These results suggest that ADL elicit detectable cytokines from PBMC.

[PC1-17] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Costunolide Induces the Differentiation of Human Lukemia cells HL -60

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The present work was carried out to examine the effect of costunolide on the growth of several cell lines and the differentiation of human leukemia-derived cell line HL-60. Costunolide produced a potent antitumor activity in vitro against several tumor cells dependent on concentration. However, it showed less cytotoxicity on normal cells such as Macaccus rheus monkey kidney cells (MA-104) up to 200 M concentration. Costunolide was found to be a potent inducer of differentiation in human leukemia derived cell lines HL60 cell by examination of differentiation marker as assessed by the surface antigens of CD14 and CD66b, reducing nitroblue tetrazolium and measuring esterase activity. These events were accompanied by a decline in expression of the c-myc and p-tyr protein by 4 days costunolide treatment. These results suggest that costunolide induces differentiation in human leukemia cells lineage by altering the expression of this protein involved in differentiation.

[PC1-18] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Suppression mechanism of inducible nitric oxide synthase and cyclooxygenase -2 expression in RAW 264.7 macrophages by sesquiterpene lactones from Ainsliaea acerifolia

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Nitric oxide (NO) and prostaglandin (PG), produced by inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2), respectively, act as a causative regulator in various inflammatory disease states. *Ainsliaea acerifolia* has been used in Korean traditional herbal medicine for its antipyretic, analgesic and anti-inflammatory properties. We investigated the molecular mechanism for the suppression of LPS/IFN-γ-induced NO and PGE_2 production in RAW 264.7 macrophages by sesquiterpene lactones, zaluzanin-C and estafiatone, which are isolated from *A. acerifolia*. Zaluzanin-C and estafiatone decreased NO production in LPS/IFN-γ-stimulated RAW 264.7 macrophages with an IC_{50} of about 6.61 μM and 3.80 μM, respectively. In addition, these compounds inhibited the synthesis of PGE_2 in LPS/IFN-γ-treated RAW 264.7 macrophages. Furthermore, treatment with zaluzanin-C and estafiatone led to a decrease in iNOS protein as well as mRNA expression levels. These effects appear to be due to inhibition of the binding activity of NF-κB, a transcription factor necessary for iNOS and COX-2 expression, because these compounds inhibited NF-κB activation. These results suggest that the ability of zaluzanin-C and estafiatone to inhibit iNOS and COX-2 gene expression through the inhibition of DNA-binding activity of NF-κB might be responsible, in part, for their anti-inflammatory effects.

[PC1-19] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Hepatoprotective effects of flavonoid compounds is dependant on the antioxidant and detoxificant enzyme activity

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Abstract We used primary cultured rat hepatocytes injured by carbon tetrachloride as a model to screen for hepatoprotective effect of naturl flavonoid compounds. To determine the protection effect of these compounds we measured the activity of GPT, LDH, and the levels of GSH and MDA.
CCl4-induced liver toxicity on primary cultured rat hepatocytes was seen significantly elevation GPT, LDH , MDA and decrease GSH level.
Four flavonoid compounds showed anti-hepatotoxic effect by decrease GPT, LDH activity and MDA level and preserve GSH level, Moreover we mesured radical scavenging effect, detoxifying enzyme (glutation S-transferase , quinone reductase) and antioxidant enzyme (SOD, Catalase) activity.
Based on these results, we suggest that hepatoprotective activity of these four compounds preserve antioxidant status by scavenging reactive oxygen species and increasing detoxifying enzyme activity.

[PC1-20] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

EDTA Attenuate Kalopanaxsaponin A-Induced Apoptosis in U937 Human Luekemia Cell.

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In previous study we screened that kalopanaxsaponin A induced apoptosis through inhibition of PTK, Bcl-2, c-myc, topoisoemrase II-α and activation of Bax, PKC-α and caspase-3. This research was proposed to describe what was the crucial factor for apoptosis induced by kalopanaxsaponin A. Thereby we used NAC(N-acetyl-L-cysteine), vitamin E(α-tocopherol), vitamin C(ascorbic acid) and EDTA(ethylenediaminetetraacetic acid) to study the role of extra-cellular/intra-cellular ROS(reactive oxygen species) and metals. Only pre-treated EDTA blocked kalopanaxsaponin A-induced apoptosis by propidium iodide staining. Whereas antioxidant such as NAC, vitamin E and vitamin C did not show any effect. These result suggest that metals are associated with kalopanaxsaponin A-induced apoptosis through multi target signal transduction in U937 human leukemia cell.

[PC1-21] [10/20/2000 (Fri) 15:30 - 16:30 / [Hall B]]

Antitumor Activities of Manassatin A and B by Induction of Cell Differentiation and Apoptosis in Human Leukemia HL-60 cells

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