effect and activity to inhibit immunotoxicity induced CY.

[PA3-15] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Head Space-Solid Phase Microextraction analysis for methamphetamine in Urine.

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Head Space Solid-Phase MicroExtraction (SPME) is a relatively new technique that allows the samplings of small amout of substances from an aqueous medium and direct GC and GC/MS analysis.
It's an simple and rapid method for quantifing and qualifing various drugs and chemicals without solvent extraction.
This paper describes the application of head space SPME to methamphetamine(MA) , amphetamine (AM) and major metabolite analysis in urine by GC-TSD.
A vial containing a urine sample, internal standard and potassium carbonate was heated at 80 ℃ for 2i5 mn.
The extraction fiber in the needle of a SPME was exposed for 4 min in the head space of the vial.
The standard cureves were a straight line between 6.7 and 8.3 ppm for AM and 0.83-6.7 ppm for MA.
The calibration curves showed correlation coefficients of 0.996 for both drugs.
The proposed method is also suitable for the analysis of amphetamine-like compounds in urine.

[PA3-16] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Measurement and Distribution of Cadmium, Lead, Mercury, Selenium and Zinc in Human Tissues

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In the past, particular interest has been attracted to the distribution and interaction between the toxic and essential elements in animals and human, since such interactions might have adaptive implications to environmental pollution. We previously have reported the distribution of 15 elements in 91 Korean cadavers. The current study was performed for monitoring of toxic elements to the human tissues and to assess the correlation between toxic and essential elements. Toxic elements, such as Cd, Pb, Hg, and essential elements such as Se and Zn, were analyzed on internal organs of 82 Korean cadavers. The tissues were digested with microwave digestion system and elements were determined by ICP-AES. High correlation between age and elemental concentration was observed in the following cases : Cd in kidney cortex and kidney medulla ; Pb in liver and testis ; Hg in cerebrum and heart. A significantly high correlation between Hg and Se was observed in all tissues tested, while a significant correlation between Pb and Se was observed in liver, kidney cortex, kidney medulla, heart, lung, spleen, testis and bone. The correlation between Cd and Zn was significant in liver, kidney cortex, kidney medulla, lung, testis and bone. These results indicate that the distribution of toxic elements is similar to that of essential elements in all tissues.

[PA3-17] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Estrogenic activities of alkylphenols and curcumine derivatives

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In order to examine if alkylphenols and other chemicals such as curcumin derivaties have estrogenic activities we have studied uterotrophic assay, Escreening and ERE-Luc reporter assay with chemicals. Based on OEDC guideline, immature rats were administered with diethylstilbestreol as a positive control, tamoxifen as a control of antiestrogen, and various chemicals daily for three days. Rats were sacrificied and uteri were taken out and wet and dry weights were weighted. Estrogen showed uterine weight increse ten-fold over control and tamoxifen alone treatment showed minmal increse. And tamoxifen and estrogen concommitant treatment showed inhibition on estrogen stimulated uterine weight increase. Nonylphenol showed two to three-fold increase in uterine weight and phthalate showed one and half-fold increse in uterine weight. pERE-Luc was stably trasfected into MCF-7 cells and used for estrogenicity assay. 10pM Estradiol showed maximal stimulation on luciferase activity and tamoxifen showed no stimulation with alone treatment and inhibit estrogen stimulated luciferase activity when it was added into cells concommitantly. Among the tested curcumine derivatives, 10uM LV1154 showed minimal stimulation and SB118 showed moderate stimulation and SB100 showed antiestrogenic activity.[This study was supported from the grants of the ministry of environment]

[PA3-18] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Evaluation of estrogenic activities of several pyrethroid insecticides in human breast cancer cell line

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Synthetic pyrethroids are analogs of a natural chemical moiety, pyrethrin, derived from the pyrethrum plant Chrysanthemum. The natural pyrethrin structure has been modified to be highly lipophilic and photostable, creating an effective pesticide and resulting in an increased presence in the environment. Worldwide, they are commonly used insecticides against ticks, mites, mosquitoes, and as treatment for human head lice and scabies. Therefore, human exposure to their compounds in extensive. Several studies on the effects of pyrethroids on thyroid hormone regulation, estrogen and androgen function have been reported and yet little has been done to assess their potential hormonal activities.
We examined estrogenic/antiestrogenic potential of three pyrethroid insecticides, that is permethrin, allethrin and fenvalerate in human breast cancer cell(MCF7-BUS, MCF-7, T47D) and action mechanism mediated by the estrogen receptor.

[PA3-19] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Antiestrogenicity of school waste incinerator residues

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Incinerator residues samples collected from combustion of school inciner -ator contains several PACs includuing polycyclic aromatic hydrocarbons -(PAHs), polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans(PCDFs). These toxic organic chemicals may disrupt repro -ductive system by acting as estrogens or antiestrogens. In the case of PACs, they are not only ubiquitous and persistent in the environment, being primarily released from incomplete combustion process, solid wastes, and waste water but also can cause cancer.
Incinerator residues is extracted with toluene in a Soxhlet system using glass fiber thimbles. Clean-up method of incinerator residues is used in the fractionation. In this method, basic alumina binds neutral, planar aromatic compounds, which can be eluted from the colum with solvent mixtures. Fractions -(fraction I :Aliphatic hydrocarbons, nonplanar aromatic compounds -most