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The antioxidant activity of solvent extracts of leaves, trunk and root *Pueraria Radix* was determined by measuring the radical scavenging effect on 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical. Extracts prepared from root showed radical scavenging effect on DPPH radical. But, extracts prepared from leaves and trunk did not show activity. The ethyl acetate extract of *Pueraria Radix* root showed radical scavenging activity at an IC₅₀ value of 75.7 $\mu\text{g/ml}$.

[PD3-13] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Screening and Isolation of Antioxidant from Medicinal Plants

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On the purpose of development of antioxidative compound from natural sources, medicinal plants known to have antioxidant activity have been examined concerning DPPH radical scavenging activity and SOD-like activities. Among 8 plants exhibiting the activity, *Houttuynia cordata* THUNB was selected as resources to search for active compounds due to rareness of study. The antioxidative compounds from *Houttuynia cordata* THUNB, quercitrin was assayed using a DPPH free radical. The DPPH radical scavenging activity of quercitrin was similar to that of BHA and Ascorbic acid

[PD3-14] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Hepatoprotective Effects of *Saururus chinensis* Baill against 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Induced Toxicity

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Hepatoprotective effects Saururus chinensis Baill on 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) induced toxicity

Saururus Chinensis Baill (Saururaceae) has been used as folk medicine for analgesics, beriberi, edema, hepatitis, and icterus, etc. Hepatoprotective effects of *Saururus chinensis* Baill (SCB) administration on function of the biochemical parameters in liver of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) treated rats were investigated. After 7 days from TCDD (1 $\mu\text{g/kg}$) injection, SCB (200mg/kg) was administered into rats intraperitoneally for 4 weeks. We examined the antioxidative enzymatic activity by measuring the level of AST and ALT in serum and SOD, Catalase, GPx, GSH and GSSG in liver tissue of rats. SCB and TCDD administered (STT) group showed 70.7% of inhibitory effect in AST activity compared to TCDD-treated abnormal (TTA) group. ALT level of STT group was decreased to the level of non treated group (NTT) group. SOD and Catalase in TTA group were lower than in NTT group, but SOD and Catalase in STT group were increased by 82% and 55.45% respectively compared to TTA group. While GSH contents in STT group were increased compared to TTA group by 74.20%, GSSG contents in STT group were decreased compared to TTA group by 61.08%. Our study suggests that SCB might be a potential scavenger of free radicals in the oxidative stress originated from TCDD-treated rats.

[PD3-15] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

The Effects of *Scutellaria baicalensis* and *Scutellaria baicalensis* metabolite on Anxiety in the Elevated Plus-Maze in Rats

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Scutellaria baicalensis Georgi is one of the most important medicinal herbs in traditional Chinese medicine. The object of this study was to determine the effects of water extracts of *Scutellaria baicalensis* (SB) and *Scutellaria baicalensis* metabolite (SBM) on the anxiolytic-like activities in the elevated plus-maze (EPM) test. The water extracts of SB (100, 200, or 400 mg/kg), and SBM (100 mg/kg) were orally administered to male SD rats for 3 days. All rats were subjected to behavioral tests for the anxiolytic activity at 3 days. By the administration of SB (100, 200, or 400 mg/kg) and SBM (100 mg/kg), significantly increased in time-spent and arm entries into the open arms of the EPM by compared with the control group. Furthermore, those anxiolytic-like activities of SB were antagonized by flumazenil (a GABA_A antagonist, 3 mg/kg), not by pindolol (a 5-HT_{1A} antagonist, 10 mg/kg). SB and SBM did not cause myorelaxant effects in the horizontal wire test at any dosage regimen. Therefore, these findings suggest that the SB and SBM promote an anxiolytic-like activities in rats mediated by GABAergic nervous system

[PD3-16] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Anxiolytic-like effects of extracts from *Albizzia julibrissin* bark in the elevated plus-maze in rats

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The purpose of this study was to characterize the putative anxiolytic-like effects of the aqueous extract of *Albizzia julibrissin* stem bark using the elevated plus maze (EPM) in rats. The water extract of *Albizzia julibrissin* was orally administered at 10, 50, 100 or 200 mg/kg to adult male SD rats, 1 h before behavioral evaluation in an EPM, respectively. Control rats were treated with an equal volume of saline, and positive control rats buspirone (1 mg/kg). Single or repeated treatment (for 7 days) of the water extract of *Albizzia julibrissin* (at 100 or 200 mg/kg) significantly increased time-spent and arm entries into the open arms of the EPM, and decreased time-spent and arm entries in the closed arms of the EPM versus saline controls ($P < 0.05$). However, no changes in the locomotor activity and myorelaxant effect in any group versus the saline control. In addition, the anxiolytic-like effects of *Albizzia julibrissin* extract were abolished by pindolol (10 mg/kg, i.p), a 5-HT_{1A} receptor antagonist. These results suggest that *Albizzia julibrissin* is an effective anxiolytic agent, and that it acts via the serotonergic nervous system.

[PD3-17] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Green Tea Catechins as a BACE1 (β -Secretase) Inhibitor

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In the course of searching for BACE1 (β -secretase) inhibitors from natural products, the ethyl acetate soluble fraction of green tea, which was suspected to be rich in catechin content, showed potent inhibitory activity. (-)-Epigallocatechin gallate, (-)-epicatechin gallate, and (-)-gallocatechin gallate were isolated with IC₅₀ values of 1.6×10^{-6} M, 4.5×10^{-6} M, and 1.8×10^{-6} M, respectively. Seven additional authentic catechins were tested for a fundamental structure-activity relationship. (-)-Catechin gallate, (-)-gallocatechin, and (-)-epigallocatechin significantly inhibited BACE1 activity with IC₅₀ values of 6.0×10^{-6} M, 2.5×10^{-6} M, and 2.4×10^{-6} M, respectively. However, (+)-catechin, (-)-catechin, (+)-epicatechin, and (-)-epicatechin exhibited about ten times less inhibitory activity. The stronger activity seemed to be related to the pyrogallol moiety on C-2 and/or C-3 of catechin skeleton, while the stereochemistry of C-2 and C-3 did not have an effect on the inhibitory activity. The active catechins inhibited BACE1 activity in a non-competitive manner with a substrate in Dixon plots.