hours (UI = 1), it was decreased below the basal level in 6 hours. The activity of JNK was increased with accordance with the progression of esophagitis. The level of phosphorylation of p44/42 MAP kinase was increased in 1 hour and decreased in 4hours. After 6 hours, it was recovered to the basal level. With these results, we suggest that the each type of MAP kinases shows different features of activation and deactivation in experimental esophagitis models.

Poster Presentations - Field B3. Neuroscience

[PB3-1] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

METHAMPHETAMINE SELF-ADMINSTRATION INDUCED C-FOS AND GFAP EXPRESSION IN RAT BRAINS.

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(+)-Methamphetamine (METH) is a psychostimulant, which has been the most popular abused drug in Korea. In this study, we investigated the behavioral changes in rats administered repeated or self-administered METH, and the effects of METH self-administration on the expression of c-fos, glial fibrillary acidic protein (GFAP) and tyrosine hydroxylase (TH) in brain. The repeated administration of 1.0 mg/kg/day METH for 12 days increased locomotor activities, and there was no difference between i.v. and i.p. treatment. Rats had acquired actively METH self-administration for 3 weeks at 0.1 or 0.2 mg/kg/injection. Whereas, it was taken few days to acquire sucrose pellet self-administration. The dose-response relationship for METH demonstrated a typical inverted U-shaped function. Rats were injected about 1.0 mg/kg/day for 27~53 days in intravenous self-administration training course. METH self-administration increased dose-dependently the protein expression of c-fos in prefrontal cortex, hippocampus, striatum and ventral tagmental area (VTA). GFAP expression was also increased dose-dependently in hippocampus, striatum and VTA. However, TH expression was not changed in striatum and VTA. These results suggest that low dose of METH may induced neurotoxicity in rats self-administrated for long periods.

[PB3-2] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

Inhibitory Effects of Aporphine Alkaloids on Dopamine Biosynthesis in PC12 cells

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The effects of aporphine isoquinoline alkaloids such as boldine, isocorydine, liliodenine, anonaine and asimilobine on dopamine biosynthesis in PC12 cells were investigated. Treatment of PC12 cells with boldine, liliodenine, anonaine and asimilobine showed 5~50 % inhibition of dopamine content at a concentration of 1~20 μM for 24 h. However, Isocorydine did not show an inhibitory effect. The IC50 values of boldine, liliodenine, anonaine and asimilobine were 19.6 μM, 7.7 μM, 0.35 nM and 0.13 nM, respectively. Dopamine conetent decreased at 6 h and reached minimal level at 24h after the exposure to aporphine isoquinoline alkaloids described above. Tyrosine hydroxylase (TH) activities were also inhibited by aporphine alkaloids. Treatment of PC12 cells with aporphine alkaloids showed 60~85 % inhibition of TH activities at a concentration of 1~20 μM for 6 h. However, Aromaic amino acid decarboxylase activities did not.TH activities reached minimal level at 6~12h following the treatments of boldine, liliodenine, anonaine and asimilobine (84.0 % at 24.4 μM, 85.4 % at 12 μM, 67.4 % at 1.51 μM, 87.5 % at 1.48 μM, respectively), and maintained at a reduced level for up 36 h in PC12 cells. These results suggest that the inhibition of TH activities by each aporphine isoquinoline alkaloids might be involved in at least one component of the reduction of dopamine biosynthesis in PC12 cells. Intracelluar mechanisms need further studies of