

Induction of Apoptosis in HL-60 cells by Cinnamaldehyde Isolated from the Stem Bark of Cinnamomum cassia through Depletion of Intracellular Glutathione

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Cinnamaldehyde showed a significant cytotoxic activity against various tumor cells. These concentration-dependent anti-proliferative activity was observed that appears to be due to induction of apoptosis. Cinnamaldehyde-induced apoptosis was evaluated by increasing of hypodiploid nuclei and a nucleosomal ladder. In order to explore the possible mechanism involved in cinnamaldehyde-induced apoptosis, the effect of cinnamaldehyde on intracellular reduced glutathione and the effect of N-acetylcystein (NAC) on cinnamaldehyde-induced cytotoxicity and apoptosis were investigated. NAC significantly alleviated cinnamaldehyde-induced cytotoxicity and apoptosis. These results suggest that cinnamaldehyde induces apoptosis in HL-60 cells, probably through depletion of intracellular glutathione.

[PC1-7] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Differentiation-Inducing Activity of Taraxinic acid in HL-60 Human Promyelocytic Leukemia cells

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Taraxinic acid-1'-O- β -D-glucopyranoside isolated from Taraxacum coreanum and its aglycon taraxinic acid were examined for differentiation-inducing activity in U-937 cells. Aglycon taraxinic acid showed potent cytotoxic activity in contrast to taraxinic acid-1'-O- β -D-glucopyranoside. We investigated whether these cytotoxic and growth inhibitory effects were associated with differentiation induction. Taraxinic acid was found to be a potent inducer of differentiation in human leukemia derived HL-60 cells by examination of differentiation marker, as assessed by reduction nitroblue tetrazolium (NBT) and expression of CD14 and CD66b surface antigens. These events were accompanied by a decline in expression of the c-myc protein. These results suggest that taraxinic acid induces differentiation in human leukemia cells to granulocyte and monocytes/macrophages lineage.

[PC1-8] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Inhibitory Effect of Prosapogenins Obtained from Kalopanax pictus on Tumor Necrosis Factor- α and Nitric Oxide Production in Raw 264.7 Murine Macrophage Cells

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In order to elucidate the anti-inflammatory effect of hederagenin monodesmosides, by which anti-