

APIGENIN AFFECTS THE LIPID PROTEIN PHOSPHATASE ACTIVITY AND
EXPRESSION OF PRO-INFLAMMATORY MEDIATOR IN LEUKEMIC CELLS

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Induction of apoptosis and differentiation are two promising cancer prevention and therapy strategies. We have previously observed that apigenin promoted apoptosis of leukemic cells. The aim of this work was to evaluate the effect of apigenin on PTEN activity, a lipid phosphatase that antagonizes the PI3K function, as well as the expression of the nuclear factor κ B (NF κ B). For this purpose, human myeloid leukemia cells (K562 cells) were used as a model for studying apoptosis and cell differentiation induction. The K562 cells were treated with apigenin for 10, 30 and 50 μ M during 72hs. We observed that the PTEN activity increased in the cells treated with 50 μ M apigenin. Furthermore, apigenin caused upregulation of NF κ B, an important inflammatory mediator, involved in survival and apoptosis signal transduction. Our results suggest a pivotal role for apigenin as an anti-leukemic agent, inhibiting the PI3K/AKT survival pathway (through activation of PTEN) and inducing apoptosis (through the involvement of NF κ B).

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