carried to examine the effects of oxyresveratrol(2,3', 4,5'-tetrahyroxystilbene) which is a naturally occurring comfound particularly found in Morus alba L.. on LPS-induced iNOS and COX-2 expressions and activities in RAW 264.7, mouse macrophage cell line and carragenin-induced rat paw edema. The results suggested that antiinflammatory properties of oxyresveratrol might be correlated with inhibition of the iNOS expression through down-regulation of NF-κB binding activity and significant inhibition of COX-2 activity.

[PA4-13] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Effects of Fractions of Houttuynia cordata THUNB on the Accumulation of Cadmium and Induction of Metallothionein in Rats(VI)

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This study was conducted to investigate the antitoxic effects of Houttuynia cordata THUNB with chloroform and ethyl acetate fractions. The results were as follows:
1. Detoxication effects of chloroform and ethyl acetate fractions of Houttuynia cordata THUNB were increased in proportion to the dosages. Detoxication effects of ethyl acetate fraction of Houttuynia cordata THUNB were higher than chloroform fraction of Houttuynia cordata THUNB's results and detoxication effects in kidney were higher than liver's results.
2. Metallothionein concentrations in liver were higher than kidney's concentrations and ethyl acetate fraction of Houttuynia cordata THUNB was better than chloroform fraction of Houttuynia cordata THUNB in induction of metallothionein.
3. After the administration of chloroform and ethyl acetate fractions of Houttuynia cordata THUNB, body weights was increased in proportion to chloroform and ethyl acetate fraction's dosage of Houttuynia cordata THUNB but changes of body weight were little since 3 weeks.
From the above results, this study suggests that chloroform and ethyl acetate fraction of Houttuynia cordata THUNB increased metallothionein induction to cadmium intoxication in rat's kidney and liver and decreased the toxicity of cadmium in rats.

[PA4-14] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Effects of GY and GA on the hepatic cytochrome P450 in mice

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There have been numerous reports of the antihepatotoxic activity of glycyrrhizin, a triterpenoid saponin of Glycyrrhiza glabra L. as well as its genuine aglycon, 18beta-glycyrrhetinic acid, but little attention has been paid to regarding to its effects on the cytochrome P450 (P450). Therefore, in this study, we investigate the effects of glycyrrhizin and 18beta-glycyrrhetinic acid on the constitutive and inducible microsomal activities and expression of P450 in mouse. The administration of 18beta-glycyrrhetinic acid to mouse significantly decreased the activities of microsomal pentoxyresorufin O-dealkylase, aniline hydroxylase and ethoxyresorufin O-deethylase representative activities of P4502B1/2, P4502E1 and P4501A1 respectively, in a dose-dependent manner. However glycyrrhizin was not effect to all enzyme activity in mouse. Suppressions of P450 isozyme expression occurred in 18beta-glycyrrhetinic

acid treated hepatic microsomes, as determined by immunoblot analysis in a manner consistent with that of the enzyme activity levels. These results suggest that 18beta-glycyrrhetinic acid may act as a more specific suppressor for P4502E1 than P4501A1 and P4502B1/2 [This work was supported by Korea Research Foundation Grant (KRF-2000-041-F00314)].

[PA4-15] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

The Inhibitory Effects of Houttuynia cordata Extracts against Cadmium induced Cytotoxicity (VII)

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This study was carried out to evaluate the cytotoxicity of cadmium on NIH 3T3 fibroblasts and to develop the antidote on NIH 3T3 fibroblasts which was damaged by Cd50 of cadmium. The antitoxic activity of Houttuynia cordata extract in NIH 3T3 fibroblasts was evaluated by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazoliumbromide) and SRB (sulforhodamine B protein) assays. The light microscopic study was carried out to observe morphological changes of the treated cells. These results were obtained as follows; The concentration of 10-2 mg/ml of Houttuynia cordata extract was shows significant antitoxic activity. The number of NIH 3T3 fibroblasts were antitoxic and tend to regenerate. These results suggest that the chloroform extract of Houttuynia cordata retains a potential antitoxic activity.

[PA4-16] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Activation of cPLA2 Leading to Increase in Glutathione and Downregulation of iNOS May Make LLCpk1 Cells Resist to TNF-a-induced Cell Death

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Group IV cytosolic PLA2 (cPLA2) is known to be involved in hydrogen peroxide-induced cytotoxicity in LLC-pk1 kidney epithelial cells. However, the precise mechanism by which cPLA2 is implicated in TNF-a-induced cell death is not fully elucidated. Here we found that cPLA2-overexpressed LLC-pk1 cells, but not vector-cells, is resistant to TNF-a-induced cell death. Treatment of TNF-a to vector-LLCpk1 cells, but not cPLA2-overexpressed LLC-pk1 cells, provoked a DNA fragmentation and change in nuclear morphology as detected by 4,6-diamidino-2-phenylindole staining. There was a significant increase in the level of glutathione in the cPLA2-overexpressed LLC-pk1 cells. Treatment of TNF-a for 24 h up-regulated the inducible nitric oxide synthase (iNOS) in vector-LLCpk1 cells, but not cPLA2-overexpressed LLC-pk1 cells. In contrast, arachidonic acid (AA), the product of cPLA2, induced more cell death in cPLA2-overexpressed cells than in vector-LLCpk1 cells and the enhancement in cell death in cPLA2-overexpressed cells was not blocked by any inhibitor of cyclooxygenase and lipoxygenase. Our results suggest that the sustained release of AA by action of cPLA2 may make LLCpk1 cells resist to TNF-a-induced cell death through antioxidant defense system and iNOS-related pathway.

[PA4-17] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

cDNA Microarray Analysis of the Gene Expression after Ad5CMV-p16INK4a Gene Transfer in the Non-Small Cell Lung Cancer Cells