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 Polygae Radix on the Brain Ischemia Induced by Four-Vessel Occlusion in Rats

Kim YoungOck°, 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 schemia. Based on bioassays guided fractionation, butanol soluble fraction (BtOH 25mg/kg) had the neuroprotive 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°, 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

defense system against tumors, and that its prophylactic and therapeutic effect on tumor metastasis is associated with NK cell and macrophage activation.

[PA1-49] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Pharmacological and Adverse Effects of Aloe vera

Lee KyoungRim, Yoo SunDong, Lee ByungMu°

College of Pharmacy, SungKyunKwan University, Suwon, Korea

Active ingredients, therapeutic and adverse effects of Aloe vera were comprehensively investigated. Aloe vera contains active components, including sugars, proteins, lipids, vitamins, minerals, phenolic compounds and other several compounds like phthalate esters, gibberellin, lectin-like substances, lignin, saponins, salicylic acid and uric acid. These chemicals are responsible for various pharmacological activities such as healing activity in skin diseases, gastric ulcer, inflammation, diabetes and immunologic disorders. Aloe vera is also reported as a chemopreventive agent to be effective in initiation, promotion and metastasis stage of multistage carcinogenesis due to its active compounds like polysaccharide and aloe-emodin. Aloe contains large quantities of phenolic constituents and possesses the antioxidative activity. In addition, there are some adverse effects such as burning sensation, contact dermatitis, mild itching and cytotoxicity.

[PA1-50] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

A Collaborative Study to Establish a Korea National Biological Standard for Antithrombin III Concentrate

Kang HyeNa, Oh HoJung°, Kim SoonNam, Hong ChoongMan, Lee KiHong, Yoo SiHyung, Shin InSoo, Choi SeungEun, Lee SeokHo, Hong SeungHwa

Blood Products Division, Biologics Evaluation Department, Korea Food and Drug Administration, Korea

We have carried out a collaborative study to evaluate a candidate preparation of antithrombin III concentrate whether it is suitable to serve as a Korea National Biological Standard. Three National Control Laboratories and three manufacturers participated in this study. The potency of this candidate preparation was determined by using a heparin cofactor chromogenic method described in the Minimum Requirements for Biological Products and the European Pharmacopoeia. The candidate demonstrated an excellent intra- and inter-laboratory correlations when assayed against the second international standard for antithrombin III concentrate coded 96/520. The overall potency estimate was calculated as unweighted geometric means of results from all laboratories. The potency of this candidate was defined as 51.9 IU/vial (95% confidence intervals ; 48.24 ~ 55.98 IU/vial). We also performed the accelerated thermal degradation test and the predicted loss of activity per year at -20℃ was 0.227%. In conclusion, the candidate reference standard is proved to be suitable to serve as a Korea National Biological Standard for antithrombin III concentrate.

[PA1-51] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Importance of Cytochrome P450 3A4 Conformation for the Activity Stimulation by