

C- γ 1 (PLC- γ 1) and Akt cascade were also inhibited by luteolin. Luteolin-7-glucoside showed weak inhibition of PDGF-R β , ERK1/2, PLC- γ 1 and Akt cascade. The anti-proliferative effect of luteolin was reduced by the presence of a glucose. Taken together, these results suggest that the inhibition of vascular smooth muscle cell proliferation by luteolin and luteolin-7-glucoside may be mediated mainly by inhibition of PDGF- β receptor, which leads to the inhibition of downstream such as ERK1/2, PLC- γ 1 and Akt cascade.

[PA3-3] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Determination of Sulfur Dioxide in Herb Drugs

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This study was carried out to investigate sulfur dioxide in herb drugs.(Puerariae Radix, Lycii Fructus, Platycodi Radix, Dioscoreae Rhizoma, Mori Radicis Cortex, Nelumbo Seed, Paeoniae Radix, Remotiflori Radix, Astragali Radix, Polygonatum Rhizome) Experimental subjects included 105 cases of 10 species of herb drugs collected in Kyung-dong market from December in 2001 to February in 2002. Sulfur dioxide was determined by Optimized Monier-Williams method. In 65 cases(61.9%) of the 105 cases, we detected SO₂ over 10mg/kg. Sulfites were detected in 10 cases(100.0%) of Dioscoreae Rhizoma, 10 cases(100.0%) of Paeoniae Radix, 8 cases(72.7%) of Mori Radicis Cortex, 7 cases(70.0%) of Platycodi Radix, and 7 cases(70.0%) of Polygonatum Rhizome. In domestic 29 cases of 60 cases(48.3) were detected over 10mg/kg. Otherwise, 36 cases(80.0%) were in imported samples.

[PA3-4] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Heat Shock Protein 60 Is a Mg²⁺-dependent, Membrane-associated and Neutral Sphingomyelinase That Mediates TNF-alpha Signaling

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The hydrolysis of sphingomyelin (SM), known as the SM pathway, is induced by the activation of sphingomyelinase (SMase) to generate the second messenger ceramide, which plays a key role in cellular responses such as apoptosis, differentiation, senescence, and inflammation. Here, we identified a 60 kDa membrane-associated, neutral and Mg²⁺-dependent SMase, termed N-SMase ϵ , from mammalian brains, which was revealed as the heat shock protein 60 (HSP60) through cDNA cloning and mass spectrometrical analysis. This finding was further confirmed by using anti-HSP60 antibodies. Hsp60 gene transfection of human neuroblastoma cells produced a significant increase in N-SMase activity as well as a increase in protein levels. And both Hsp60-antisense and siRNA reduced significantly SMase activity in HEK293 cells. Also Hsp60-siRNA block ceramide generation by serum deprivation in HEK293 cells. Immunoblotting analysis showed that N-SMase ϵ exists as a majority in brain and localizes in cortical neurons. TNF- α stably enhanced the enzyme activity up to ~2-fold with parallel up-regulation of N-SMase ϵ , biphasic increase in ceramide and concomitant apoptosis in cortical neuron cells. Thus, HSP60 as N-SMase ϵ mediates TNF- α -induced neuronal apoptosis through the production of ceramide.

[PA3-5] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Saponin isolated from Platycodon grandiflorum induces cell cycle arrest in hepatic stellate cells

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