

in BAE (bovine aortic endothelial) cells. Anti-proliferative effects were examined by morphological changes and MTT assay after exposure to different time (0–3 hr) and concentration (3–7  $\mu$ M) of HNE. As results, we observed apoptotic bodies with propidium iodide staining and detected induction of apoptosis by HNE with flow cytometry assay and DNA fragmentation on both conditions. We also studied apoptosis related events with Western blotting. BAE cells exposed to HNE for 0 and 3 hr resulted in increased poly(ADP-ribose) polymerase cleavage, up-regulation of Bax, and p53 proteins. Even though there was no decrease of Bcl-2 level, we observed the change of Bax/Bcl-2 ratio at a certain experimental condition. In addition, HNE caused G2 phase cell cycle arrest as flow cytometry assay. These data suggest that HNE contribute apoptosis and cell cycle arrest in BAE cells. We are under the study of cell cycle modulation effects by HNE on the levels of cyclins D and E and cdk, PCNA, pRb expression change and ATP depletion.

[PA1-10] [ 10/18/2002 (Fri) 09:30 – 12:30 / Hall C ]

### Inhibitory effects of resveratrol analogs on lipopolysaccharide-induced cyclooxygenase-2 activity in RAW264.7 cells

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It has been known that resveratrol, a phytoalexin present in grapes mainly, has antioxidant, anti-inflammatory, and cancer chemopreventive activity. One mechanism of its anti-inflammation and cancer prevention is considered to modulate cyclooxygenase-2 (COX-2) activity. Since COX-2 plays an important role in inflammation and carcinogenesis, the potential COX-2 inhibitors have been considered as anti-inflammatory or cancer chemopreventive agents. In order to discover novel chemopreventive agents, we synthesized about thirty analogs of resveratrol and evaluated their COX-2 inhibitory activity with the production of prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) in RAW264.7 cells. As a result, several compounds showed more potent inhibitory activity than resveratrol. Especially, [3-(4-methoxyphenyl)-vinyl]thiophene (Compound 1) and [3-(4-methoxyphenyl)-vinyl]furan (Compound 2) were potential inhibitors. Further studies are under way to investigate their mechanism of action whether affecting COX-2 expression and transcriptional regulation or not. This study suggests that these compounds might be potential candidates for developing anti-inflammatory or cancer chemopreventive agents.

[PA1-11] [ 10/18/2002 (Fri) 09:30 – 12:30 / Hall C ]

### The Antiproliferative Effects of Bile Acids and Their Derivatives on HepG2 Human Hepatocellular Carcinoma Cells

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We studied on the antiproliferative effects of bile acids and their derivatives on HepG2 human hepatocellular carcinoma cells. Ursodeoxycholic acid (UDCA) and its synthetic derivative HS-1030, and chenodeoxycholic acid (CDCA) and its synthetic derivatives, HS-1199 and HS-200, were used. We focused on the regulation of cell cycle and induction of apoptosis by these bile acid derivatives. Although UDCA and CDCA exhibited no significant effect on the viability of the cells utilized at the concentration ranges tested, their synthetic derivatives decreased their viability in a concentration dependent manner as determined by MTT assay. Flow cytometric analysis demonstrated that the