

in rat mesangial cell.

[PD1-38] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Inhibition of excitotoxic neuronal cell death by the rhizomes of *Acorus gramineus*

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The rhizomes of *Acorus gramineus* (AGR) has been reported to show a number of pharmacological actions in the central nervous system. The present study investigated the effects of AGR extracts on excitotoxic neuronal cell death using primary cultured rat cortical neurons. The crude methanol extract inhibited the glutamate-induced neurotoxicity in a concentration-dependent manner ($IC_{50} = 263.3 \mu\text{g/ml}$). The inhibition was more potent and selective against the toxicity induced by NMDA ($IC_{50} = 175.6 \mu\text{g/ml}$). To identify the active components in AGR, the methanol extract was subsequently fractionated with dichloromethane, ethylacetate, and water. The dichloromethane and ethylacetate fractions dramatically inhibited the NMDA-induced neuronal death, with the IC_{50} values of $28.5 \mu\text{g/ml}$ and $46.3 \mu\text{g/ml}$, respectively. Further purification and structure analyses indicated that the active principles exhibiting neuroprotective action of AGR were identified as compound 1 (AG-13-A, $C_{12}H_{16}O_3$) present in dichloromethane fraction and compound 2 (AG-41-A, $C_6H_6O_3$) in the ethylacetate fraction.

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Effect of Circumferential Conditions on the Behaviors of Beta Amyloid Peptide in Human Brain by Cellular Automata Simulation.

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Alzheimer's disease (AD) is an incurable neuropsychiatric condition in which progressive impairment of cognitive functions occurs, usually accompanied by affective and behavioral disturbances. This AD was caused by the aggregation and deposition of a beta amyloid peptide (β AP) in human brain. In this study, to show the effect of circumferential conditions on the aggregation and deposition of a β AP, the behaviors of the β AP were simulated by cellular automata (CAs). The aggregation and deposition of the β AP were caused by the mutation of a beta amyloid precursor protein (BAPP). Those were occurred in a lipid membrane, and circumferential conditions such as pH, concentration effected on aggregation. Usually, β AP has more quantity of monomers than that of oligomers under the critical concentration, while oligomers of β AP are more by fraction over the critical concentration. The oligomers present insoluble aggregated peptide.

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

Three triterpenoids from the roots of *Rhododendron yedoense* var. *poukhanense*

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