

[PD2-41] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Evaluation of induction of quinone reductase activity by natural products in cultured murine hepatoma cells

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NAD(P)H:quinone reductase, known as DT-diaphorase, is a kind of detoxifying phase II metabolic enzyme catalyzing hydroquinone formation by two electron reduction pathway from quinone type compounds, and thus facilitating excretion of quinoids from human body. With the usefulness of this assay system for modulation of toxicants, in the course of searching for cancer chemopreventive agents from natural products, the methanolic extracts of approximately two hundreds of oriental medicines were primarily evaluated using the induction potential of quinone reductase activity in cultured Hepa1c1c7 cells. As a result, several extracts including *Hordeum vulgare*, *Momordica cochinchinensis*, *Strychnos ignatii*, *Houttuynia cordata*, *Polygala japonica*, and *Uncaria sinensis* were found to significantly induce quinone reductase activity. Further study for isolation of active principles from these lead extracts is warranted for the discovery of novel cancer chemopreventive agents.

[PD2-42] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Effect of Lithospermi Radix on apoptosis of transplanted-L1210 cells in mice

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Cellular death by apoptosis is an active process, depending on gene transcription and protein synthesis. It was reported that cytokines can induce apoptosis in several cancer cell-lines. We have previously observed that apoptosis of transplanted-L1210 cells in BALB/c mice were induced by the administration of methylenechloride fraction of Lithospermi Radix. In the present study, the mechanism on apoptosis of transplanted-L1210 cells was examined. The fraction enhanced the production of gamma-interferon and the subpopulation of CD4+ cells in splenic T-lymphocytes. These findings suggest that the fraction activates Th1 cells in splenic T-lymphocytes. The fraction enhanced the production of tumor necrosis factor-alpha and nitric oxide in peritoneal macrophage. The apoptosis of transplanted-L1210 cells was enhanced by co-culture of the peritoneal macrophages of GL-administered mice and L1210 cells in vitro, and was inhibited by L-NMMA. These results suggest that the apoptosis of transplanted-L1210 cells is partly induced via the production of TNF-alpha and nitric oxide in macrophages activated by gamma-interferon secreted from Th1 cells.

[PD2-43] [10/20/2000 (Fri) 11:30 - 12:30 / [Hall B]]

Kalopanaxsaponin A from Kalopanax pictus, a Potent Antioxidant in the Rheumatoidal Rat Induced by Freund's Complete Adjuvant Reagent

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