

[PD2-29] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Phenylpropanoids from *Scrophularia buergeriana* Protect Cultured Rat Cortical Neurons from Glutamate-Induced Neurotoxicity

Kim SR^o, Koo KA, Kim SH, Kim YC

College of Pharmacy, Seoul National University

We previously reported phenylpropanoids isolated from *Scrophularia buergeriana* Miquel (Scrophulariaceae) attenuate glutamate-induced neurotoxicity in primary cultures of rat cortical neurons. In the present study, we investigated their neuroprotective mechanisms *in vitro* culture system. Phenylpropanoids isolated from *S. buergeriana* diminished the calcium influx that routinely follows glutamate neurotoxicity, and inhibited subsequent overproduction of NO in glutamate-treated cells. The neuroprotective compounds were more potent against the toxicity induced by N-methyl-D-aspartate than that mediated by kainate. These results demonstrate that phenylpropanoids isolated from *S. buergeriana*: (1) exerted significant neuroprotective effects on cultured cortical neurons; and (2) may be efficacious in protecting neurons from oxidative damage produced by exposure to L-glutamate.

[PD2-30] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Anti-HIV-1 Protease Activity and Phytochemical Study on the Aerial Parts of *Orostachys japonicus*

Park JC^o, Park JG, Hur JM, Park SJ, Park KY*, Shin DY**, Kim MS***, Miyashiro H****, Yokozawa T****, Hattori M****

Dept. Oriental Medicine Resources, *Dept. Biology, **Dept. Resources Plant, Suncheon National Univ., ***Dong-A Pharm. Co., ****Institute of Natural Medicine, Toyama Med. & Pharm. Uni., Japan

Inhibitory effect on Human Immunodeficiency Virus Type 1 protease (PR) and phytochemical study on the aerial parts of *Orostachys japonicus* A. Berger (Crassulaceae), which is used as the antitumor agents in Korean folklore medicine were investigated. The PR inhibitory activity was determined by incubating the extract in a reaction mixture containing PR and substrate His-Lys-Ala-Arg-Val-Leu-(pNO₂-Phe)-Glu-Ala-Nle-Ser-NH₂ at pH 5.0 to perform proteolytic cleavage reaction. The cleaved product was measured by reverse-phase HPLC, using a gradient of acetonitrile/0.1% trifluoroacetic acid as a mobile phase. The methanol extract of title plant showed a strong inhibition at 0.1 mg/ml. The methanol extract from aerial parts of *O. japonicus* was fractionated into dichloromethane, ethyl acetate, n-butanol and aqueous fractions. Column chromatography of ethyl acetate and n-butanol soluble fractions afforded four aromatic acids and five flavonoid compounds.

[PD2-31] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Antioxidative and Antihepatic Effects of Galla Rhois(*Rhus javanica* Linne)

Cha BC^o, Lee SB, Rhim TJ

College of Life Sciences and Natural Resources, Sangji University

Reactive oxygen species(ROS) are produced at a high rate continuously as a by-product of aerobic metabolism. A major portion of living organisms has defense system as superoxide dismutase or catalase against damage produced by ROS. Several lines of evidence provided that ROS appears to