P-57

15-DEOXY-$\Delta^{12,14}$-PROSTAGLANDIN J_2, A LIGAND FOR EROXISOME PROLIFERATOR-ACTIVATED RECEPTOR-γ INDUCES APOPTOSIS IN NEUROBLASTOMA CELLS

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Peroxisome proliferator-activated receptors(PPARs) are member of the neuclear hormone receptor superfamiliy of ligand-dependent transcription factors that heterodimerizes with the retinoid X receptor to function as a transcriptional regulator. They are divided into three subtypes(PPAR-α, β and γ)

PPAR-γ natural ligand , 15-deoxy-$\Delta^{12,14}$-prostaglandin J_2(PGJ_2) , has been reported to stimulate adipocyte and tumor cell differentiation and inhibition the growth and/or induce apoptosis of breast, prostate, lung cancer cells, but not yet neuroblastoma cells(SK-N-MC and SK-N-SH is the second most common soild malignacy of childhood). Here we suggested that PPAR-γ ligands, PGJ_2 inhibit the cell growth by inducing apoptosis on neuroblastoma cells.

In this study, we demonstrated that PPAR-γ but not PPAR-α was expressed in neuroblastoma cells by western blot analysis. We also found that the effects of PGJ_2, inhibition the growth of neuroblastoma cells through the induction of apoptosis by MTT(cell viability assay) assay, used hematocytometer cell count, and measured flow cytometry.

These results suggest that PPAR-γ ligands, PGJ_2, may play an important role in the neuroblastoma cell lines, inhibition of cell growth and induction of apoptosis in these cells, and that PPAR-γ agonists(PGJ_2) may be useful theraputic agents in the treatments of neuroblastoma cells.