nitration of bovine serum albumin and low-density lipoprotein by ONOO- in a dose-dependent manner. Its cytoprotective effect against ONOO- is under further study. Alaternin and nor-rubrofusarin glucose can be developed as an effective ONOO- scavenger for the prevention of the ONOO--involved diseases.

[PC1-20] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Induction of apoptosis in human promyelocytic leukaemia HL-60 cells by yomogin involves release of cytochrome c and activation of caspase

Jeong SeoungHee°, Koo SungJa, Ryu ShiYong, Park HeeJun, Lee KyungTae

College of Pharmacy, Dept. of Food and Nutrtion, KyungHee University, Seoul, Korea Rearch Institute of Chemical Technology, Yusung, Dept. of Botanical Resources, SangJi University, Wonju

Yomogin, an eudesmane sesquiterpene isolated from Artemisia princeps, was found to induce apoptosis in human promyelocytic leukaemia, HL-60 cell with characteristic apoptotic features like nuclear condensation, apoptotic body formation, flipping of membrane phosphatidylserine, release of mitochondrial cytochrome c and caspase-8, -9, and -3 activation. Furthermore, early yomogin-induced cytochrome c release was not affected by the caspase inhibitor Z-VAD fmk and preceded loss of mitochondrial membrane potential. The results suggest that induction of apoptosis by yomogin may provide a pivotal mechanism for their cancer chemopreventive function.

[PC1-21] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Effects of chitosan on the decreased renal dipeptidase release by nitric oxide from renal proximal tubules

Hyun Joong Yoon°, Eun Mi Park, Haeng Soon Park

College of Pharmacy, Chonnam National University, Kwangju 500-757, Korea

Chitin is a major component of the shells of crustacea such as crab, shrimp and crawfish. Renal dipeptidase (RDPase, EC 3.4.13.19), an ectoenzyme of renal proximal tubules, is covalently bound to outer leaflet of lipid bilayer via glycosylphosphatidylinositol (GPI)-anchor. The biological role of RDPase was suggested as the hydrolysis of dipeptide into free-amino acids before renal reabsorption. The underlying biochemical mechanism of decreased RDPase release was suggested as nitric oxide (NO) production. This study was investigated to examine the effect of chitosan, a deacetylated derivative of chitin which is the second most abundant natural biopolymer, on the decreased RDPase release by NO from renal proximal tubules. Porcine proximal tubules were prepared with the protocol of Taub et al (1990) and were treated with chitosan (0.01, 0.05 and 0.1%) in the presence of SNP (NO direct donor, 0.25mM) or L-Arginine (substrate of NO synthase, 10mM) for 30 min at 37℃ followed by centrifugation (18000g, 5min). The activity of released RDPase was assayed according to the fluorometric method of Ito et al (1984). It was observed that the decreased RDPase release by NO (SNP; 52.8%, L-Arg; 47%, control; 100%) was restored more than 80% as a function of chitosan concentration. We confirmed that the effect of chitosan was connected with NO-signal pathway. The results suggest that chitosan may elevate the renal function decreasing cyto-toxic effect of NO on the proximal tubule cells.

[PC1-22] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Antioxidative Enzymatic Activity of Saururus Chinensis Baill & Houttuynia cordata Thunb in the liver of rats treated with CCl4

Park SunYi, Jung Haejin, Ha Baejin°

신라대학교 생명공학과

Saururus chinensis Baill (Saururaceae) is a perennial plant that has been used in the treatment of edema, jaundice and gonorrhea in Korean folk medicine. Houttuynin sodium bisulphate (HSB), alpha hydroxyl-capryl-

ethyl-sodium-sulphonate, is a product formed by reacting sodium bisulphate with houttuynin, which is obtained from a medicinal herb Houttuynia cordata Thunb. The effects of S. chinensis Root(SAM-R), S. chinensis Growth (SAM-G), S. chinensis Fermentation(SAM-F), H. cordata Root(HUT-R), H. cordata Growth (HUT-G), H. cordata Fermentation (HUT-F) and S. chinensis + H. cordata (SAM+HUT) were investigated in the levels of liver tissue total homogenates of SD-rats intoxicated with carbon tetrachloride(CCl4). Lipid peroxide content in liver was increase by CCl4-induced rats. It was decrease when the extracts from *Saururus Chinensis Baill & Houttuynia* cordata thunb was treated to the rat. Extracts of SAM-R, SAM-G, SAM-F treated group markedly inhibited lipid peroxidation by 37.7%, 26.9%, 29.5% and HUT-R, HUT-G, HUT-F 32.9%, 43%, 50.4%, SAM+HUT 22% respectively.
SOD(Superoxide dismutase), CAT(catalase) and GPX(glutathione peroxidase) activities were increased and MDA (malondialdehyde) decreased in the liver tissue homogenates

[PC1-23] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

In vitro Antiinflammatory Activity of 23-Hydroxyursolic Acid Isolated from Cussonia bancoensis in Murine Macrophage RAW 264.7 Cells

Kim Rung-Gyu[O] Shin Kyung-Min Park Hee-Juhn Choi Jong-Won Lee Kyung-Tae

경희대학교 약학대학

We investigated the effect of various triterpenoids isolated from the Cussonia bancoensis, such as ursolic acid, 23-hydroxyursolic acid, 3-O-α-L-arabinopyranosyl-23 -hydroxyursolic acid, 3-O-β-D-glucopyranosyl-23-hydroxy-ursolic acid and 28-O-α-L-rhamnopyranosyl(1-4)-β-D-glucopyranosyl(1-6)-β-D-glucopyranosylester of 23-hydroxyursolic acid, have been evaluated on lipopolysaccharide (LPS)-induced nitric oxide (NO) and prostaglandin E2 (PGE2) release by the macrophage cell line RAW 264.7. Among the tested triterpenoids, 23-hydroxyursolic acid was the most potent inhibitor of NO production, and it also significantly decreased PGE2 release. Consistent with these observations, the expression level of iNOS and COX-2 protein was inhibited by 23-hydroxyursolic acid in a concentration-dependent manner. Furthermore, 23-hydroxyursolic acid inhibit NF-κB DNA binding. Thus, this study suggests that sugar attachment to 23-hydroxyursolic acid significantly reduced in vitro anti-inflammatory effect and the sapogenin could be an active moiety of the isolates.

[PC1-24] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Sophoricoside analogs inhibit COX isozymes but not iNOS and TNF in LPS-stimulated macrophages Raw264.7

Kim Byung Hak[O], Min Kyung Rak, Kim Youngsoo

College of Pharmacy, Chungbuk National University

Macrophages activated by lipopolysaccharide (LPS) are known to induce several proinflammatory proteins including COX-2, iNOS and TNF which produce chemical mediators involved in inflammatory response. Sophoricoside and its analogs (genistin, genistein and orobol) from Sophora japonica (Leguminosae) showed differential inhibitory effects on COX-1 and 2 activities. Sophoricoside and genistin showed IC50 values of 4 uM and 6 uM on COX-2 activity and of 1,497 uM and 135 uM on COX-1 activity, respectively. Genistein and orobol showed IC50 values of 3 uM and 1 uM on COX-2 activity and of 28 uM and 18 uM on COX-1 activity, respectively. Therefore, the legume isoflavonoids seems to be selective COX-2 inhibitors. However, sophoricoside and its analogs did not show inhibitory effects on synthesis of COX-2, iNOS and TNF transcripts, which were identified by the RT-PCR.

[PC1-25] [10/17/2002 (Thr) 13:30 - 16:30 / Hall C]

Isolation, structure, and NF-κB modulatory activity of Harzianum A and B: trichothecene from fungi (B000527)

Jin Hui-Zi[O†‡], Lee Jeong-Hyung [†], Kim Young-Ho [‡], Lee Jung-Joon [†]