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**Anti-proliferative Effect of Resveratrol in Human Prostate Carcinoma Cells**

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Resveratrol, a polyphenolic phytoalexin found in grapes, may have the potential for prevention and therapy for human cancer. The aim of the present study was to further elucidate the possible mechanisms by which resveratrol exerts its antiproliferative action in cultured Human prostate carcinoma cells. Resveratrol treatment of DU145 cells resulted in a dose-dependent inhibition of cell growth and induces apoptotic cell death. The anti-proliferative effect of resveratrol was associated with the inhibition of D-type cyclins and cyclin dependent kinase (Cdk) 4 expression, and the induction of tumor suppressor p53 and Cdk inhibitor p21. Moreover, the kinase activities of cyclin E and Cdk2 were inhibited by resveratrol without the alteration of their protein levels. Resveratrol treatment also up-regulated the Bax protein and mRNA in a concentration dependent manner, however Bcl-2 and Bcl-xL levels were not significantly affected. These effects were found to correlate with an activation of caspase-3 and caspase-9. Taken together, our study suggests that resveratrol has strong potential for development as an agent for prevention against human prostate cancer.

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**Protective Effect against Oxidative Stress in Bovine Brain Tissue and Ascorbate/Cu<sup>2+</sup> on Activity of Zn<sup>2+</sup>-GPC Cholinephosphodiesterase by Some Medicinal Plant Extracts**

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The effect of various medicinal plants extracts commonly consumed by Koreans. About thirty plant ethanol extracts (2 mg/mL), effective to prevent lipid peroxidation, expressed a remarkable protection against oxidative inactivation of Zn<sup>2+</sup>-GPC cholinephosphodiesterase, one of brain membrane-bound proteins. Among the plants screened, the antioxidant effect of *Scutellaria baicalensis gedragi*, *Phellodendrom amurense*, *Zanthoxylum piperitum* DC, *Paeonia lactiflora pallas* and *Ginko Folium* (*Ginko biloba linne*) effectively prevented the decrease the lipid peroxidation (50% to 80%). The protective effect was examined in bovine brain membrane, followed by *Pinnus dendiflorasieb et. zucc*, *Schizandra chinensis baillon*, *Acanthopanax cortex* (Siberian ginseng), *Acorus gamineus Poria cocus wolf* (30% to 50%) and that of *Citrus unshiu Markovich*, *Carthamus tinctorius*, *Chrysanthemum morifolium Ramatuelle*, *Astragalus membranaceus*, *Ganoderma lucidum Karsten* (*Platydcodon granddiflorum* A. DC. and *Ralpipanax pictum* (7% to 29 %). Each cereal, seed and soybean extracts on the lipid peroxidation of brain membrane, *Pisum sativum* L (99%) was the greatest protective effects, followed by *Juglans regia* L. (71%), *Glycine max.* M (58%), *Juglans sinensis* D (57%), *Glycine max.* M (Glycine soya), *Sesamum indicum* L. and *Camellia sinensis* (Teas) also have a high potency antioxidant effects (74%). These results imply that medicinal plants have a capability of protecting oxidative stress, and the antioxidant effect may be possibly ascribed to purified compound as well as complex compounds of synergy effects in these extracts. Moreover, Further study on identification of antioxidant compounds or standard compound in those medicinal plant extracts might contribute to the design of presentive antioxidants for neurodegenerative disease patients.