Chronic exposure of nicotine modulate the expressions of cerebellar glial glutamate transporters in rats

Lim DongKoo[O]

College of Pharmacy, Chonnam National University Kwangju

To study the expressions of glutamate transporter subtypes in cerebellar astrocytes following the chronic exposure of nicotine from mating, rats were treated with nicotine (25 ppm) from the beginning of mating through drinking water. After delivery, each group was divided into two groups. Groups were exposed to either distilled water or nicotine. From 7 day-old pups at each group, cerebellar astrocytes were prepared. Ten days after culture, the expressions of glutamate transporter subtypes (GLAST and GLT-1) were determined using immunochemistry and immunoblot. In addition, the developmental expressions of glutamate transporter subtypes in cerebellum were also determined from 2, 4 and 8 weeks-old rats during the continuous treatments. The expressions of GLAST in cultured astrocytes from either pre- or post-natally exposed groups were higher, but those from continuously exposed group were lower than those from control. The expressions of GLT-1 were higher in all nicotine-treated group, especially in continuously treated group. The expressions of cerebellar GLAST and GLT-1 in all nicotine-treated groups were lower than in the control group at each age using immunochemistry. However the expressions of cerebellar GLT-1 in all nicotine-treated groups were higher than those in the control except 8 weeks of continuously treated group using immunoblot. These results indicate that the expressions of glial glutamate transporters are differently altered depending on the initial exposure time and periods of nicotine and nicotine exposure during gestation have persistent effects on glial cells.

[PA4-7] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Safety pharmacology study of AS2-006A, a new wound healing drug

Kim Hyun-Jin[O], Choi Kyu-Gap Yoon Mi-Ran Do Sun-Hee Kim Eun-Joo Cha Kyung-Hoi

Korea Institute of Toxicology, KRICT, P.O.Box 107, Yusong-Ku, Taejon 305-606, Korea Dongkook Pharm. Co. Ltd., 997-8, Daechi-3 Dong, Kangnam-Gu, Seoul, Korea

The safety pharmacological core battery studies of AS2-006A, a newly developed wound healing drug, were investigated according to the ICH S7A guidelines in compliance with Good Laboratory Practice(GLP) Regulations. The doses given were 0, 100, 300 and 1000 mg/kg and drugs were administered subcutaneously. The animals used for this study were mice, rats and guinea pigs. AS2-006A showed no effects on the central nervous system such as motor activity, behavioral changes, coordination, sensory/motor reflex responses and body temperature, no effects on blood pressure(BP), heart rate(HR), and ECG profiles and respiratory system.
It was concluded that AS2-006A possess no general pharmacological effects at all doses tested.

[PA4-8] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

The toxicity of Aceporol 460 as a novel high loading capacity solubilizer of paclitaxel

Kim YeoWoon[O], Kim JaYoung, Cho MinJung, Song HaeWon, Lee MinJae, Kim JongJae, Lee MiSuk, Sheen YhunYhong

College of Pharmacy, Ewha Womans University, Seoul, 120-750, Korea:College of Medicine, Seoul National University, Seoul, 151-742, Korea

Previously, we reported a novel polymeric micellar solubilizer, Aceporol 330, that showed relatively low toxic effects when it was compared with that of Cremophor EL which is currently being used for paclitaxel. In this study, we have developed a new micellar solubilizer, Aceporol 460, that has 3-4 times higher loding capacity for paclitaxel than Aceporol 330. The single-dose and the repeated-dose toxicity of Aceporol 460 were evaluated in ICR mice. For single dose toxicity test, male and female mice were randomly assigned to one of five study groups to receive, and injected intravenously with dosages of 0, 3, 4mL Cremophor EL/kg body weight, and 3, 4mL Aceporol 460/kg body weight, respectively. In both male and female mice, LD50 for Aceporol 460 can not be