LPS (10 ng/ml) or IFN-r (100 U). MRC and CRC in starch-loaded groups also increased NO production in the LPS activation. Changes of serum enzyme activities of glutamic oxaloacetic transaminase (GOT), glutamic pyruvic transaminase (GPT) were also investigated. Acarbose appeared to be greater (59, 78) than those of control (32, 51) when compared with GPT, GOT in both maltose-loaded groups. The level of liver glycogen after treatment MRC (108.05±12.05 dl/ml) or CRC (95.00±22.02 dl/ml) was not significant from that of control (115.83± dl/ml).

[PB4-11] [04/18/2003 (Fri) 09:30 ~ 12:30 / Hall P]

Protective effects of Ginsan against Cyclophosphamide-induced immunosuppression in mice

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The immunomodulator Ginsan has been found previously by us to stimulate the secretion of high levels of IL-1, IL-6 and TNF-alpha in irradiated mice. These cytokines are known to induce proliferation and differentiation of hematopoietic progenitor cells from the spleen and bone marrow and to protect mice from DNA-damaging agents. The present studies were evaluated as a cytoprotective agent against toxicity of the alkylating drugs. Sublethal dose (250 mg/kg) of cyclophosphamide (CP) caused neutropenia, decreased cellularity of bone marrow and inhibited Natural Killer (NK) cell activity in Balb/c mice. A single injection of Ginsan (2mg/mouse) at 24 h after CP treatment accelerated recovery of blood neutrophils and bone marrow cellularity and restored NK activity in CP-treated mice.
Moreover, ginsan protected these animals from the lethal effects of high doses of CP. These protective effects were demonstrable only when ginsan was administered to mice 24 h after CP treatment. To assess the big difference in survival rate between pre- or post administration of Ginsan, we analyzed the cell cycle progression of spleen and bone marrow cells in CP-treated mice. CP, given alone, affected apoptotic cell death and caused deregulation of the cell cycle in the spleen and bone marrow. Ginsan, applied 24h after CP administration, resulted in a suppressing effect on apoptosis and rapid recovery from the cell cycle perturbation triggered in normal bone marrow cells by the alkylating drug. The result may be useful for therapeutic application of ginsan with CP therapy.

[PB4-12] [04/18/2003 (Fri) 09:30 ~ 12:30 / Hall P]

Platycodon grandiflorum enhanced macrophages function and NK and LAK cell mediated cell lysis.

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The immunostimulatory and host resistance effects of the Platycodon grandiflorum A. DC, changkil (CK) and inulin (CKI) isolated from CK were investigated in rats. SD rat were exposed to CK or CKI by gavages for 7days and isolated peritoneal macrophages and splenocyte were used for these studies. CK and CKI significantly enhanced peritoneal macrophages activities such as ROS production and phargocytosis. Lymphokine-activated killer cell (LAK) and natural killer (NK) cell activation in splenocyte were measured by MTT assay and these activities were significantly