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The overproduction of nitric oxide (NO) by inducible nitric oxide synthase (i-NOS) is one of the major characteristic features of inflammation and sepsis. We intended to find the i-NOS inhibitors from plants by using the macrophage cell culture system. RAW 264.7 cells were activated by lipopolysaccharide (LPS) in the presence of plant samples, and the amount of NO formed by i-NOS was determined by using Griess reagent in the form of NO_2^-. From the activity guided fractionation of the extract of *Tussilago farfara*, a new bisabolone type sesquiterpene was purified as an active principle. The structure was established to be 1,5 bisacetoxy-8- angeloyloxy-3 ,4 - epoxy-bisabola-7(14),10-dien-2-one based on spectral analysis of NMR, IR and Mass. This compound inhibited the production of NO with IC_{50} values (the concentration required inhibiting the production of NO by 50%) of 8.9 μM, and this activity was confirmed as resulting from the inhibition of i-NOS expression in LPS-treated macrophages.

[PD2-24] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Neuroprotective constituents from the rhizomes of Cnidium officinale

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The present study evaluated neuroprotective effects of the constituents from the rhizomes of *Cnidium officinale* M. (Umbelliferae). The crude methanol extract of the *C. officinale* inhibited the NMDA-induced excitotoxic neuronal death in primary cultured rat cortical cells (IC_{50} = 188.3 ug/ml). The inhibition of the Glu-induced neurotoxicity by the extract was less potent (IC_{50} = 446.7 ug/ml), implying the involvement of NMDA receptors in the neuroprotective action. The methanol extract was subsequently fractionated with dichloromethane, ethylacetate, and water. The dichloromethane and ethylacetate fraction dramatically protected cultured neurons from the NMDA-induced toxicity, with the IC_{50} values of 37.7 ug/ml and 32.9 ug/ml, respectively. Three components (CO-5-G, CO-6-A, and CO-7-B) were successfully isolated from the dichloromethane fraction and one (CO-12-A) from the ethylacetate fraction by the activity-guided fractionation. Their structures were elucidated by the physicochemical and spectral data such as UV, IR, NMR and MS. Here, we report isolation, purification, structure elucidation of isolated compounds, and their neuroprotective activities

[PD2-25] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

New diarylheptanoids from the stems of Capinus cordata

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Capinus cordata Blume (Betulaceae) is a deciduous shrub and widely distributed in Korea, Japan and China. The genus Carpinus is known to contain numerous diarylheptanoids as well as taninns. During our search for antiviral compounds from natural products, a crude extract of the stems of C. cordata was found to potently inhibit HIV-1 integrase. By means of bioassay-directed chromatographic fractionation, two new diarylheptanoids, CC5A (1) and CC3Bb (2), and the known casuarinondiol (3) together with five known tannis, (+)-catechin (4), methyl gallate (5), glucopyranosyl 3-O-β-D-methyl gallate (6), glucopyranosyl 4-O-β-D-methyl gallate (7) and methyl gallate 3-O-β-D-(6'-O-galloyl)-glucopyranoside (8) were isolated. Among isolated compounds, 8 showed strong inhibitory activity against HIV-1 integrase in our assay system. We

report herein the isolation and structure elucidation of two new diarylhptanoids and the anti-HIV-1 integrase activity of the C. cordata isolates.

[PD2-26] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

New polyacetylenes from Gymnaster Koraiensis

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Gymnaster Koraiensis (Nakai) Kitamura (Compositae) is an endemic species in Korea. The root was extracted with 80% ethanol, then the ethanolic extract was fractionated with dichloromethane and n-butanol. Two new polyacetylenes were isolated from the butanolic fraction with the repeated chromatography on silica gel and preparative HPLC. On the basis of ^{1}H-NMR, ^{13}C-NMR, ^{1}H-^{1}H COSY, HMQC, HMBC and high resolution FAB-MS spectral data, their structures were established as 2(E)-decene-4,6-diyne-8,10-diol-10-β-D-glucopyranoside, 2(E)-decene-4,6-diyne-8,10-diol-10-β-D-apinofuranosyl-(1"-6')-β-D-glucopyranoside.

[PD2-27] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Isolation of Phytolipids from the Stem Bark of Magnolia sieboldii

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We have reported bioactive costunolide with both differentiation- and apoptosis-inducing activity and nitric oxide synthase inhibitory activity, and isolated a new and six known compounds from the stem bark of Magnolia sieboldii (Magnoliaceae). In a course of obtaining more amount of costunolide, a new monoterpene (1) named deoxygeraniol (1,3-dimethyl-2,6-octadiene) was isolated along with beta-sitosterol 3-O-linoleate (2), 1,2,3-tri-O-linoleoylglycerol (3) and high amount of costunolide (4) in the pure state, respectively. The structure of 1 was determined on the basis of 1H-, 13C-NMR and mass spectra. We are under investigation to reveal whether 1 is an artifact- or a natural form.

[PD2-28] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Effects of jasmonates on production of volatile components in cultured cells of Isodon japonicus.

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The composition of essential oils produced in cultured cells in Isodon japonicus which is one of the important Korean aromatic plant sources, were changed by treatment of methyl jasmonate and jasmonic acid.

To develop systems for economic production of useful essential oil compounds, callus was induced form the seedlings of this plant and cultured on MS medium. Methyl jasmonate(10-100