scavenging effects of hydroxyl radical or superoxide anion by these phytochemicals.

[PD2-34] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Aristolactam Alkaloids from Saururus chinensis Protect Cultured Rat Cortical Neurons from Glutamate-Induced Neurodegeneration

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In the course of our search for neruoprotective compounds against glutamate-induced toxicity from natural sources,a methanolic extract from the dried roots of *Saururus chinensis* (Saururaceae) significantly mitigated glutamate-induced neurotoxicity in primary cultures of rat cortical neurons. Activity-guided fractionation using several chromatographic techniques resulted in the isolation of two neuroprotective alkaloids, saurolactam and aristolactam BII. These alkaloids isolated from *S. chinensis* attenuated glutamate-induced neurotoxicity in primary cultures of rat cortical cells at concentrations ranging from 0.1 – 10.0 μM. Furthermore, saurolactam and aristolactam BII inhibited overproduction of NO and lipid perxidation in glutamate-treated cells. These results demonstrate that aristolactam alkaloids isolated from *S. chinensis* exerted significant neuroprotective effects on cultured cortical neurons and may be efficacious in protecting neurons from oxidative damage produced by L-glutamate.

[PD2-35] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Effects of Polyoxypregnane Constituents from the Roots of Cynanchum caudatum on the Aldehyde Oxidase Activity and Lipid Peroxidation

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The roots of Cynanchum caudatum have been used in traditional medicine in Japan and China for the prevention and treatment of geriatric diseases, beriberi, and so forth, and also as a cardiotonic agent. Constituents of this plant have mainly been examined for glycosides: besides two steroidal alkaloids, gagaminine and gagamine which was firstly isolated and named by us, more than 30 polyoxypregnane glycosides and aglycones have been isolated. Gagaminine inhibits potently the hepatic aldehyde oxidase activity(IC50=0.8μM) and lipid peroxidation in an in vitro assay. In order to explain the structure-activity relationships of gagaminine which contains cinnamoyl- and nicotinoyl groups, we previously compared its activities with four related compounds - two polyoxypregnanes, cinnamic acid, and nicotinic acid. The present work deals with the comparison of antioxidative activities of gagamine, a new pregnane alkaloid, two isolated polyoxypregnanes and one synthetic natural derivative which contain a keto group at C-20 with those of gagaminine, a potent antioxidant. The results of this study further prove that the cinnamoyl group in the structure of gagaminine is critical in inhibition of the aldehyde oxidase activity while the nicotinoyl group may be necessary for anti-lipid peroxidation of this type of compound. Besides that, the keto compounds having no ester group at C-12 were more active than the others except gagaminine.

[PD2-36] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

The hepatoprotective and antioxidative effects of methanol extract and its fractions of Phellinus linteus in Hep G2 cells