

OPE7) Inhibitory Effect of Kaempferol on Apoptosis Induced by Phorbol Ester via the Reduction of ROS in Normal Human Dermal Fibroblast

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Abstract

Kaempferol (3,4',5,7-tetrahydroxyflavone), a flavonoid found in beans, broccoli, garlic, etc., has been used in natural medicine as an anti-inflammatory and antioxidant. This experiment was carried out to evaluate the anti-apoptotic effect of kaempferol in 12-O-tetradecanoylphorbol 13-acetate (TPA)-treated Normal Human Dermal Fibroblast (NHDF). Kaempferol inhibited the production of intracellular Reactive Oxygen Species (ROS) induced by TPA in NHDF. Kaempferol significantly blocks the phosphorylation of extracellular signal-regulated kinase responsible for the activation of nuclear factor-kappa B. In addition, kaempferol significantly attenuated the expression of Bax and cleaved caspase-3 as regulated by the phosphorylation of nuclear factor-kappa B during its blockage of TPA-induced apoptotic cell death. These findings suggest that kaempferol protects the apoptotic signaling pathway induced by TPA through modulating intracellular ROS in NHDF.

Key words : 12-O-tetradecanoylphorbol 13-acetate, Apoptosis, Kaempferol