

phosphoenolpyruvate carboxykinase, and glucokinase activities in liver. There were significant differences between control and treatment group in these parameters. From these result we may conclude that SPH-1 showed the excellent antidiabetic activity probably due to improvement of insulin resistance.

[PA1-52] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Antidiabetic Effect of Ginseng Radix Alba(GRA) and Mori Folium(MF) on Multiple Low Dose Streptozotocin-induced Diabetic Rats

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We studied to compare hypoglycemic effect of GRA and MF in multiple low dose streptozotocin(STZ)-induced diabetic rats. 25 mg/kg of STZ in 100 mM citrate buffer(pH 4.5) was injected intraperitoneally for 5 consecutive days. SD rats were randomly divided into diabetic control and treatment groups. Treatment groups were administered with either 500 mg/kg of GRA, 500 mg/kg of MF, 250 mg/kg of GRA + 250 mg/kg of MF(GM 250) or 500 mg/kg of GRA + 500 mg/kg of MF(GM 500) for 3 weeks. Blood glucose and body weight were measured every 5th day. At the second and the third week of the treatment, food and water intakes were determined and plasma insulin was measured at the last week. Rats were sacrificed at the end of the treatment, kidney was removed and index of kidney hypertrophy was measured. Pancreas was also removed for Hematoxylin-Eosin staining. GM 500 delayed the development of STZ-induced diabetes. Hypoglycemic effect and weight gain were found in all of treatment groups, especially GM 500. Food and water intakes were significantly decreased in all of treatment groups. Blood insulin level was recovered by treatment with GRA. From the data we obtained, we may conclude that GRA and MF alone may prevent or delay the development of diabetes, however, synergistic hypoglycemic activity was not be seen in groups treated with mixed formula composed of GRA and MF when compared to GRA or MF alone.

[PA1-53] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

The pharmacological effect of the methanol extracts from *Acanthopanax senticosus* after immobilized and chronic swimming stresses in rats

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Acanthopanax senticosus has been used clinically as tonic, anti-rheumatic and prophylactic purpose for chronic bronchitis, hypertension, ischemic heart disease, and gastric ulcer. We investigated the effects of methanol extracts from *Acanthopanax senticosus* (KS, KR, MS, MR, HS, HR, SS and SR) on catecholamine and cortisol content of serum after immobilization and on the exercise time to exhaustion in chronic swimming stressed rats. To assess the effects on the acute stress response, rats were given an oral administration of 500 mg/kg of methanol extracts from *Acanthopanax senticosus* and immobilization stressed for 30 min. Serum norepinephrine, 140-160 pmol/ml, in control rat was increased to 220 pmol/ml by immobilization and the stress-induced rise in serum norepinephrine was partially blocked by the methanol extracts from *Acanthopanax senticosus* (KS, KR, MS, SR, SS and HR). Serum cortisol level is also partially decreased by extracts (HS). KS, one of the methanol extracts from *Acanthopanax senticosus*, significantly reduced the stress-induced increases in plasma norepinephrine. In addition, to elucidate its anti-fatigue effects, the methanol extracts from *Acanthopanax senticosus* (500 mg/kg) was administrated per oral to rats once a day for 7 days and