoflavone (daidzein), and five prenylated flavonoids (sophoflavescenol, kurarinone, kurarinol, kuraridin and kuraridinol) were isolated and identified based on the analysis of spectral data. This is the first report of their occurrence in A. julibrissin

[PD2-27] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Antinociceptive and Antiinflammatory Effects of Niga-ichigoside F_1 and 23-Hydroxytormentic Acid Obtained from Rubus coreanus in Animals

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As an attempt to search for bioactive natural constituents exerting antinociceptive and antiinflammatory activities, we examined the potency of the extract of R. coreanus fruits by the activity-guided fractionation. The EtOAc- and BuOH fraction and those alkaline hydrolysates showed significant antinociceptive effects as assessed by writhing-, hot plate- and tail flicks tests in mice and rats as well as antiinflammatory effect in rats with carrageenan-induced edema. BuOH extract was subjected to column chromatography to obtain a large amount of niga-ichigoside F_1 (1, 23-hydroxytormentic acid 28-O-glc), which was again hydrolyzed in NaOH solution to yield an aglycone 23-hydroxytormentic acid (1a). The aglycone, 23-hydroxytormentic acid, was much more potent in both antinociceptive and antiinflammatory tests than the glycoside, niga-ichigoside F_1. The antiinflammatory effects of these compounds were further supported by the reduction of carrageenan-induced lipid peroxidation and hydroxyl radical in serum. These results suggested that 23-hydroxytormentic acid might be an active moiety of niga-ichigoside F_1 present in R. coreanus.

[PD2-28] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Phytochemical Constituents from Saussurea nutans

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As part of our systematic study for Korean Compositae plants, we have studied Saussurea nutans, collected at Gangwon Province on August 2001. Phytochemical studies on various species of genus Saussurea have resulted in the isolation sesquiterpene, triterpene and flavonoid[1]. S. nutans has been used for the treatment of rheumatic arthritis and dysmenorrhea in the Chinese folk medicine[2]. However, chemical constituents of this plant have not been reported until now. The MeOH extract of the aerial parts of this source was solvent fractionated into n-hexane, methylene chloride, ethyl acetate and BuOH soluble portions. The repeated column chromatographic separation of the n-hexane layer resulted in the isolation of seven terpenoids and three lipid glycerols. Structures of the isolated compounds have been established by chemical and spectroscopic means. In this poster, we demonstrate the isolation and the structure determination of the compounds from n-hexane soluble portion of Saussurea nutans. 1) Duan, H., Takaishi, Y., Momota, H., Ohmoto, Y., Taki, T., Immunosuppressive constituents from Saussurea medusa. Phytochemistry, 59, 85-90 (2002) 2) Fan, C. Q. and Yue, J. M., Biologically active phenols from Saussurea medusa. Bioorg. Med. Chem., 11, 1-6 (2003)

[PD2-29] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Anti-Oxidant Activities of Fucosterol from Pelvetia siliquosa

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The anti-oxidant activities of fucosterol isolated from the marine algae Pelvetia siliquosa were investigated. Fucosterol exhibited a significant decrease in serum transaminase activities elevated by hepatic damage induced by CCl_4-intoxication in rats. Fucosterol inhibited the sGOT and sGPT activities by 25.57 and 63.16%, respectively. Fucosterol showed the increase in the anti-oxidant enzymes such as hepatic cytosolic superoxide dismutase, catalase and glutathione peroxidase activities by 33.89, 21.56 and 39.24%, respectively, in CCl_4-intoxicated rats. These results suggest that fucosterol possess not only the anti-oxidant, but also the hepatoprotective activities in rats.

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