[PD2-27] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Inhibitory effects of Diarylheptanoids from the Barks of Alnus hirsuta Turcz on the Melanin Biosynthesis

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Four diarylheptanoids, hirsutanonol, oregonin, (5R)-1,7-bis-(3,4-dihydroxyphenyl)-5-hydroxyheptane, (5R)-1,7-bis-(3,4-dihydroxyphenyl)-heptane-5-O-β-D-glucoside were isolated from barks of Alnus hirsuta Turcz. The diarylheptanoids inhibited melanin biosynthesis 5-10 times stronger than kojic acid at 10㎍/ml concentration at various concentrations in B16 mouse melanoma cell lines on the pigmentation of skin.
These results show that diarylheptanoids from the barks of Alnus hirsuta Turcz could be developed as skin whitening component of cosmetics.

[PD2-28] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Antioxidative compounds from <I>Smilax china</I>

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The herb of Smilax species have been used for scrofular, goat, frambesa.
In this study, isolation of chemical constituents of *Smiax china* were carried out by extracting with methanol and then partitioned with $CHCl_3$, H_2O, 20% MeOH, 40% MeOH, 60% MeOH, and 100% MeOH. In order to evaluate the efficacy of anti-oxidative, its fractions(H_2O, 30%, 60%, 100Fr.) were measured radical scavening activity with DPPH method. It was revealed that H_2O, 20% and 40% MeOH fractions have significant antioxidative activity.
From 20% and 40% MeOH fraction, two flavonoids were isolated and elucidated as apigenin glycosides through spectroscopic methods.

[PD2-29] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Inhibitory effect of protoberberine alkaloids from Coptidis Rhizoma upon Acetylcholinesterase (AchE)

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The bioassay-directed fractionation of the MeOH extract of Coptidis Rhizoma (Ranunculaceae) yielded five active constituents (1-5) responsible for the inhibition on the acetylcholinesterase (AChE EC 3.1.1.7) in vitro. They(1-5) were identified by spectral evidences as berberine (1), groenlandicine (2), epi-berberine (3), coptisine (4) and jateorrhizine (5), respectively. All of them (1-5) were comprised in

quaternary protoberberine alkaloid and were observed to exhibit a significant inhibition on the acetylcholinesterase(AChE) with dose-dependent manner. The IC50 value of 1-5 on the inhibition of AChE were calculated as 0.14 ㎍/ml (1), 1.0 ㎍/ml (2), 1.4 ㎍/ml (3) and 0.66 ㎍/ml (4), respectively.

[PD2-30] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

The Structure-Activity Relationship of Hepatoprotective Phenylpropanoids from Underground Part of Scrophularia buergeriana

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We previously reported a new phenylpropanoid ester of rhamnose and six known phenylpropanoids isolated from the roots of *Scrophularia buergeriana* MIQ. (Scrophulariaceae). The present study was conducted to determine that these seven phenylpropanoids including a newly-reported glycoside protect primary cultured rat hepatocytes from the toxicity induced by carbon tetrachloride (CCl_4). Furthermore, the relationship between these isolated compounds and hepatoprotective activity was investigated with eleven structurally related compounds. Among the treated compounds, (*E*)-*p*-methoxycinnamoyl-α-L-rhamnopyranoside ester, (*E*)-*p*-methoxycinanmic acid, and isoferulic acid markedly blocked the release of GPT into the culture medium from the injured heptocytes. From this study, it was deduced that α, β-unsaturated ester moiety in phenypropanoids are very important to exert hepatoprotective activity. Moreover, para-methoxy substituted phenypropanoids showed stronger hepatoprotective activity than unsubstituted or para-hydroxy substituted phenylpropanoids.

[PD2-31] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Kaikasaponin III, a Potent Antimutagenic Saponin, Isolated from the Flower of Pueraria thunbergiana

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The MeOH extract of Pueraria thunbergiana (Legiminosae) flowers was fractionated to test antimutagenicity by Ames test. EtOAc fraction (1 mg/plate) decreased the number of revertants of Salmonella typhymurium TA100 to 95% against aflatoxin B1 (AFB1). Phytochemical isolation of the EtOAc fraction afforded four isoflavonoids (tectorigenin, glycitein, tectoridin and glycitin) and one saponin (kaikasaponin III). Though the three isolates other than tectoridin showed significant antimutagenicity, the activity of kaikasaponin III was the most potent. Kaikasaponin III (0.5 mg/plate) decreased the number of revertants of S. typhymurium TA100 to 99% against AFB1 but to 75% against MNNG (N-methyl-N'-nitro-N-nitrosoguanidin). This result suggested that kaikasponin III prevents the metabolic activation of AFB1 or scavenge electrophilic intermediate capable of mutation.

[PD2-32] [04/20/2001 (Fri) 13:30 - 14:30 / Hall 4]

Hepatoprotective constituents from the rhizomes of Rhodiola sacra

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