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Liriope platyphylla (LP) Wang et Tang has been used for tonic, anti-tussive and expectorant in Korea. In the current study, we found that buthanol fraction of Liriope platyphylla-conditioned media of C6 and primary astrocyte induced the neurite outgrowth of PC 12 cells, which effect was reversed by addition of NGF-antibody. We demonstrated that buthanol fraction of Liriope platyphylla increased the expression and secretion of NGF through RT-PCR and ELISA. Taken together, our results suggested that NGF enhanced by buthanol fraction of Liriope platyphylla was responsible for induction of neurite outgrowth of PC 12 cells. We also investigated the effect of this extract on the phosphorylation of MAPkinase (Erk1/2), which plays a crucial role in the survival and differentiation of neurons. Buthanol fraction of LP increased MAP kinase activity in PC12 cells, and probably activated MAP kinase signal pathway to cause neurite outgrowth. These neurotrophic effects on PC12 cells were inhibited by PD98059, which blocks NGF action by inhibition of MAP kinase cascade. These result suggest that buthanol fraction of LP may have neurotrophic like action as well as neurotrophic inducers by activation of Trk tyrosine kinase downstream.

[PA1-23] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Regulatory Effect of Atopic Allergic Reaction by *Sargassum hemiphylum*

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We studied the effect of methanol extract of *Sargassum hemiphylum*(SH) on atopic allergic reaction. SH dose-dependently inhibited interleukin (IL)-8 and tumor necrosis factor (TNF)-α secretion from the PMA- plus A23187- stimulated HMC-1. SH also dose-dependently inhibited the histamine andβ-hexosaminidase release from mast cells. In addition, SH (0.1 mg/ml) decreased NF-κB activation (about 7 fold) compared with untreated 293 T cells. SH had no cytotoxic effect. These results suggest that SH has the inhibitory effect of atopic allergic reaction and this might be useful for clinical application to treat several allergic diseases such as atopic dermatitis.

[PA1-24] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Inhibitory Effect of Rat Aortic Vascular Smooth Muscle Cell Proliferation by Luteolin

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It was previously reported that luteolin, a flavone compound, displayed the potent anti-oxidant and anti-inflammatory effects, which have also been successful in reducing vascular smooth muscle cells(VSMCs) proliferation after arterial injury. Proliferation of VSMCs plays an important role in development of atherosclerosis. In this study, a possible anti-proliferative effect and its

mechanism on rat aortic VSMCs by luteolin was investigated. Luteolin significantly inhibited the platelet-derived growth factor(PDGF)-BB-induced proliferation of rat aortic VSMCs in a concentration-dependent manner evaluated by cell count and [3H]-thymidine incorporation assay. Luteolin did not show any cellular toxicity or apoptosis as determined by flow cytometric analysis and MTT assay at the concentration used in this study. Luteolin showed an arrest of PDGF-BB-induced VSMC cycle progression by flow cytometry. In order to elucidate the anti-proliferative mechanism, we examined the effects of luteolin on the PDGF-BB-induced activation of PDGF-β receptor(PDGF-Rβ) by western blot in cultured VSMCs. Pre-treatment of VSMCs with luteolin resulted in a significant inhibition of the PDGF-BB-induced phosphorylation of PDGF-Rβ. Downstream of PDGF-Rβ such as extracellular signal-regulated kinase 1/2 (ERK1/2), phospholipase C-γ1 (PLC-γ1) and Akt cascade were also inhibited by luteolin. Taken together, these results suggest that the inhibition of vascular smooth muscle cell proliferation by luteolin may be mediated mainly by inhibition of PDGF-β receptor, which leads to the inhibition of downstream such as ERK1/2, PLC-γ1 and Akt cascade.

[PA1-25] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

ROLES OF HUMAN LIVER CYTOCHROMES P450 3A4 AND 1A2 IN THE OXIDATION OF MYRISTICIN

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Myristicin, 1-allyl-3,4-methylenedioxy-5-methoxybenzene, is a naturally occurring alkenylbenzene compound. It is found in nutmag, mace, parsley, carrot, black pepper, many natural oils, and flavoring agents. The aim of this work was to identify the form(s) of human liver cytochrome P450 (P450) involved in the hepatic transformation of myristicin to its major metabolite, 5-allyl-1-methoxy-2,3-dihydroxybenzene (M1). When several human liver microsomes were compared, the M1 formation activity was well correlated (r=0.87) with nifedipine oxidation (a marker of P4503A4). When a microsomal sample having high P4503A4 activity was used, microsomal oxidation of myristicin to M1 was markedly inhibited by ketoconazole, a selective inhibitor of P4503A enzymes, but not by any of several other P450 inhibitors. Antibodies raised against P4503A4 could also inhibit most of the myristicin oxidation, but antibodies recognizing other P450s had no effect. The oxidation of myristicin to M1 was catalyzed by purified recombinant P4503A4 and P4501A2. These results provide evidence that P450s 3A(4) and P4501A2 play in the formation of major metabolite, M1. [supported by grant No. R01-2001-00209 from the Korea Science & Engineering Foundation].

[PA1-26] [04/17/2003 (Thr) 14:00 - 17:00 / Hall P]

Antiplatelet Constituent Isolated from Thujopsis dolabrata var. hondai

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The steam distillate obtained from sawdust of *Thujopsis dolabrata* var. *hondai* was fractionated by centrifugal thin-film evaporation, and then the fractions were investigated against antiplatelet