

(EDG)1, EDG3, EDG5 and EDG8 receptor existed in cat esophageal smooth muscle. In conclusion, SIP induces the contraction of cat esophageal smooth muscle cells which mediated by EDG receptor(s) coupled to PTX-sensitive G-protein. PLC was involved in this contraction as well as PKC and p42/44 MAPK.

[PA1-9] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Sauchinone, a Lignan from *Saururus chinensis*, Suppresses iNOS Expression through the Inhibition of Transactivation Activity of RelA of NF- κ B

Jung Haeng Sun^o, Hwang Bang Yeon, Lee Jeong-Hyung, Hong Young Soo, Lee Jung Joon
KRIBB and College of Pharmacy, Chungbuk National University

Sauchinone, a known lignan, was isolated from the root of *Saururus chinensis* as an active principle responsible for inhibiting the production of NO in LPS-stimulated RAW264.7 cells by activity-guided fractionation. Sauchinone dose-dependently inhibited not only the production of NO, but also the expression of iNOS mRNA and protein in LPS-stimulated RAW 264.7 cells. Furthermore, sauchinone prevented LPS-induced NF- κ B activation, which is known to play a critical role in iNOS expression, assessed by a reporter assay under the control of NF- κ B. However, electrophoretic mobility shift assay (EMSA) demonstrated that sauchinone did not suppress the DNA-binding activity of NF- κ B or the degradation of I κ B- α induced by LPS. Further analysis revealed that transactivation activity of RelA subunit of NF- κ B was dose-dependently suppressed in the presence of sauchinone. Taken together, our results suggested that sauchinone could inhibit production of NO in LPS-stimulated RAW264.7 cells through the suppression of NF- κ B by inhibiting transactivation activity of RelA subunit.

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

Gallic acid Inhibits Platelet Aggregation by Arachidonic Acid Liberation and Tx A_2 Synthase Activity

Cho Mi-Ra^o, Lee Kyung-Sup, Lee Jung-Jin, Jin Yong-Ri, Son Dong-Ju, Yun Yeo-Pyo
Chungbuk National University, College of Pharmacy, Soonchunhyang University, College of Natural Science

We have previously reported that green tea catechins (GTC) displayed anti-thrombotic activity, and that this might be due to anti-platelet rather than anti-coagulation effects. In the present study, we have studied the anti-platelet activity and mechanism of gallic acid (GCG), which is a component of GTC. GCG inhibited the collagen- and U46619-induced aggregation of rabbit platelets, with IC₅₀ values of 63.0 and 48.3 μ M, respectively. GCG also inhibited collagen-induced serotonin release and Tx B_2 formation in a similar manner of platelets aggregation. GCG potently inhibited collagen- induced arachidonic acid liberation from membrane phospholipids and diacylglycerol release in a dose-dependent manner. Whereas, GCG had little effect on the level of PGD₂. Tx B_2 conversion from arachidonic acid and thromboxane A₂ synthase activity were significantly inhibited by GCG. GCG potently decreased the rise in [Ca²⁺]_i at a concentration of 200 μ M. Taken together, these observations suggest that the anti-platelet activity of GCG may be mainly due to inhibition of arachidonic acid liberation by Ca²⁺-dependent cPLA₂ through the inhibition of Ca²⁺ influx and of thromboxane A₂ synthase activity.

[PA1-11] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Pharmacological activities of *Dongchunghacho* strains

Won So Young^o, Koo Hye Jin, Jung Hyun Joo, Soh Ji hyun, Park Eun Hee
College of Pharmacy, Sookmyung Women's University

Dongchunghacho (*Dong-Chong-Xia-Cho* in Chinese) is one of entomogenous fungi that grow as parasites mainly to pupae or larvae. It includes many different genera such as *Cordyceps*, *Paecilomyces*, *Torrubiella* and *Podonectria*. The ethanolic extract of *Cordyceps scarabaeicola*, prepared from its fruiting bodies, showed significant inhibitory activity on angiogenesis, which was detected by chick embryo chorioallantoic membrane

(CAM) assay. The ethanolic extract of media-cultured *Paecilomyces japonica* also showed significant anti-angiogenic activity in CAM assay. The *Cordyceps militaris* extract was found to contain anti-inflammatory activity in the carrageenin-induced edema test, and cordycepin, a component of *C. militaris* also showed anti-inflammatory activity in the same test. The *C. militaris* extract was shown to contain antioxidant activity, which was able to scavenge the stable free radical DPPH.

[PA1-12] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

(-) 3,5-Dicaffeoyl-muco-quinic acid isolated from *Aster scaber* contributes to the differentiation of PC12 cells: through tyrosine kinase cascade signaling

Hur Jinyoung^o, Lee pyeongjae, Kim Hocheol, Kang Insug, Lee Kanglo, Kim Sun Yeou

Kyunghee University, School of East West medical Science Herbal pharmacology, , National Institute of Agricultural Science & Technology, Department of Sericulture and Entomology, Kyunghee University, School of East West Medical science, Herbal pharmacology, Kyunghee University, school of medicine, Department of biochemistry, SungKyunKwan University, college of pharmacy, Kyunghee university, School of East-West medical science, Herbal pharmacology

Aster scaber T. (Asteraceae) has been used in traditional Korean and Chinese medicine to treat bruises, snakebites, headaches and dizziness. (-) 3,5-Dicaffeoyl-muco-quinic acid (DQ) isolated from *Aster scaber* induced neurite outgrowth in PC12 cells. It has been reported that the activation of the extracellular signal regulated kinase1/2 (Erk 1/2) and phosphoinositide 3 (PI3) kinase plays a crucial role in the NGF-induced differentiation of PC12 cells. This study showed that the effect of DQ on neurite outgrowth is mediated via the Erk 1/2 and PI3 kinase-dependent pathways like NGF. Furthermore, DQ stimulated the phosphorylation of Trk A. Overall, DQ elicited the differentiation of PC12 cells through Trk A phosphorylation followed by Erk1/2 and PI3 kinase activation.

[PA1-13] [2003-10-10 14:00 - 17:30 / Grand Ballroom Pre-function]

Minocycline Directly Blocks Activation of Caspases After Oxidative Stress in PC12 Cells

Choi Yukeum^o, Kim Gab Seok, Han Byung Hee

College of Pharmacy, Seoul National University

Minocycline is known to protect neurons from microglia-mediated cell death in many experimental models of brain diseases including ischemic stroke, Huntington's disease (HD), amyotrophic lateral sclerosis (ALS), traumatic brain injury, multiple sclerosis, and Parkinson's disease. Activation of caspase-2, 3, 8, and 9 was evident within 2–8 hr following oxidative insult with 0.5 mM hydrogen peroxide in PC12 cells. Minocycline significantly attenuated activation of these caspases up to 18 hr, resulting a significant increase in cell viability as assessed by MTT assay. However, caspase-3-independent cell death or necrosis still appeared to occur in the presence of minocycline since calpain activation was not affected by minocycline. Moreover, co-treatment with minocycline and calpain inhibitors synergistically inhibited hydrogen peroxide-induced cell death. These data suggest that minocycline directly inhibited apoptosis, but not necrosis, after oxidative insult in PC12 cells

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

Effects of Anonaine on Dopamine Biosynthesis in PC12 Cells.

Jin Chun Mei^o, Lee Jae Joon¹, Kim Yu Mi¹, Yang Yoo Jung¹, Kang Min Hee¹, Rhu Shi Yong², Lee Myung Kool¹
College of Pharmacy, Chungbuk National University, 2KRICT

The effects of anonaine, an aporphine isoquinoline alkaloid, on dopamine biosynthesis and L-DOPA-induced neurotoxicity in PC12 cells were investigated. Treatment of PC12 cells with 0.05 μ M anonaine showed a significant inhibition of dopamine content. The IC₅₀ value of anonaine was 0.05 μ M. Under the same conditions,