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Antioxidative Effects of Pycnogenol[®] on Carbon Tetrachloride-Induced Rats

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Antioxidative potentials of Pycnogenol[®] (PYC) were investigated *in vivo*. Rats were divided into four groups (six rats each); i) control group, ii) CCl₄ treated group, iii) CCl₄ & PYC (10 mg/kg) treated group, and iv) CCl₄ & PYC (20 mg/kg) treat group. Antioxidative status was assessed 24 hrs after the CCl₄ treatment by measuring hepatic malondialdehyde (MDA) and glutathione (GSH) concentrations, and catalase, superoxide dismutase (SOD) and glutathione-S-transferase (GST) activities. The single oral dose of CCl₄ revealed the increased MDA concentration and the decreased GSH, catalase, SOD, and GST in the hepatic tissues. However, pretreatment of PYC contributed to no change in MDA and GSH levels, and catalase, SOD and GST activities in hepatic tissues by the CCl₄ administration. Based upon these results, the PYC possessed the protective effects against CCl₄-induced oxidative stress in rats.

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Protective Effects of Epigallocatechin Gallate on tetrahydropapaveroline-Induced Apoptosis in Rat PC12 cells

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Tetrahydropapaveroline (THP), dopamine-derived tetrahydroisoquinoline catechol, is formed in Parkinsonian patients receiving oral L-DOPA therapy and is detected in the plasma and urine of these patients. In this study, the protective effects of EGCG on THP-induced oxidative cell death in cultured rat adrenal pheochromocytoma, PC12 cells, were investigated. Exposure of PC12 cells up to 10 μ M THP after 24 h or 48 h, neither affected the cell viability determined by MTT assay, nor induced apoptosis by flow cytometry, DNA fragmentation and TUNEL technique. However, at concentrations higher than 15 μ M, THP showed cytotoxicity through an apoptotic process. In addition, THP produced a significant increase intracellular reactive oxygen species (ROS) generation and decreased in ATP and glutathione