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In the previous study, we reported the differentiation effects of the KH-1 isolated from *Vitis vinifera* on human neuroblastoma cell line SH-SY5Y.

The KH-1 decreased cell proliferation and increased neuritogenesis, neurite length, NO and L-citrulline production at the concentration range of 0.1~1 μ M.

The aim of the present work is to investigate whether the NO production is generated from inducible NO synthase(iNOS) which is one of the three different NOS isoforms: ncNOS, ecNOS and iNOS. Aminoguanidine(AG) was used as a selective inhibitor of the iNOS. There were two AG treatment groups: The AG(0.3mM) and KH-1(0.1~1 μ M) added to the cells simultaneously and AG was added to the KH-1 treated cells at day 4. The morphological and functional parameters to determine a change occurring in the KH-1 treated cells by the AG showed similar patterns with the previous investigation in neuritogenesis, neurite length, NO and L-citrulline production.

Use of the AG inhibited decreasing cell proliferation in the both groups. The neuritogenesis, NO and L-citrulline generation levels were declined to the control levels or showed some what lower values. These findings indicate that the KH-1 induced differentiation of human neuroblastoma cells is associated with NOS through iNOS induction. Furthermore, NO may play by acting as a signal molecule of the human neuroblastoma cell line SH-SY5Y during differentiation

[PC1-9] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Induction of Apoptosis in U937 Human Leukemia Cell by Kalopanaxsaponin A

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In previous study we screened that triterpenoids, kalopanaxsaponin A, B, I, kaikasaponin III and hederagenin, isolated from kalopanax pictus showed different cytotoxicity against various cancer cells. This study was purposed to describe the mechanism of kalopanaxsaponin A which selective cytotoxicity on cancer cells. 20 μ g/ml of kalopanaxsaponin A induced significant apoptosis through inhibition of PTK, Bcl-2, topoisomerase II- α and activation of PKC- α and caspase-3. Furthermore, kalopanaxsaponin A increased hypodiploid nuclei and caused a nucleosomal ladder. From these result we suggest that kalopanaxsaponin A induces apoptosis through multi target signal transduction in U937 human leukemia cell.

[PC1-10] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Mechanism of Costunolide-Induced Apoptosis in Human Leukemia Cell Lines

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The present work was carried out to examine the mechanism of costunolide-induced apoptosis in HL-60 human leukemia cell line. Costunolide is a sesquiterpene lactone compound isolated from leaf of *Magnolia sieboldii* and differentiated HL-60 and U937 cells to monocyte/macrophage-like cells. Costunolide produced a potent protein tyrosine kinase inhibition in vitro and in vivo dependant on concentration in HL-60. PTK inhibition is associated with the increase of intracellular ROS level. Treatment of HL-60 cells with costunolide induced PARP cleavage accompanied with DNA fragmentation. These results suggest that induction of apoptosis by costunolide resulted in the activation of caspase-3 proteases, which are interleukin-1 β -converting enzyme family protease.