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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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