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This study was performed to investigate the effect of muscimol, (a potent and specific $GABA_A$ receptor agonist), and picrotoxin, (chloride channel blocker associated with $GABA_A$ receptor), on morphine-induced hyperactivity, reverse tolerance and postsynaptic dopamine receptor supersensitivity in mice. A single administration of morphine-induced hyperactivity. The morphine-induced hyperactivity was inhibited dose-dependently by the administration of muscimol and enhanced by the administration of picrotoxin. Daily repeated administrations of morphine developed reverse tolerance to the hyperactivity of morphine. The administration of muscimol and picrotoxin prior to a single injection of morphine dose-dependently modulates the morphine-induced hyperactivity and reverse tolerance. Postsynaptic dopamine receptor supersensitivity was also developed in reverse tolerant mice that had received the same morphine. The development of postsynaptic dopamine receptor supersensitivity was evidenced by the enhanced ambulatory activity of apomorphine. Muscimol and picrotoxin also modulated the development of postsynaptic dopamine receptor supersensitivity induced by the repeated administration of morphine. These results suggest that the hyperactivity, reverse tolerance and postsynaptic dopamine receptor supersensitivity induced by morphine can be modulated via the activation of GABA-gated chloride channels.

[PA1-23] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

The Determination of Nanoparticle Formed by Modified Water Soluble Chitosan

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Chitosan, having the structure similar to cellulose, has increasing the interesting as drug carriers due to its biocompatibility, biodegradability and nontoxicity. Especially, modified chitosan with various different group was used to treat the desease of human as deliver drug at the target site. In this study, we prepared the nanoparticle by dialysis method using hydrophobically modified-chitosan and investiagted the potential of application as delivery system and its characteristics. This system would be used to both of intravenous injection and oral administration of hydrophobic drugs due to their adequate size for administration. The hydrophobically modified chitosan-nanoparticles were expected to increase the solubility of the hydrophobic drug and, by incorporation of PEG, steric stabilization of chitosan nanoparticles would be increased. We measured NMR, IR, and particle size to investigate the characteristics of the nanoparticles. From the results of surface morphology observed by SEM and TEM, good spherical nanoparticle was identified. Resultantly, targeting drug carriers using hydrophobically modified-chitosan was tested as a suitable device for the drug targeting system to the tumor cell.

[PA1-24] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Inhibitory Effects of Godulbaegi Extracts on the Proliferation of Human Cancer Cells

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This study was carried out to investigate the effects of godulbaegi (Ixeris sonchifolia H.) root extracts on the proliferation of several human cancer cells, such as SK-MEL-2, HT-29, MKN-28, MKN-45, MCF-7,
MDA-MB-231, and HepG2. We extracted the root of Ixeris sonchifolia H. with methanol and the methanol extract was suspended in H2O and successively partitioned with Et2O, EtOAc and n-BuOH. The EtOAc extract showed the most efficient anti-proliferative effects on the growth of human cancer cells. The EtOAc extract was subjected to silica gel column chromatography to give three fractions and one of the fraction showed efficient anti-proliferative effects on the growth of HepG2 liver cancer cells. The isolation and characterization of effective components are under investigation. Moreover, the role of this EtOAc extract on the induction of apoptosis is also under study.

[PA1-25] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

The Effect of two 1-naphthylmethyl analogs of Higenamine (YS-49 and YS-51) on LPS-induced Experimental Disseminated Intravascular Coagulation (DIC) in Rats

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Disseminated intravascular coagulation (DIC) is a pathological syndrome, which occurs following the uncontrolled widespread activation of blood coagulation, resulting in the intravascular formation of fibrin, which may lead to thrombotic occlusion of small and midium size vessels. This situation may compromise blood supply to various organs and may contribute to mutiple organ failure (MOF).
The indications for DICs include a decrease in the number of platelets in blood, a decrease of fibrinogen level and an increase of fibrin/fibrinogen degradation product (FDP) level in blood, and an extention of prothrombin time (PT) and activated partial thromboplastin time (aPTT). These indices for LPS-induced DIC were improved by the administration of YS-49 and YS-51, 1-naphthylmethyl analogs of higenamine. YS-49 and YS-51 prevented the decrease of the number of platelets and the concentration of fibrinogen in blood, the increase of FDP level, and the prolongation of PT and aPTT induced by LPS.
The parameters of multiple organ failure (MOF), such as serum glutamic oxalacetic transaminase (S-GOT), serum glutamic pyruvic transaminase (S-GPT) and blood urea nitrogen (BUN) were also suppressed by the oral administration of YS-49 and YS-51.

[PA1-26] [04/20/2001 (Fri) 10:30 - 11:30 / Hall 4]

Inhibition of Lipopolysaccharide-Induced NF-kappaB Activation by Dibenzylbutyrolactone Lignans Leads to Suppression of Nitric Oxide Synthase Expression in Macrophages

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Arctigenin and demethyltaxillagenin, dibenzylbutyrolactone lignans, exhibit anti-inflammatory effects. Nuclear factor-κB (NF-κB) activation and iNOS gene expression were studied in RAW264.7 cells as part of their immunomodulating effects. Activation of hepatic NF-κB and I-κBα degradation were assessed by gel mobility shift and immunoblot analyses. iNOS expression was monitored by Northern and Western blottings as well as nitrite production. Arctigenin inhibited LPS-induced nuclear NF-κB