induced relaxation was clearly demonstrated and did not differ in carotid arteries from all treatment groups. Furthermore, acetylcholine-induced relaxation was completely inhibited by L-NAME but not by indomethacin. SK-1080 caused a slight hypotension 1 day before balloon injury (8.7%), which gradually returned to the baseline 6 and 13 days after balloon injury. These results suggest that SK-1080 might be a useful candidate for the treatment of restenosis after percutaneous transluminal coronary angioplasty.

[PA1-22] [ 10/18/2001 (Thr) 14:00 - 17:00 / Hall D ]

## Neuroprotective and Neurotrophic Effect of a Novel Quinic Acids derivative Isolated from Aster Scaber.

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Aster scaber T. (Asteraceae) has been used to treat bruises, snakebite, headache and dizziness in the traditional Chinese medicine. We examined the neuroprotective effects and NGF-potentiating activities of quinic acid derivatives (novel quinic acid, (-) 3,5-dicaffeoyl-muco-quinic acid )from Aster scaber. By examining thier effects on the neurite outgrowth from PC12 cells and the synthesis of neurotrophic factor (NGF) in C6 glial cells. Quinic acid derivatives from Aster scaber T. (Asteraceae) increased the proportion of neurite-bearing cells. In addition, after 6h incubation of C6 cells with this compound, NGF levels in the cultured medium increased 300-fold of the control. In RT-PCR analysis, the NGF gene expression was found to reach 2-fold of the control level. We also investigated the effect of this compound on the phosphorylation of MAP kinase (Erk1,2, p38) and PI3 kinase activity, which play a crucial role in the survival and differentiation of neurons. Quinic acid derivatives from Aster scaber T. (Asteraceae) increased PI3 kinase activity and MAP kinase phosphorylation in PC12 cells. These results suggest that a novel quinic acid, (-) 3,5-dicaffeoyl-muco-quinic acid derivatives from Aster scaber T (Asteraceae) might potentially used be as a neuroprotective agent.

[PA1-23] [ 10/18/2001 (Thr) 14:00 - 17:00 / Hall D ]

## Anti-coagulant and/or platelet anti-aggregatory activities of MeOH extracts of Cacti

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The MeOH extracts obtained from 42 species of Cacti were tested on their anti-coagulant and/or platelet anti-aggregatory activities by aPTT assay and modified smearing method, respectively. *Obregonia denegrii Fric.* and *Chamaecereus silvestrii* showed potential inhibitory effects on adenosine 5`-diphosphate (ADP)-induced rat platelet aggregation, and *Opuntia vulgaris Mill, Euphorbia grandicornis, Crassula cv. himaturi, Euphorbia milii var. splendens, etc.* were suggested to be potential anti-coagulants.

[PA1-24] [ 10/18/2001 (Thr) 14:00 - 17:00 / Hall D ]

## A newly developed antiarrhythmic drug CW-2101 is ideal in treating atrial fibrillation

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Previously, we found out that CW-2101, a isoquinoline alkaloid derivative selectively inhibited the hKv1.5 current expressing predominantly in human atrium without affecting the HERG current expressing mainly in ventricle. Additionally, CW-2101 inhibited the K+ current in isolated human atrial myocytes. All our results suggest that CW-2101 would be one of the ideal antiarrhythmic drugs for atrial fibrillation. In this study, we compared the antiarrhythmic potential of CW-2101 with that of dofetilide developed as one of Class III antiarrhythmic drugs recently.
We examined the effects of CW-2101 and dofetilide on the action potentials in rabbit heart using conventional microelectode technique. CW-2101 prolonged the action potential durations of atrial myocytes in a dose-dependent manner. Interesingly, CW-2101 prolonged APD in a frequency-dependent manner, whereas dofetilide did not affect the APD of atrial myocytes. In ventricular myocytes, CW-2101 at the concentrations of 0.1 and 0.3 uM did not affect the APD. However, CW-2101 at the concentrations of 1 and 3 uM shortened APD at the frequency of lower than 3 Hz, whereas prolonged APD at the frequency of higher than 3 Hz. In contrast, dofetilide (10 nM) prolonged APD in a reverse frequency-dependent manner. These results strongly suggest that CW-2101 could be superior to dofetilide in treating atrial fibrillation.

**[PA1-25]** [ 10/18/2001 (Thr) 14:00 - 17:00 / Hall D ]

## The Pharmacological Profile of JOINS (SKI 306X) I : The cartilage-protective effects

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Protective effects of JOINS (SKI 306X), a natural herbal product extracted from three herbs Clematis mandshurica, Trichosanthes kirilowii, and Prunella vulgaris, on articular cartilage were examined and compared with other osteoarthritis (OA) drugs using in vitro and in vivo models.
In vitro studies were performed using rabbit articular cartilage explants culture. The degradation of cartilage was induced by the recombinant human interleukin-1alpha with or without plasminogen co-treatment and glycosaminoglycan and hydroxy-proline release were measured. For in vivo study, collagenase was intra-articularly injected twice into the right knee joint of rabbits and the degrees of OA-like changes were evaluated through a histological examination.
In vitro study revealed JOINS inhibited the degradation of PG and collagen in a concentration-dependent manner. Trichosanthes kirilowii, which is one of the components of JOINS, also significantly inhibited the cartilage degradation. JOINS reduced the OA-like histological changes in collagense-injected rabbit knee joint.
These results strongly suggest that JOINS can be a good agent for ameliorating the OA symptoms by modifying the matrix destruction in OA patients..

**[PA1-26]** [ 10/18/2001 (Thr) 14:00 - 17:00 / Hall D ]

## Sesquiterpene lactones from Eupatorium chinense

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Sesquiterpene lactones (1-3) have been isolated from Eupatorium chinense as active principles of the cytotoxic property toward human tumor cell lines such as A549, SK-ov-3, SK-mel-2, XF498 and HCT15 in vitro.
By means of spectral analysis, particularly by the aid of various two
dimensional NMR experiments, all 1H-NMR and 13C-NMR signals of 1-3 were completely assigned.