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

Joung KE°, Kim YW, Oh KA and Sheen YY

College of Pharmacy, Ewha Womans University

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

Lee Myung-Hee, Shin Mi-Ok, Lee Hye-Eun°, Moon Jeon-Ok, Park Jong-Hee

Pusan National University College of Pharmacy

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