

Ginsan, a new polysaccharide isolated from *Panax ginseng*, has been previously reported as a good immunomodulator. In this study, we investigated the protective effect of Ginsan against a lethal sepsis induced by *Staphylococcus aureus* infection. The survival rate of mice treated with Ginsan 24 h prior to *S. aureus* infection was 80% whereas PBS-treated mice showed 20% of survival in the same infection. The numbers of CFU of *S. aureus* recovered from the blood, kidney or spleen of the Ginsan-treated mice was much less than that recovered from the organs of the control mice. However, the survival of Ginsan-treated mice was significantly declined when mice were treated with NO inhibitor, L-NAME. In addition, the treatment of ginsan at 100ug/ml cultured with heat killed *S. aureus* increased the nitric oxide production on RAW264.7 cells 2-fold over than that of control. These results imply that the protective effect of Ginsan is partially due to the enhancement of the NO-dependent antimicrobial cytotoxicity. Furthermore, the levels of proinflammatory cytokines such as TNF- α , IL-1 β , IFN- γ , IL-12 and IL-18 from infected mice were remarkably suppressed in Ginsan-treated group compared to the PBS-injected group. Therefore, these results suggest that Ginsan may be developed as an effective antimicrobial or antiseptic agent in practice.

Poster Presentations – Field C1. Biochemistry

[PC1-1] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]

Modulation of Cytochrome P450 1B1 Expression by A Stilbene Analog and its Effect on the Sensitivity to Anticancer Agents in Human Cancer Cells.

Lee SangKwang^o, Park SungSik, Kim MieYoung, Chun YoungJin

Chungang University

We have previously shown that 2,3',4,5'-tetramethoxystilbene(TMS) from synthetic *trans*-stilbene analogues, is one of the most potently selective inhibitor of recombinant human cytochrome P450 1B1 in vitro. In the present studies, the effects of TMS on the expression of cytochrome P450 1B1 were investigated in human cancer cell lines such as MCF-7 and HL-60. TCDD-stimulated P450 1B1 protein and mRNA expression was significantly suppressed by TMS in a dose-dependent manner. It was found that there exists a correlation between P450 1B1 suppression and the cytotoxicity of TMS in human cancer cells. In human cancer cells, the cytotoxic effect of anticancer drugs such as paclitaxel, docetaxel or etoposide was enhanced in the presence of TMS. The synergic effects of co-treatment of anticancer drugs with TMS were significant when the cells were incubated with TCDD. We suggest that the metabolic activation of TMS to more cytotoxic products may be occurred in human cancer cells by the treatment with TCDD. Taken together, our results indicate that TMS is a strong modulator of P450 1B1 gene expression as well as a potently selective inhibitor of P450 1B1. The ability of TMS to increase cytotoxic effect of anticancer drugs may contribute to its usefulness for cancer chemotherapy.

[PC1-2] [04/18/2003 (Fri) 09:30 – 12:30 / Hall P]

Anti-inflammatory effect of indole compound, IND-6 in LPS-stimulated RAW 264.7 murine macrophage cell line