

individually cultivated as suspension cultures in potato dextrose broth. Mycelia obtained from each suspension culture were extracted with 70% ethanol. All three 70% ethanolic extracts showed strong anti-angiogenic activity in the chick embryo chorioallantoic membrane (CAM) assay, which was dose-dependent. Cordycepin, an inhibitor of RNA synthesis identified in some *Dongchunghacho* species, also showed anti-angiogenic activity in the CAM assay. Anti-inflammatory and analgesic activities of the ethanolic extracts were examined using croton oil-induced ear edema assay and writhing test, respectively.

[PA1-47] [04/17/2003 (Thr) 14:00 – 17:00 / Hall P]

Neuroprotective Effect of *Polygalae Radix* on the Brain Ischemia Induced by Four-Vessel Occlusion in Rats

Kim YoungOck^o, Lee HyunSun, Lee YoungAh, Shin JoonShik, An DeukKyun, Kim HoChol

Jaseng Research Institute of Bio-Technology and Bioscience,*Dept. of Herbal Pharmacology, Graduate School of East-West Medical Science, Kyung Hee University, Seoul

The effects of methanolic extracts of *Polygalae Radix* (PR 100mg/kg) was tested to evaluate on the neuroprotective activity (92% $p < 0.001$) on global cerebral ischemia. Based on bioassays guided fractionation, butanol soluble fraction (BtOH 25mg/kg) had the neuroprotective effect (87% $p < 0.001$) of global cerebral ischemia in rat. Oxygen free radical injury plays an important role in neuronal damage induced by brain ischemia and reperfusion. The effects of PR as a free radical scavenger was studied using transient global ischemia model. In a model of ischemia reperfusion with 4-vessel occlusion for 10 min and restoration of circulation for a period of 20 min. PR inhibited Fe²⁺ induced MDA production and showed 58% protection from tissue damage as compared with control. These results showed that PR could be has a neuroprotective effect against neuronal damage following global ischemia.

[PA1-48] [04/17/2003 (Thr) 14:00 – 17:00 / Hall P]

NK cell and macrophage activation is associated with antimetastatic effect of Korean mistletoe lectins

Taek Joon Yoon^o, Yung Choon Yoo, Tae Bong Kang, Kyung Bok Lee, Jong Bae Kim

Institute of Biomedical Research, Handong University, Pohang, Kyungbook, Korea, Dept. of Microbiology, Dept. of Biochemistry, College of Medicine, Konyang University, Nonsan, Chungnam, Korea

The inhibitory effect of the lectins (KML-C) isolated from Korean mistletoe (KM; *Viscum album coloratum*), on tumor metastases produced by highly metastatic murine tumor cells, B16-BL6 melanoma, colon 26-M3.1 carcinoma and L5178Y-ML25 lymphoma cells, was investigated in syngeneic mice. An intravenous (i.v.) administration of KML-C (20-50 ng/mouse) 2 days before tumor inoculation significantly inhibited lung metastasis of both B16-BL6 and colon 26-M3.1 cells in experimental lung metastasis models. The effect of KML-C on inhibition of tumor metastasis was also observed. In the assay for natural killer (NK) cell activity, i.v. administration of KML-C (50 ng/mouse) significantly augmented NK cytotoxicity against NK-sensitive Yac-1 tumor cells 2 days after KML-C treatment. In addition, treatment with KML-C (50 ng/mouse) resulted in induction of tumoricidal activity by peritoneal macrophages against B16-BL6 cells. These results suggest that KML-C has immunomodulating activity which enhances the host