PA-11

Estrogen Regulate Neuroprotection and PDI Gene Expression in Ischemic Rat Brain

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Neuroprotective strategies have been appeared to be effective in a variety of stroke models. One of the major focuses has been related to the activities of estrogen. 17β-estradiol valerate(EV) hasbeen reported to exert neuroprotective effects when administered before an ischemic insult. The purpose of this study was to determine whether EV can protect against brain injury via estrogen receptor. Chronic and acute pretreatment can reduce the ischemic damage of focal cerebral ischemia in OVX rat, indicating that EV may be a new therapeutic class of drugs to prevent neuronal damage associated with cerebral ischemia. RNAs were extracted from the hippocampus of ovariectomized female rat with or without EV. Differential gene expression profiles were revealed(Bone morphogenetic protein type 1A receptor, Protein disulphide isomerase, cytochrome bc-1 complex core P, thiol-specific antioxidant protein). RT-PCR and *in situ* hybridization were used to validate the relative expression pattern obtained by the cDNA array. This Study was supported by the Korea Science and Engineering Foundation(KOSEF) through the Biohealth Products Research Center(BPRC), Inje University, Korea.

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