peroxidation and glutathione concentrations in rat liver. Male Sprague-Dawley rats were divided into two groups, one of which was fed a normal diet and the other a vitamin E-free diet. Each of these groups was divided further into three subgroups and treated with quercetin administered orally at either 2 or 20 mg/day or with vehicle for four weeks. The concentrations of α-tocopherol in serum and liver increased following quercetin treatment, and these increases were significantly greater in rats maintained on a vitamin E-free diet. Quercetin significantly decreased the concentration of malondialdehyde (an indicator of lipid peroxidation) in the liver and this decrease was more pronounced in vitamin E-deprived rats than in those maintained on a normal diet (55-60% and 25-35% decrease in malondialdehyde concentrations, respectively). Quercetin treatment decreased the glutathione concentrations and glutathione reductase activity (40 and 34%, respectively) in the liver significantly and to a similar extent in vitamin E-deprived and undeprived rats. Collectively, these results suggest that quercetin may act not only as an anti-oxidant, but also as a pro-oxidant in rats.

[PA1-44] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Suppression of RelA/p65 Transactivation Activity by a Lignoid Manassantin isolated from Saururus chinensis

Kim Kyung-Sook°, Lee Jeong-Hyung, Hwang Bang Yeon, Nam Jeong Beom, Lee Jung Joon
KRIBB and College of Pharmacy, Chungbuk National University

In our search for NF-kB inhibitors from natural resources, we have previously identified two structurally related dilignans, manassantin A and B as specific inhibitors of NF-kB activation from Saururus chinensis. However, their molecular mechanism of action remains unclear. We here demonstrate that manassantin A and B are potent inhibitors of NF-kB activation by the suppression of transciptional activity of RelA/p65 subunit of NF-kB. These compounds significantly inhibited the induced expression of NF-kB reporter gene by LPS or TNF-a in a dose-dependent manner. However, these compounds did not prevent the DNA-binding activity of NF-kB assessed by electrophoretic mobility shift assay as well as the induced-degradation of IkB-a protein by LPS or TNF-a. Further analysis revealed that manassantin A and B dose-dependently suppressed not only the induced NF-kB activation by overexpression of RelA/p65, but also transactivation activity of RelA/p65. Furthermore, treatment of cells with these compounds prevented the TNF-a-induced expression of anti-apoptotic NF-kB target genes Bfl-1/A1, a prosurvival Bcl-2 homologue, and resulted in sensitizing HT-1080 cells to TNF-a-induced cell death. Similarly, these compounds also suppressed the LPS-induced inducible nitric oxide synthase expression and nitric oxide production. Taken together, manassantin A and B could be valuable candidate for the intervention of NF-kB-dependent pathological condition such as inflammation and cancer.

[PA1-45] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Oxyresveratrol Derivative Compound DMPB Act as Potent Dipigment agent in Brown Guinea Pig Skin

Choi Sang Yoon°, Kim Sanghee, Hwang Jae Sung, Kim Hocheol, Kim Sun Yeou
Gradurate School of East-West Medical Science, Kyunghee University, Seoul 130-701, Korea, Natural Products Reserch Institute, Seoul Natioal University, Seoul 110-460, Korea, Skin Reserch Institute, Amore-Pacific Corp, Yongin 449-900. Korea

This study with the object of reported to depigment agent, oxyresveratrol derivative, compound DMPB . Compound DMPB with a two methoxy groups and modified connection chain. It was synthesized in accordance with a simple combination process. Compound DMPB exhibits depigmentaion ability on ultraviolet B-induced hyperpigmention of the brown guinea pig skin. In addition, this Compound exhibited 30% inhibitory effect of melanin generation without cell toxicity as a result of the treatment with 100 ppm in melan-a cells. Furthermore, we are conducted to evaluate the effects of compound DMPB on tyrosinase and dopachrome tautomerase activity and revelation for investigative the pathway of inhibit melanin production. The compound DMPB had no effect on the tyrosinase. But, it showed catalyzing effect of dopachrome transformation into 5,6-dihydroxyindole-2-carboxylic acid. Our result suggested that the pigment-lightening effects of the compound may