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In the previous studies, we confirmed the anti-inflammatory components of *Kalopanax pictus* bark using activity-guided fractionation in vivo. For the elucidation of anti-inflammatory mechanism, we evaluated the effects of these components on the inhibition of NF- κ B activity and human leukocyte elastase. A cell-based assay system developed in our laboratory⁽¹⁾ was used in transfectant RAW 264.7 cells. We found that kalopanaxaponin A and I showed potent inhibition of NF- κ B activity at doses of 1 ~ 2.5 μ g/mL and 2.5 ~ 5 μ g/mL, respectively. Of the compounds tested, kalopanaxaponin A showed the most potent inhibition of elastase activity.

(1) Moon KY, Hahn BS, Lee JS, Kim YS. (2001) Anal. Biochem. 292, 17-21.

[PA1-35] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Ircinin-1 from the Sponge *Sarcotragus Species* Induces of Cell Proliferation and Apoptosis in the Human Skin Cancer Cells

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We investigated the anti-proliferative effects of a new compound, ircinin-1, from the sponge *Sarcotragus sp.* on SK-MEL-2 human skin cancer cells. From the data of MTT assay, cell viability was decreased by ircinin-1 in a dose-dependent manner. We observed that the anti-proliferative effect of ircinin-1 was due to the induction of apoptosis, which was confirmed by observing the morphological changes, the increased ratio of pro-apoptotic protein Bax to anti-apoptotic protein Bcl-2, and cleavage of poly(ADP-ribose) polymerase protein, via activation of caspase-3. The expressions of Fas and Fas-L also increased. Hence, these results suggest that the newly isolated ircinin-1 is capable of inhibiting cell proliferation and inducing apoptosis in human skin cancer cells.

[PA1-36] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Inhibitory Effect of Luteolin on TNF- α -Stimulated IL-8 Secretion from Intestinal Epithelial Cells

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Intestinal epithelial cells can produce cytokines and chemokines that play an important role in the mucosal immune response. Regulation of this secretion is important to prevent inflammatory tissue damage. *Lonicera japonica* have been shown to inhibit inflammation. We tested the effect of luteolin, a major ingredient of *Lonicera japonica*, on TNF- α -stimulated IL-8 secretion from Intestinal epithelial

cells. TNF- α -stimulated IL-8 secretion and mRNA expression were assessed in HT29 intestinal cell line in the presence of luteolin (1-100 μ M). Luteolin suppressed TNF- α -induced IL-8 secretion and mRNA expression in dose-dependent manner. Furthermore, activation of p38 and ERK mitogen-activated protein kinase was inhibited by luteolin. These results suggest that luteolin inhibited TNF- α -stimulated IL-8 secretion by blocking phosphorylation of both p38 and ERK pathway.

[PA1-37] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Selective B cell activation by polysaccharide isolated from the root of *Acanthopanax koreanum*

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Many polysaccharides isolated from plants have been shown to enhance various immune responses in vivo and in vitro. Here we demonstrate that polysaccharide isolated from the root of *Acanthopanax koreanum* (AK) has a unique mode of immunostimulation with regard to its cell-type specificity. AK was found to markedly increase polyclonal IgM antibody production and the proliferation of B cells. However, AK did not affect the proliferation of T cells, the IL-2 and IFN- γ expression of Th1 cells, or the IL-4 expression of Th2 cells. AK also did not increase iNOS transcription and NO production in macrophages. AK activity was not affected by polymyxin B, a specific inhibitor of LPS, suggesting that AK had different mode of action from LPS. AK activity in B cells from C3H/HeJ, known to have a defective TLR4, was decreased in comparison with that in control B cells from C3H/HeN mice. Anti-TLR2, anti-TLR4, anti-CD19 and anti-CD79b, but not anti-CD38, antibodies blocked B cell proliferation, indicating the possible cellular binding sites of AK. AK-induced B cell proliferation was significantly inhibited by PTK inhibitor genistein, PI3K inhibitor wortmannin, and p38 inhibitor SB203580, but not by MEK-1 inhibitor PD98059. In conclusion, our results demonstrate that AK, plant-derived polysaccharide, has a distinct mode of action in that it selectively activated B.

[PA1-38] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]

Protective effect of metabolized Yangguksanwha-tang on Hypoxia/Reperfusion induced-PC12 cell damage

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This research was performed to investigate the protective effect of Yangguksanwha-tang(YST) against ischemic damage in PC 12 cells. To elucidate the mechanism of the protective effect of YST on ischemic insult, cell viability and changes in activities of Superoxide dismutase, Glutathione Peroxidase, Catalase, capase 3 and the production of Malondialdehyde were observed after treating PC12 cells with YST which was metabolized by rat liver homogenate. Pretreatment of YST with liver homogenate increased its protective effect against ischemic insult by reducing the harmful effect of YST itself. The result showed that YST had the highest protective effect against hypoxia/reperfusion at the dose of 2 μ g/ml in PC12 cells, probably by recovering the redox enzyme activities and MDA to control level. (Supported by HMP 01-PJ9-PG1-01CO03-0003 and BK21 project, Korea)

[PA1-39] [10/18/2002 (Fri) 09:30 - 12:30 / Hall C]