

## Abstract

Ethanol is a principle ingredient of alcoholic beverages with potential neuronal-genotoxicity and associated neuronal oxidative DNA damage. Neurodegeneration in the Central Nervous System and neurocognitive deficits is well documented. Chronic consumption of alcohol is associated with disturbances of mnemonic functions and behavioral deficit. DNA-damaging molecules such as Reactive Oxygen Species (ROS), lipid peroxidation product malondialdehyde (MDA) and acetaldehyde are potent genotoxic agents. Combined application of Quercetin and Coenzyme Q10 ameliorated the neurotoxicity by significantly reducing the potential biomarkers of oxidative stress augmenting neurotransmitter and cellular DNA also ATP contents. These results suggest that combined application of Quercetin and Coenzyme Q10 will be beneficial in the prevention of neurodegeneration and cognitive deficits associated with alcoholism. Hence, these therapeutic interventions could have a clinical implication associated with alcoholism. The combined applications of Quercetin and Coenzyme Q10 acts as a powerful neuroprotective agent against free radicals formation, oxidative stress and neuronal cell death.