the dose of 30 mg/kg, compared with the control. To confirm the localization of AS in tumor tissues, paraffin sections were prepared after 4% formaldehyde fixation. The fixed tissues were stained by alcian blue-periodic acid-Schiff's reagent. After subscutaneous injection, we found that AS was mainly localized on the outer membrane of tissues. Based on the fact, we performed an in vitro binding assay between AS and LLC by varying the incubation time and concentrations. The binding to cells was markedly increased when 50 ug/ml of the sample was incubated at for 5 h. Then, LLC surface proteins were biotinylated to identify the binding proteins to acharan sulfate. The biotinylated cells were lysed and collections were fractionated on AS affinity column with a stepwise salt gradient (0, 0.1, 0.3, 0.5, 0.7, 1.0, and 2 M). Each fraction was analyzed by SDS-PAGE and Western blotting. The blots were stained with a horseradish peroxidase(HRP)-conjugated streptoavidin and o-phenylenediamine. We focused on the proteins eluted at 0.7M and 1M NaCl, of which the molecular weights are approximately 92,000 and 118,000 Da, respectively. We speculate that AS binds tumor cell surface proteins that are related to the inhibition of tumor growth.

[PC1-25] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Polyunsaturated fatty acids regulate APP metabolism.

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Polyunsaturated fatty acids (PUFAs) play many important physiological roles on cellular process through the regulations of intracellular signaling. Recent clinical studies suggest that PUFAs such as n-3 fatty acids (docosahexaenoic acid, 22:6 and a-lnolenic acid, 18:3) may reduce the risk of incident Alzheimer's disease (AD). And also the reports regarding the decrease of n-3 fatty acids in AD brain support the correlation between PUFAs and AD. AD is a neurodegenerative disorder with pathological hallmarks of amyloid plaques and neurofibrillary tangles. It is recognized that β-amyloid is closely associated with the etiology of AD. β-Amyloid and its co-metabolite APPβ are produced from amyloid precursor protein (APP) by the actions of β- and γ- secretase (amyloidogenic pathway). In addition, APP is also metabolized to p3 and APPα by the actions of α- and γ-secretase (non-amyloidogenic pathway). Here we tested whether different PUFAs (docosahexaenoic, palmitoleic, oleic, linoleic, linolenic, erucic, arachidonic, elaidic, nervonic and petroselinin acid) affect on APP metabolism using APP and β- secretase overexpressing HEK293 cells. The levels of sAPPα, sAPPβ, holo APP and β-secretase were measured and compared with each other.

[PC1-26] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Tyrosinase Inhibitory Prenylated Flavonoids from Sophora flavescens

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For the purpose of the development of a skin-whitening agent, Sophora flavescens was evaluated for tyrosinase inhibitory activity and its active principles were identified followed activity-guided isolation. The ethanol extract and dichloromethane fraction from S. flavescens showed significant inhibition of mushroom tyrosinase. From the dichloromethane fraction, three known prenylated flavonoids, sophoraflavanone G, kuraridin, and kurarinone, were isolated. Compared with kojic acid (IC_{50}=20.5 μM), these compounds possessed more potent tyrosinase inhibitory activity. The IC_{50} values were 6.6, 0.6, and 6.2 μM for sophoraflavanone G, kuraridin, and kurarinone, respectively.

[PC1-27] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Aromatic diamine JSH-21 inhibits LPS-induced NO production by targeting NF-kB

signaling

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Aromatic diamine JSH-21 showed an IC50 value of 9.2 uM with 74.5% inhibition at 30 uM, 53.5% at 10 uM and 24.5% at 3 uM on LPS-induced NO production in murine macrophages Raw 264.7. To examine whether inhibitory effect on NO production by JSH-21 was attributed to influence on iNOS expression, iNOS transcript and protein were analyzed by sequantitative RT-PCR and immunoblot analysis. Consistent with previous result on NO production, treatment of the Raw 264.7 cells with JSH-21 decreased the LPS-induced expression of iNOS transcript and protein in a dose-dependent manner with IC50 values of about 10 uM. However, JSH-21 at 30 uM showed only 39.6% inhibition on iNOS activity. To further investigate the mechanism responsible for the suppression of iNOS gene expression by JSH-21, we examined the effect of JSH-21 on LPS-induced activation of transcription factors. JSH-21 inhibited NF-kB, AP-1 or OCT-1 binding activity to DNA but not CREB or SP-1 binding activity. Furthermore, JSH-21 inhibited NF-kB transcriptional activity with an IC50 value of 9.1 uM. The aromatic amine JSH-21 seems to target the nuclear translocation of NF-kB without affecting IkB degradation.

[PC1-28] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

The effects of C. annuum L. var. angulosum Mill on cancer cell lines and each organ of the mouse

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Under the vigorous search for active novel agents for cancer prevention and treatment, some agents have been found from plants and animals which are easily available. Our review of literature on them revealed that C. annuum L. var. angulosum Mill had high antiproliferating effect on cancer cells. Thus we investigated the efficacy of C. annuum L. var. angulosum Mill on cancer cell lines and to examined its effect on the mouse to detect other side effect and mechnism by which the extrat of C. annuum L. var. angulosum Mill had the anti-cancer efficacy on cancer. We observed the morphologic change and aptosis 48hr after treatment with the extract of C. annuum L. var. angulosum Mill on MCF-7 mammary gland adenocarcinoma cells and Hepatoma cells. We also count cancer cells by trypan blue stain method and MTT method, respectively, to check the cytotoxicity. We also observed the change in hepatic enzyme, morphological changes of liver and spleen of mouse, and effect on lymphocytes of the mouse. Using MTT method we observed the anticancer effect of C. annuum L. var. angulosum Mill: 35.3%, 42.9% and 94.80% reduction in the number of cancer cells at 10ug/ml, 25ug/ml and 75ug/ml, respectively.It is more than 2 times as potent as 5-fluorouracil (5-FU). We also report the effect of C. annuum L. var. angulosum Mill on the mouse in terms of the change in hepatic enzyme, morphological change of liver and spleen of mouse, and effect on lymphocytes.

[PC1-29] [2003-10-10 09:00 - 13:00 / Grand Ballroom Pre-function]

Expression of $p21^{WAF1/Cip1}$ by TGF-β Requires ERK Signaling Pathway

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βAlthough it has been demonstrated that $p21^{WAF1/Cip1}$, a well known cell cycle inhibitor, could be induced by TGF-β in a p53-independent manner, the detailed signal transduction pathways still remain poorly understood. In this study, we show that ERK is required for TGF-β induction of $p21^{WAF1/Cip1}$, but JNK or p38 MAPK is not. ERK activation by TGF-β significantly attenuated by treatment with ROS scavenger such as NAC or catalase, indicating that ROS, mainly H_2O_2, generation by TGF-β might stimulate ERK signaling pathway to require the induction of $p21^{WAF1/Cip1}$. In support of this, treatment of cells with TGF-β caused the increase of intracellular ROS