estrogenic or antiestrogenic activity. However, evidence for interaction of single PCB congeners with nuclear receptors has been sparse.
Here we examined the effects of four PCB congeners, PCB118(2,3',4,4'5-pentachlorobiphenyl), PCB138 (2,2',3',4,4'5-hexachlorobiphenyl), PCB153 (2,2',4,4',5,5'-hexachlorobiphenyl) and PCB180 (2,2'3,4,4'5,5'-heptachlorobiphenyl) and mixture effects of PCB congeners and TCDD on the AhR mediated gene expression (cytochrome P450 1A1 mRNA level and AhR responsive reporter gene assay) and enzyme activity (EROD activity) in the two hepatocarcinoma cell lines: HepG2 and Hepa1c1c 7. In addition, we evaluate the effects of PCB congeners on the estrogen receptor (ER) activity by E-screen assay and ERE-Luc reporter gene assay. In this study, we present evidence that PCB congeners exhibiting a variety of chlorine substitution patterns, have pleiotypic effects on the AhR and ER activity.

[PA4-6] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Suppression of iNOS expression by nonylphenol in macrophages

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In this study, we investigated the effect of 4-nonylphenol on the regulation of inducible nitric oxide synthase (iNOS) in murine macrophages. 4-Nonylphenol alone did not affect the expression of iNOS, in contrast, suppressed the LPS-induced gene expression of iNOS, in a dose-dependent manner. Nitric Oxide (NO) production was assessed by measurement of nitrites in the medium. The level of NO was found to correlate well with a decrease in transcripts of iNOS. Since the promoter in iNOS gene contains binding motifs for NF-kB, the effect of 4-nonylphenol on the inactivation of this transcripts factor was determined by transient transfection assay. Employing a transfection and reproter gene expression system with p(NF-kB)3-Luciferase, the treatment of 4-nonylphenol produced a dose-dependent inhibition of luciferase activity in RAW 264.7 murine macrophages cell line. These results suggest that suppression of iNOS gene expression by 4-nonylphenol might be mediated by the inhibition of NF-kB activation.

[PA4-7] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Evaluation of skin sensitization to sunscreens by local lymph node assay in Balb/c mice

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The use of sunscreens have been recently increased in various kinds of cosmetic products, although there were some reports that sunscreens might cause skin allergies and photoallergies. A murine lymph node assay (LLNA) has been developed as an alternative to guinea pigs for contact sensitization potential. This study was carried out to investigate the skin sensitization potential of four chemical sunscreens, butyl methoxy dibenzoylmethane, octyl methoxycinnamate, 3-(4-methyl benzyliden) camphor, octyl salicylate, by LLNA using non-radio isotopic endpoint. Female Balb/c mice were exposed topically to allergen, dinitrochlorobenzene (DNCB), irritant, sodium lauryl sulfate (SLS) and four sunscreens following LLNA protocol. Lymph node (LN) weight and cell proliferation in ears and auricular lymph node using BrdU (Bromodeoxyuridine) immunohistochemistry were evaluated. As results, LN weights were significantly increased at the DNCB (0.25, 0.5, 1%) and SLS (10, 25%), compared to control. Allergen DNCB(0.5, 1%) elicited 3-fold or greater increase in cell proliferation of lymph node as well as increase in cell proliferation of ear by BrdU immunohistochemistry. However, irritant SLS did not increase cell proliferation of lymph node. In the sunscreen agents, there were no significant changes in LN weight and cell proliferation in ear and lymph node of mice treated with 10 and 20% four sunscreens compared to control. These results show that these four sunscreens do not have contact sensitization potential at tested concentration in Balb/c mice by LLNA.

[PA4-8] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]