system of fetal Sprague-Dawley rats in gestational period. Timed-bred pregnant SD rat were given 0, 250, 500, 750 mg/kg/day body weight by gavage once a day from gestational day(GD) 5 to 18. On GD19 or GD22/postnatal day one(PD1), the dams were euthanized, and their offspring were examined for organ weight and thymus phenotypic alteration. GD19 fetuses from the 750 mg DBP/kg/day maternal exposure group exhibited decreases in body weight. The spleen/body weight ratios were reduced in GD19 fetuses from the dams exposed to 500 and 750 mg DBP/kg/day. There were no significant changes in thymus and spleen cellularities though these cellularities showed a tendency to decrease in a dose dependent way. In the DBP-exsposed GD22/PD1 offspring, the body weights, the relative organ weights and the cellularities did not exhibit alteration. Additionally, the percentages of $CD3^+$ ($CD4^+CD8^+$, $CD4^+CD8^-$, $CD4^-CD8^+$, $CD4^-CD8^-$) and $CD3^-$($CD4^+CD8^+$, $CD4^+CD8^-$, $CD4^-CD8^+$, $CD4^-CD8^-$) thymocyte subsets also were not changed in all DBP-treated group. The mitogenic response of splenic T cell to Con A and that of B cells to LPS was decreased in all DBP-exposed GD22/PD1 offspring.

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

Structure and estrogenic activity relationship of flavonoids using ERE-Luc Reporter and E-screening assay

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Flavonoids are polyphenolic compounds that occur ubiquitously in foods of plant origin. Many flavonoids have been shown to mimic the biological effects of 17b-estradiol (E2). They can bind the estrogen receptor and mediate transcription of estrogen response gene.
In this study, we determined 5'-ERE-regulated transactivation and cell proliferation in MCF-7 cells by luciferase assay and SRB assay, respectively. Based on dose-response curve, we calculated EC50 and EEQ (17b-estradiol equivalent concentration).
ERE-Luc reporter gene assay system use MCF-7 cell lines stably transfected with pERE-Luc construct, which consists of three ERE (estrogen response element) and luciferase reporter gene. This assay is based on the estrogen receptor mediated mechanism of action and reporter gene expression is accumulation of a molecular cascade of event involved in receptor activation. E2 and many flavonoids induced luciferase activity in dose dependent manner. And there were some relationship between structure and activity.
To determine cell proliferative effect of chemicals, E-screening assay was performed. E2 increased SRB reading 20-30 folds over that of control and this effect was inhibited by tamoxifen treatment. When we tested a large series of flavonoids in this system, 7 compounds elicited the significant cell proliferative effect whereas remaining flavonoids were weak estrogenic or devoid of activity. [this study has been supported by KFDA]

[PA4-12] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Effect of Oxyresveratrol on Inflammatory Responses

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Mori Cortex is a dried root bark of Morus alba L. (Moraceae) and has been known as an important tranditional medicine, commonly used for antitussive, antiinflammatory, diuresis, and pyretolysis. However, the active components of Morus alba L. have not yet been identified. The present study was

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