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Eight compounds were isolated from the MeOH extracts of *Erythrina senegalensis* for HIV-1 protease inhibitors. Their structures were elucidated as eight isoflavonoids by spectroscopic analysis. These compounds showed dose dependent inhibitory activities on HIV-1 protease with IC_{50} values from 0.5 to 30.0 μM.

[PD2-33] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Xanthorrhizol inhibits pro-inflammatory mediators in mouse macrophage cells

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Prostaglandins (PGs) and nitric oxide (NO) are essential to maintain homeostasis and defense systems in human beings. However, overproduced PGs and NO by inducible cyclooxygenase (COX-2) and inducible nitric oxide synthase (iNOS), respectively, cause tissue damages, chronic inflammation, and carcinogenesis. In this view, the potential COX-2 or iNOS inhibitors have been considered as anti-inflammatory or cancer chemopreventive agents. In this study, we investigated the potential capacities of xanthorrhizol, a sesquiterpenoid isolated from the rhizome of *Curcuma xanthorrhiza*, as anti-inflammatory or cancer chemopreventive agent. Xanthorrhizol exhibited potent inhibitory activities against LPS-induced prostaglandin E_2 production (IC_{50} = 0.9 μM) and nitrite formation (IC_{50} = 4.6 μM) in cultured RAW264.7 cells. Using western blot and RT-PCR analysis, xanthorrhizol showed the suppression of COX-2 and iNOS protein expression, and COX-2 mRNA expression in a dose-dependent manner. In addition, xanthorrhizol also suppressed matrix metalloproteinase-2 (MMP-2) mRNA expression in human fibrosarcoma cells, and possessed growth inhibitory activities in colon cancer cells. These findings suggest that xanthorrhizol might be a potential lead candidate for anti-inflammatory or cancer chemopreventive agent.

[PD2-34] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Antioxidative activity of compounds from cultivated Phellinus linteus

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Phellinus linteus has been used as anti-tumor and immuno stimulating agents in folk remedies. From precipitate of MeOH ex. by activited guided fractionation, 5,8-epidioxy ergosta-6,22-dien-3ol, palmitic acid, linoleic acid, and methyl linolate, 3,4-dihydroxybenzoic acid methylester and 4-(3'4'-Dihydroxyphenyl)-3-butene-2one were isolated. DPPH method was used to examine of antioxidative activity of the isolated compounds. As the result, 3,4-dihydroxybenzoic acid methylester, and phenolic compound, 4-(3'4'-Dihydroxyphenyl) -3-butene-2one were found to be a scavenger of 1,1-diphenyl-2-picrylhydrzyl radical.

[PD2-35] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

In vitro antioxidant triterpenoids from *Prunus serrulata* var. *spontanea*

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Prunus serrulata var. *spontanea*(Rosaceae) is a large sized tree widely distributed throughout Korea. The red fruits are edible and are used in traditional folk medicine against heart failure from beriberi, dropsy, mastitis, an emmenagogue, and toothache. Also, the bark of *P. serrulata* var. *spontanea* has been used for detoxification, and relaxation, and as an antitussive in traditional korea medicine. A new triterpenoid, 2α, 3α,24-trihydroxy-urs-12-en-28-O-β-D-glucopyranoside (5), along with five known triterpenoids, ursolic acid (1), 2α-hydroxyursolic acid (2), 2α, 3α, 24-trihydroxy-urs-12-en-28-oic acid (3), 1β, 2α, 3α, 24-tetrahydroxy-urs-12-en-28-oic acid (4), and 2α, 3α, 19α, 24-tetrahydroxy-urs-12-en-28-O-β-D-glucopyranoside (6) were isolated from the leaves of *P. serrulata* var. *spontanea*. The structural identifications of these compounds were elucidated by 1D (^{1}H- and ^{13}C-NMR), and 2D NMR (HMQC, HMBC, COSY, and NOESY) spectral data. We also evaluated the antioxidant capacities of these isolated triterpenoids 1-6 on DPPH radical, total ROS and the $ONOO^-$ scavenging potential. All isolated compounds 1-6 showed no activitiy as DPPH radical scavenger, whereas high scavenging activity on total ROS in the order of compound 2 > compound 3 ≥ compound 1 > Trolox (as positive control) > compound 5 ≥ compound 4 ≥ compound 6. Compounds 3 and 6 showed high peroxynitrite scavenging activities with IC_{50} (50 % inhibition concentration) 4.90±0.38 μM and IC_{50} 6.88±0.46 mM, respectively, by positive control penicillamine with IC_{50} 5.11±0.23 μM. Compounds 4 and 5 had peroxynitrite scavenging activity with IC_{50} 25.18 ±2.68 μM and 82.05±2.80 μM, respectively, whereas compound 1 and 2 showed no activities.

[PD2-36] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Screening of Compounds Isolated from the Roots of Juglans mandshurica for DNA Topoisomerases I and II Inhibitory Activity

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Abstract: As described previously, we reported twenty two compounds including one naphthoquinone, eight diarylheptanoids, two tetralone, one sesquiterpenoid, one diarylheptanoid glucoside, two tetralone glucosides, one naphthalene carboxylic acid glucoside and six naphthalenyl glycosides were isolated from the roots of Juglans mandshurica (17-22). Here we report that all of these compounds and a known triterpene are tested for the inhibitory effects against DNA topoisomerases I and II activities. Compound 16 showed strong inhibitory effects for DNA topoisomerase I at the concentration of 5 μg/ml and compound 23 showed strong inhibitory effect for DNA topoisomerase II at the concentration of 5 μg/ml. In addition, compounds 1, 3, 5, 6, 10, 14 and 16 exhibited moderate cytotoxicities in ranges of IC50 from 0.8 to 25 μg/ml against human colon carcinoma. Compounds 1 and 10 have IC50 valuves of 1.2 μg/ml and 22.1 μg/ml against human breast carcinoma cell line.

[PD2-37] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Neuroprotective effect of extract of Angelicae tenuissimae on ischemic damage after oxygen and glucose deprivation(OGD) in rat organotypic hippocampal slice

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Angelicae tenuissimae ia a plant often used in traditional Korean medicine. It has been used as analgesic, antipyretic and anti-inflammatory agent. However its component and precise modes of neuropharmacological action have not been reported. In the present study, we investigated the protective effects of A. tenuissimae and it's component on ischemic damage induced by oxygen and glucose deprivation in rat hippocampal slice. Especially, the reduction in the supply of glucose and oxygen to the brains leads to a complex cascade of cellular event as ATP depletion, lactate release, glutamate release and radical production, resulted in delayed neuron cell death. After treatment with A. tenuissimae, we measured the recovery of ATP depletion in hippocampal slice after oxygen and glucose deprivation. Also A. tenuissimae and it's component showed the reduction of PI (propidium iodide) uptake, indicator of neuronal membrane integrity and cell viability from ischemic brain damage in organotypic hippocampal slice culture.