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This study was carried out to investigate the effects of godulbaegi (Ixeris sonchifolia H.) root extracts on the proliferation of several human cancer cells, such as SK-MEL-2, HT-29, MKN-28, MKN-45, MCF-7,
MDA-MB-231, and HepG2. We extracted the root of Ixeris sonchifolia H. with methanol and the methanol extract was suspended in H2O and successively partitioned with Et2O, EtOAc and n-BuOH. The EtOAc extract showed the most efficient anti-proliferative effects on the growth of human cancer cells. The EtOAc extract was subjected to silica gel column chromatography to give three fractions and one of the fraction showed efficient anti-proliferative effects on the growth of HepG2 liver cancer cells. The isolation and characterization of effective components are under investigation. Moreover, the role of this EtOAc extract on the induction of apoptosis is also under study.

[PA1-25] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

The Effect of two 1-naphthylmethyl analogs of Higenamine (YS-49 and YS-51) on LPS-induced Experimental Disseminated Intravascular Coagulation (DIC) in Rats

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Disseminated intravascular coagulation (DIC) is a pathological syndrome, which occurs following the uncontrolled widespread activation of blood coagulation, resulting in the intravascular formation of fibrin, which may lead to thrombotic occlusion of small and midium size vessels. This situation may compromise blood supply to various organs and may contribute to mutiple organ failure (MOF).
The indications for DICs include a decrease in the number of platelets in blood, a decrease of fibrinogen level and an increase of fibrin/fibrinogen degradation product (FDP) level in blood, and an extention of prothrombin time (PT) and activated partial thromboplastin time (aPTT). These indices for LPS-induced DIC were improved by the administration of YS-49 and YS-51, 1-naphthylmethyl analogs of higenamine. YS-49 and YS-51 prevented the decrease of the number of platelets and the concentration of fibrinogen in blood, the increase of FDP level, and the prolongation of PT and aPTT induced by LPS.
The parameters of multiple organ failure (MOF), such as serum glutamic oxalacetic transaminase (S-GOT), serum glutamic pyruvic transaminase (S-GPT) and blood urea nitrogen (BUN) were also suppressed by the oral administration of YS-49 and YS-51.

[PA1-26] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Inhibition of Lipopolysaccharide-Induced NF-kappaB Activation by Dibenzylbutyrolactone Lignans Leads to Suppression of Nitric Oxide Synthase Expression in Macrophages

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Arctigenin and demethyltaxillagenin, dibenzylbutyrolactone lignans, exhibit anti-inflammatory effects. Nuclear factor-κB (NF-κB) activation and iNOS gene expression were studied in RAW264.7 cells as part of their immunomodulating effects. Activation of hepatic NF-κB and I-κBα degradation were assessed by gel mobility shift and immunoblot analyses. iNOS expression was monitored by Northern and Western blottings as well as nitrite production. Arctigenin inhibited LPS-induced nuclear NF-κB

activation at 1-5 μM with minimal prevention of I-κB phosphorylation. Treatment of cells with arctigenin (1 μM) and demethyltaxillagenin (50 μM) inhibited LPS-inducible nitrite/nitrate production by 50%. Both compounds inhibited iNOS expression in a concentration-dependent manner (IC50=1 and 50 μM). Suppression of iNOS expression was confirmed by Northern blot analysis. These results showed that arctigenin and demethyltaxillagenin inhibited LPS-inducible iNOS expression via suppression of NF-κB activation with minimal I-κB phosphorylation. Inhibition of LPS-inducible NO production in macrophage cells by dibenzylbutyrolactone lignans may be associated with their anti-inflammatory effects.

[PA1-27] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Inhibition of Hepatic Stellate Cell Proliferation and Activation by Butein(3,4,2',4'-tetrahydroxychalcone), a Plant Polyphenol, in Cultured Rats.

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Butein(3,4,2',4'-tetrahydroxychalcone), a plant polyphenol that acts as a specific protein tyrosine kinase inhibitor, is a chalcone compound belonging to the flavonoid subclass. The structures of chalcones are similar to curcumin, a known antioxidant. Hepatic stellate cells play an important role in the pathogenesis or hepatic fibrosis. The aim was to examine the inhibitory effect of butein on hepatic stellate cells activation. Hepatic stellate cells were isolated from normal rat livers and cultured on plastic dishes. The cell morphology and actin cytoskeleton were studied with phase contrast and fluorescence microscopy, in cultured hepatic stellate cells, butein inhibited type I collagen production, and the alpha-smooth muscle actin expression and cell proliferation. This findinding indicate that the plant polyphenols, butein inhibited activation and proliferation in hepatic stellate cells.

[PA1-28] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

The effect of DKY on intestinal glucose absorption, Insulin secretion, and α-glycosidase inhibition

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Dongryongkangdangyoungjung (DKY), composed of 36 herbs, has been used in China for treating diabetes mellitus. We investigated the effect of DKY on intestinal glucose absorption and insulin secretory activity using clonal β cell line RINm5F cell. α-glycosidase inhibitory activity of DKY was also examined *in vivo* and *in vitro*. In the *in situ* intestine circulation method, DKY inhibited glucose absorption from the small intestine in a concentration dependent manner. Release of insulin was stimulated by DKY. DKY inhibited the increase of blood glucose level in an oral administration of glucose in KKAy mice. There was also concentration dependent effect of DKY on α-glycosidase inhibitory activity *in vitro* using ρ-nitrophenyl-α-D-Glucopyranoside as a substrate. This study indicated that part of the hypoglycemic activity of DKY is based on its inhibitory actions on intestinal glucose absorption, α-glycosidase inhibitory activity and insulin secretory activity.

[PA1-29] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]