

[PD2-41] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Cytotoxicity and Antimutagenic Activity of the Thorns of *Gleditsia sinensis* Lam.

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Gleditsia sinensis Lam. (Leguminosae) is a perennial shrub distributed in Gyeongju in Korea and throughout China. Its thorns called "Jo Gak Ja" (Korean name) or "Zao Jia Ye" (Chinese name) have been known to possess an antiinflammatory effect. Korean "Jo Gak Ja", a speciality of Gyeongju, is much longer and thicker than that of Chinese one. The extract and fractions of Korean *Gleditsia sinensis* were examined for their cytotoxicities against five cultured human tumor cell lines, i.e. A549 (non-small cell lung), SK-OV-3 (ovary), SK-MEL-2 (melanoma), XF498 (central nerve system) and HCY15 (colon), using the SRB (sulfrhodamine-B) method *in vitro* and their antigenotoxic and antimutagenic activities by Ames test with *Salmonella typhimurium* TA98 and TA100 and SOS chromotest with *E. coli* PQ37.

The present work introduces the inhibitory effects of the total extract and four fractions on the proliferation of each examined tumor cell line and demonstrates antimutagenic activities against the mutagens, NPD and sodium azide by Ames test and also activities against the mutagens, MNNG and NQO by SOS chromotest.

[PD2-42] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Free Radical Scavenging Compounds of *Polygoni Multiflori Ramulus*

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There is now increasing evidence that free radicals and active oxygen species are involved in a variety of pathological events, often associated with ageing. Free radical-mediated cell damage and free radical attack on polyunsaturated fatty acids result in the formation of lipid radicals. These lipid radicals react readily with molecular oxygen to produce peroxy radicals responsible for initiating lipid peroxidation. The peroxidation of cellular membrane lipid can lead to cell necrosis and considered to be implicated in a number of pathophysiological conditions as well as in the toxicity of many xenobiotics. Therefore, substantial efforts have been made in recent years to identify both natural and synthetic antioxidants. In the course of screening for free radical scavenging activity from plants, the methanolic extract of *Polygoni multiflori Ramulus* was found to have a promising activity. Assay-guided fractionation of this extract has been furnished five phenolic compounds, four quercetin glycosides and catechin, with DPPH free radical scavenging effect.

[PD2-43] [10/17/2002 (Thr) 09:30 - 12:30 / Hall C]

Free radical scavenging phenolic compounds of the leaves of *Juglans sinensis*

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Free radical-mediated cell damage and free radical attack on polyunsaturated fatty acids result in the formation of lipid radicals. These lipid radicals react readily with molecular oxygen to produce peroxy radicals responsible for initiating lipid peroxidation. The peroxidation of cellular membrane lipid can lead to cell necrosis and considered to be implicated in a number of pathophysiological conditions as well as in the toxicity of many xenobiotics. DPPH is known to abstract labile hydrogen and the ability to scavenge the DPPH radical is related to the inhibition of lipid peroxidation. In the course of screening for free radical scavenging activity from plants, the