

<sup>1</sup>Korea Institute of Oriental Medicine; <sup>2</sup>Col. of Pharmacy, Kyunghee University; <sup>3</sup>Wuli Oriental Hospital; <sup>4</sup>Col. of Medicine, Chung-Ang University, Seoul, Korea

Current therapeutics for osteoporosis are often associated with adverse effects with long-term use. The purpose of this study was to find out herbal drug interaction and to apply an alternative drug candidate for osteoporosis based on a traditional medicinal herb that may have fewer side effects and less uterine hypertrophy. Effect of 219-H, a mixed herbal extract including Astragali Radix, was investigated on osteoporosis *in vitro* and *in vivo* models. Proliferation of osteoblast-like cells, MG-63 and Saos-2, was tested with MTT and alkaline phosphatase (ALP) assays. Inhibition of osteoclasts was also tested with TRAP staining. Adult OVX SD rats (10 weeks old) were divided into four groups: sham, control, 17 $\beta$ -estradiol (E2: 1  $\mu$ g/kg/day) and 219-H (5 g/kg/day). Animals in each group were administered daily dosage for 9 weeks. Trabecular bone areas (TBAs) of tibia and lumbar were measured by bone histomorphometry. In results, 219-H increased osteoblast proliferation and ALP activities (124% and 136% of control), respectively and inhibited 25% of osteoclast activity. The TBAs of tibia in 219-H group were increased 125% of control but unfortunately it was not significant statistically (P=0.07). Further studies on modification to dosage and duration of administration are in progress. (Supported partially by a grant from KIOM, Korea)

[PD2-56] [ 10/17/2002 (Thr) 09:30 ~ 12:30 / Hall C ]

#### Alcohol Absorption Inhibitory Activity of Combination Extract from Several Medicinal Plants

Yeom SeungHwan<sup>0</sup>, Kwon YoungMin, Kim MinKi, Lee JaeHee, Lee MinWon

College of pharmacy Chung-Ang University

The H<sub>2</sub>O and 50% extracts of herbal medicines(HM) combinations which were consisted of Acanthopanax Cortex, Phragmites Rhizoma, Chaenomelis Fructus, Pruni pseudocerasi Semen and rice bran were prepared and administered orally before 40% ethanol administration in the males S.D rats. The 50% ethanol extract of HM (HM50E) showed blood alcohol decreasing activity and was fractionated again into HM50E1 and E2 by Sephadex LH-20 gel column chromatography. HM50E2 showed more effective blood ethanol decreasing activity than HM50E1. These results suggested that the active components of HM were low molecular compounds. Acanthoside D was isolated one of major compounds from HM50E2 and the alcohol decreasing activity and mechanism of isolated compound are under study.

[PD2-57] [ 10/17/2002 (Thr) 09:30 ~ 12:30 / Hall C ]

#### Effect of Tectorigenin obtained from *Pueraria thunbergiana* Flowers on Phase I and -II Enzymes and Tissue Factor in the Streptozotocin-induced Diabetic Rat

Choi JongWon<sup>1</sup>, Shin MyungHee<sup>1</sup>, Park KunYoung<sup>2</sup>, Lee KyungTae<sup>3</sup>, Jung HyunJu<sup>4</sup>, Park HeeJuhn<sup>04</sup>

<sup>1</sup>College of Pharmacy Kyungsung University; <sup>2</sup>Department of Food and Nutrition Pusan National University; <sup>3</sup>College of Pharmacy Kyunghee University; and <sup>4</sup>Division of Applied Plant Sciences, SangJi University

We investigated the effect of tectorigenin (1) with hypoglycemic and hypolipidemic effects on Phase I and II enzymes and TF activity to elucidate the action of an immunosuppressive compound (1) in the diabetic rat. Compound 1 was obtained from the hydrolysis of tectoridin easily isolated from the flower of *Pueraria thunbergiana* (Leguminosae). Puerariae Flos has been used as therapeutics for *diabetes mellitus* in traditional medicine of Korea. Tectorigenin prolonged the bleeding time and plasma clotting time in streptozotocin (STZ)-treated rat whereas the compound increased TF activity. Compound 1 inhibited the formation of malondialdehyde (MDA) and hydroxy radical in the serum and liver but promoted the superoxide dismutase (SOD) activity. Low content of MDA and the low activities of xanthine oxidase and aldehyde oxidase were observed in compound 1-treated rat, suggesting that such Phase I enzymes are the major sources of lipid peroxidation. However, compound 1 increased the Phase II enzyme activities such as SOD, glutathione peroxidase and catalase, suggesting the activation of reactive oxygen species-scavenging enzymes. The above results indicated that the immunosuppressive or apoptogenic tectorigenin could improve various syndromes responsible for the *diabetes mellitus*.