then exercise time was measured by forced swimming in the water-pool (50 cm in depth ; 32 ±2 ℃). The methanol extracts from *Acanthopanax senticosus* (KS) protected rats from fatigue induced by forced swimming stress. These results suggest that the methanol extracts from *Acanthopanax senticosus* partially inhibit immobilization stress-induced increases in serum catecholamine and cortisol content, and reduce forced swimming stress-induced fatigue. It is, therefore, proposed the possibility that the methanol extracts from *Acanthopanax senticosus* might be developed as the promising antistress agent.

[PA1-54] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

The anti-inflammatory activity of *Kalopanax pictus* bark extract (IV). Antirheumatic activity of kalopanaxsaponin A methyl ester

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In the previous study, we isolated kalopanaxsaponin A and pictoside A from the EtOAc fraction of *Kalopanax pictus* extract. In the present study, the BuOH fraction of *K. pictus* extract was hydrolyzed by alkali and antirheumatic effect of the fraction was evaluated. It was found that the hydrolysate of the BuOH fraction showed inhibition of adjuvant-induced arthritis in rats. Of the EtOAc and BuOH fractions of the hydrolysate, only the former exhibited anti-arthritic activity. From the active fraction, kalopanaxsaponin A, kalopanaxsaponin I, and kalopanaxsaponin A methyl ester were isolated. Kalopanaxsaponin A methyl ester exhibited anti-arthritic activity at dose of 50 mg/kg for 7-10 days, given orally, in rats and mice.

[PA1-55] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Luteolin7-O-βD-glucuronopyranoside has the protective effect on gastritis and esophagitis in rats

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It is well known that flavonoids are the inhibitory effects on inflammations. This study was designed to determine the anti-inflammatory effects of luteolin-7-O-βD-glucuronopyranoside (LGC), newly synthesized flavonoids, which was extracted from Salix gilgiana leaves. We investigated the protective action of LGC on reflux esophagitis and gastritis in rats. Esophagitis and gastritis were induced by surgical procedures and the exposure to indomethacin (50 mg/kg), respectively. LGC was injected intraduodenally immediately after the surgical procedures and the exposure to indomethacin. We evaluated the effects of LGC by measuring the index of ulcer, gastric volume, gastric pH, acid out put, thiobarbituric acid response substances (TBARS) and glutathione. In esophagitis, LGC was effective in reducing ulcer index and area, gastric volume, and acid output and elevating gastric pH. LGC is also comparable inhibitory effects on gastritis to esophagitis in ulcer index. Additionally, LGC increased the level of glutathione and reduced TBARS level in gastritis. These results suggest that LGC has the preventive action on the development of gastritis and esophagitis of rat models.

[PA1-56] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Evaluations on Anti-angiogenic, Antioxidant and Anti-inflammatory Activities of