concentration of estradiol, however, the estrogenic action was occurred in the presence of low concentration of estradiol. We provided the evidence that GBE and its major components may have chemopreventive effect on breast cancer through antiestrogenic activity, antiproliferation and apoptosis.

[PA3-20] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

The altered Na^+, K^+-pump activity following the fumonisin exposure to LLC-PK1 cells

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Fumonisins are specific inhibitors of ceramide synthase in sphingolipid metabolism. Sphingolipids are biologically active lipid mediators in cellular physiology and involved in cell signaling, growth, transformation, angiogenesis and differentiation. The objective of this study was to determine the effect of fumonisin B1 on Na^+, K^+-pump activity when fumonisin B1 was exposed to LLC-PK1 cells. Fumonisin B1 elevated free sphingoid bases and their 1-phosphates, while total complex sphingolipids were depleted at 20μM fumonisin B1 during the 3 day exposure. The inhibition of ouabain-insensitive Na^+, K^+-pump activity was shown under the same culture condition as the sphingolipid alteration occurred. The results indicated that sphingolipid may be related to the regulation of ouabain-insensitive Na^+, K^+-pump activity. However, fumonisin B1 did not change the ouabain-sensitive Na^+, K^+-pump activity at all. Therefore, fumonisins may be a specific modulator for the action of ouabain-insensitive Na^+, K^+-ATPase in LLC-PK1 cells which leads to fumonisin-induced cytotoxicity and cell proliferation.

[PA3-21] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Antioxidative and antigenotoxic activity of vegetable and fruit extracts

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The ethanol extracts of mixed vegetables (Bioactive V, BV), mixed fruits (Bioactive F, BF) and its liquid formulation (Chungpae Plus®) were evaluated for their antioxidative and antigenotoxic activity. They were shown to possess the significant free radical scavenging effect against 1,1-diphenyl-2-picryl hydrazine (DPPH) radical generation and were revealed to show the inhibitory effect of lipid peroxidation as measured by malondialdehyde (MDA) formation. They were also found to strongly inhibit cigarette smoke condensate (CSC) or hydrogen peroxide-induced DNA damage from mammalian cells, assessed by single cell gel electrophoresis. Furthermore, oral administration of vegetables and fruits extracts inhibited micronucleated reticulocyte (MNRET) formation of mouse peripheral blood induced by CSC or $KBrO_3$ treatment in vivo. The liquid formulation under same experimental conditions also showed similar antigenotoxicity in vitro and in vivo. Therefore, the liquid formulation (Chungpae Plus®) containing BV and BF may be a useful natural antioxidative and antigenotoxic agent by scavenging free radicals, inhibition of lipid peroxidation and protecting DNA damage.

[PA3-22] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

An antithrombotic agent, NQ301, inhibits thromboxane A_2 synthase activity and blocks thromboxane A_2 receptor in rabbit platelets

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In the previous studies, we have reported that NQ301, a synthetic 1,4-naphthoquinone derivative, displayed a potent antithrombotic activity, and that this might be due to antiplatelet effect, which was mediated by inhibition