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Neuroprotective effect of tectoridin in SH-SY5Y cells with oxidative stress and transient global ischemia model in gerbil

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Oxidative stress is regarded as the main reason of neurotoxicity that is related to the cerebral ischemia. The potent neuroprotective effect of tectoridin that was acquired from *Belamcanda chinensis* was evaluated in human neuroblastoma SH-SY5Y cells against oxidative stress and transient global ischemia in gerbils. SH-SY5Y cells with induction of cell death by SNP were accessed using such as the cytotoxicity by the assay of MTT, 3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide and the cell death by staining of DAPI, 4, 6-diamidine-2-phenylindole, depending on tectoridin. And gerbils with the cerebral ischemia for 5 min were treated by injection of tectoridin at the dose of 30mg/kg(i.p) and sacrificed 5 days after ischemic insult followed by evaluating hippocampus CA1 sector with immunohistochemistry and western blotting. Tectoridin showed the important protection of SH-SY5Y cells induced with oxidative stress of SNP. Moreover, the neuronal loss of the hippocampus CA1 region in gerbils with induction of the cerebral ischemia was rescued by tectoridin. These results show that tectoridin plays an important role in the neuroprotective effect against oxidative stress induced SH-SY5Y cells and the transient global ischemia in gerbils.

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