pretreatment of PD98059, a specific inhibitor of MEK (kinase immediately upstream of ERK) prevented 15-deoxy-PGJ2-induced increasing expression of phosphorylated ERK. This inhibitory effect correlated well with the inhibition of apoptosis-associated gene expression and apoptosis. These results suggest that PPAR-γ ligand, 15-deoxy-PGJ2 induce apoptosis of neuroblastoma cells through ERK pathway.

[PB3-10] [04/19/2002 (Fri) 10:00 - 13:00 / Hall E]

PEROXISOME PROLIFERATOR ACTIVATED RECEPTOR GAMMA AGONIST 15-DEOXY-PROSTAGLANDIN J2 STIMULATES DIFFERENTIATION OF EMBRYONIC MIDBRAIN CELLS

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15-deoxy-Δ12,14-prostaglandin J2 (15-deoxy PGJ2), a cyclopentenone prostaglandin has various biological activities including anti-viral and anti-inflammatory activities. It has also been demonstrated that 15-deoxy PGJ2 induces differentiation of several cells such as adipocytes and macrophages. Moreover, PPAR-gamma antagonist inhibited cell differentiation of adipocyte. Recent study shows that PPAR-γ is expressed in certain central nervous system neuron. Our studies showed that 15-deoxy-PGJ2 stimulated differentiation of a dopaminergic differentiating pheochromocytoma 12 (PC-12) cells. The present study was therefore designated to determine whether 15-deoxy PGJ2 could stimulate the differentiation of *undifferentiated embryonic midbrain cell to dopaminergic midbrain neurons. Undifferentiated embryonic* midbrain cells were isolated from gestation 12-day embryos and were cultured with 15-deoxy PGJ2. 15-Deoxy PGJ2 stimulates neurite extension (a marker of cell differentiation) of embryonic midbrain cell with concomitant increase of the expression of neurofilament and PPAR-γ expression. The expression of neurofilament and PPAR-γ in the adult brain (post 13 day of brain) was much higher than in the midbrain of 12 or 17-day gestation embryos. This result shows that activation (expression) of PPAR-gamma could be involved in the neuronal cell differentiation.

Poster Presentations - Field B4. Immunology

[PB4-1] [04/18/2002 (Thr) 14:00 - 17:00 / Hall E]

Augmentation of cytokine production in murine macrophage cell line, RAW 264.7 by of Korean Propolis

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Monocytes and macrophages play a major role in defense mechanism of the host response to tumor, in part through the secretion of several potent products and macrophage cytokines. Monocytes and tissue macrophages produce at least two groups of protein mediators of inflammation, interleukin 1 (IL-1) and tumor necrosis factor (TNF). Recent studies emphasizes that TNF and IL-1 modulate the inflammatory function of endothelial cells, leukocytes, and fibroblasts. In this study, our work is directed toward studying the in vitro effects of Korean propolis on the ability to induce celluar and secretory responses in murine macrophage cell line, RAW 264.7. The production of the macrophage cytokines, IL-1 and TNF-α, by RAW 264.7 treated with Water Extract of proplis (WEP) was examined from 2.5 mg/ml up to 25 mg/ml with dose dependent manner. Nitric oxide (NO) production was also observed. Significantly, more NO was produced