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