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Carvacrol protects against 6-OHDA toxicity in a PC12 inducible cell model for Parkinsonism**Mahboubeh Manouchehrabadi¹, Torkaman-Boutorabi A² and Farhadi M¹**¹Islamic Azad University, Iran²Tehran University of Medical Sciences, Iran

Parkinson's Disease (PD) is a progressive neurodegenerative movement disorder characterized by selective loss of dopaminergic neurons and the presence of Lewy bodies. Treatment for PD that prevents neuronal death in the dopaminergic system and abnormal protein deposition in the brain is not yet available. Evidence from human and animal studies has suggested that oxidative damage critically contributes to neuronal loss in PD. This study aimed to evaluate the potential neuroprotective effects of carvacrol on PC12 cells treated with 6-OHDA, a cellular model of Parkinson's disease. Carvacrol, a naturally occurring monoterpenic phenol and food additive, has been shown to have antimicrobials, antitumor, neuroprotective and antidepressant like activities. We found that carvacrol protect against 6-OHDA induced cell death in a dose-dependent manner. Neuroprotection was found to coincide with increasing cell viability and reductions in intracellular reactive oxygen species and lipid peroxidation. This study demonstrates that carvacrol protected against 6-OHDA induced cell death via inhibition of oxidative stress, suggesting that carvacrol may be a candidate neuroprotective agent for 6-OHDA induced Parkinsonism and possibly for other genetic or sporadic forms of PD.

Biography

Mahboubeh Manouchehrabadi is currently pursuing MSc in Developmental Biology from Islamic Azad University of Karaj, Iran. She is expert in experimenting *in vitro* and *in vivo* models of Parkinson's disease.

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