

Inhibitory effects of the stem bark extract of *Eucommia ulmoides* on the proliferation of human tumor cell lines

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A bioassay-guided fractionation of the stem bark extract of *Eucommia ulmoides* Oliver (Eucommiaceae) led to the isolation of three iridoid constituents, genipin (1), geniposide (3), geniposidic acid (4) as well as (±)-guaiacylglycerol (2) and fatty acid mixtures as active ingredients of the extract responsible for the antitumoral property. The EtOAc soluble part and BuOH soluble part of the extract demonstrated a significant inhibition on the proliferation of cultured human tumor cells such as A549 (non small cell lung), SK-OV-3 (ovary), SK-MEL-2 (melanoma), XF498 (central nerve system) and HCT-15 (colon) in vitro, whereas the remaining water soluble part exhibited a poor inhibition. The intensive investigation of the EtOAc soluble part and BuOH soluble part of the extract yielded an iridoidal component, genipin, guaiacylglycerol, geniposide, geniposidic acid and large amounts of fatty acid mixtures as active components

[PD2-3] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Various Bioactivities of Two Polyphenolic Compounds from the Brown Alga *Grateoupia elliptica*

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In the course of search for various bioactive compounds from marine algae, we found strong antioxidant activity of the methanolic extract of the brown alga *G. elliptica*. Chromatographic purification [ODS flash, gel-filtration on Sephadex LH-20, HPLC] of the BuOH layer of the methanolic extract afforded two known polyphenolic compounds, 6,6'-bieckol (1) and dieckol (2). Compound 1 showed acetylcholinesterase (AChE) and butyrylcholinesterase (BuChE) inhibitory activities, free radical scavenging activity on DPPH (1,1-diphenyl-2-picryl-hydazyl) with IC₅₀ values of 91.2, 45.6 and 15.5 $\mu\text{g}/\text{mL}$, respectively. Specially, compound 1 showed COX-1(20.78%) and COX-2(26.46%) inhibitory activities at 10 μM , while compound 2 showed AChE and BuChE inhibitory activities, antioxidant activity with IC₅₀ values of 18.0, 26.7 and 9.9 $\mu\text{g}/\text{mL}$, respectively.

[PD2-4] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

New Cytotoxic Metabolites from a Marine Sponge *Homaxinella* sp.

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Three new butenolides (1-3), and a new cyclopentenone derivative (4) were isolated from a marine sponge *Homaxinella* sp. by bioactivity guided fractionation. The gross structures were established on the basis of NMR and MS analyses. The stereochemistry of the butenolides and cyclopentenone derivative was defined on the basis of optical rotation and CD spectroscopy. The compounds were tested against a panel of five human solid tumor cell lines and displayed marginal to significant cytotoxicity.

[PD2-5] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Phenolic Compounds from Fruits of *Amorpha fruticosa* L.

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