

rats by using liquid chromatography/electrospray tandem mass spectrometry (LC/MS/MS) method. Twelve metabolites of DDB-S were identified in the urine and feces. DDB-S consists with two methylenedioxy biphenyl moiety and isobaric metabolites of DDB-S were hardly differentiated in MS/MS spectrum. In order to characterize the structure of metabolites, one of each methoxy and methylenedioxy group was selectively exchanged with deuterium and characterization of metabolites were done in rats. The major metabolic pathways of DDB-S in rats were identified as demethylenation of the methylenedioxyphenyl group and demethylation of the carboxymethyl moiety. The others were identified as demethylenation and demethylation, and glucuronidation.

[PA1-18] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

### **Effects of Chlorhexidine digluconate on Rate of Rotational Mobility of Porphyromonas gingivalis Outer Membranes.**

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Tempting to further understanding the biophysical mechanism of action of chlorhexidine, we examined effects of the antimicrobial agent(chlorhexidine digluconate) on rate of rotational mobility of liposomes of total lipids extracted from anaerobic bacterial outer membranes (Porphyromonas gingivalis outer membranes). The five fluorescent probes, 2-(9-anthroyloxy) stearic acid(2-AS), 6-(9-anthroyloxy) stearic acid(6-AS), 9-(9-anthroyloxy) stearic acid(9-AS), 12-(9-anthroyloxy) stearic acid(12-AS) and 16-(9-anthroyloxy) palmitic acid(16-AP), were utilized as probes for the surface of the membranes and hydrocarbon interior of the membrane bilayer, respectively. These probes are located at a graded series of depths in the membranes. The AS probes reflect the rate of rotational mobility. Chlorhexidine significantly increased the anisotropy of 2-AS. However chlorhexidine significantly decreased the anisotropies of 6-AS, 9-AS, 12-AS and 16-AP. These results indicate that the rate of rotational diffusion changes resulted from the interaction between chlorhexidine digluconate and outer membrane lipid bilayer are important in the biophysical mechanism of action of chlorhexidine digluconate.

[PA1-19] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

### **Estrogen receptor expression and behavioral changes in immature mice treated with bisphenol A**

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A large number of chemical pollutants including phthalates, alkylphenolic compounds, organochlorine pesticides and bisphenol A have the ability to disrupt endocrine function in animals, and alter cognitive function. Because hormone mediated events play a important role in central nervous system development and functions. The speculations that the changes in cognitive function are mediated by the endocrine-like action of these chemicals. The present study therefore was designed to investigate effect of bisphenol A (BPA), an endocrine disrupting chemical on neuro-behavior patterns, and expression of estrogen receptors and tyrosine hydroxylase, a limiting enzyme of dopamine synthesis pathway. BPA was treated orally for 3 weeks into 3 week old rats, and then the neuro-behavior patterns (stereotype behaviors such as jumping rearing and forepaw tremor, climbing behavior, tail flick, rotarod and locomotor activity), and the expression of estrogen receptors and tyrosine hydroxylase were determined every 3

week for 9 weeks. During the treatment of BPA, the food uptake and body weight increase were not significantly changed. BPA resulted in the increased stereotype behaviors (jumping rearing and forepaw tremor) 6 or 9 weeks after treatment. The time response to tail flick and locomotor activity were decreased by the treatment of BPA, whereas the time for rotarod was increased by the treatment of BPA. The expression of estrogen receptor alpha and beta was increased in the brain and pituitary gland. Maximum expression was found in the rat brain after 9 week of 100 mg/kg BPA treatment and in the pituitary gland after 6 week of 100 mg/kg BPA treatment. Tyrosine hydroxylase was increased in dose and time dependent manners in the brain. The present data show that exposure of BPA in the young rats could alter expression estrogen receptors and dopamine synthesis pathway, thereby modulate neuro-behavior patterns (increase of stereotype behaviors but decrease locomotors activity).

[PA1-20] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

### Further Triterpene Glycosides from *Echinosophora koreensis*

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We have previously reported three new oleanene-type glycosides and kudzusaponin A<sub>3</sub> methyl ester and subproside II methyl ester from the roots of *Echinosophora koreensis*. Further study has now led to the isolation of three known oleanen-type glycosides, sophoraflavoside I , azukisaponin V , and kudzusaponin SA<sub>3</sub> as their methyl esters. The structures of these compounds were characterized by spectroscopic and chemical methods.

[PA1-21] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

### Regulatory Effect of Atopic Allergic Reaction by *Pachydictyon coriaceum*

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We studied the effect of methanol extract of *Pachydictyon coriaceum* (PC) on atopic allergic reaction. PC dose-dependently inhibited interleukin (IL)-8 and tumor necrosis factor (TNF)- $\alpha$  secretion from the PMA- plus A23187- stimulated HMC-1. PC also dose-dependently inhibited the histamine and  $\beta$ -hexosaminidase release from mast cells. PC had no cytotoxic effect. These results suggest that PC has the inhibitory effect of atopic allergic reaction and this might be useful for clinical application to treat several allergic diseases such as atopic dermatitis.

[PA1-22] [ 04/17/2003 (Thr) 14:00 – 17:00 / Hall P ]

### Enhancement of nerve growth factor production and release by buthanol fraction of *Liriope platyphylla* in C6 cells and rat cultured astrocyte