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论文

左旋黄皮酰胺对冈田酸和β淀粉样肽$_{25-35}$神经毒性的保护作用

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摘要：

探讨左旋黄皮酰胺对冈田酸(okadaic acid，OA)诱导的人神经瘤细胞(SH-SY5Y)和去卵巢(ovariectomy，OVX)及单侧侧脑室注射Aβ_{25-35}所致神经元损伤的保护作用。通过MTT试验、LDH释放测定试验、Hoechst 33258荧光染色试验以及SH-SY5Y细胞检测，考察左旋黄皮酰胺拮抗冈田酸诱导的细胞毒作用。通过避暗试验、电镜检测、Nissl体染色及HE染色，考察左旋黄皮酰胺对去卵巢及侧脑室注射Aβ_{25-35}大鼠神经元的保护作用。左旋黄皮酰胺可明显拮抗冈田酸诱导的细胞毒作用，提高去卵巢及侧脑室注射Aβ_{25-35}大鼠的学习记忆能力，保护海马及皮层神经元。左旋黄皮酰胺可拮抗冈田酸及Aβ_{25-35}诱导的神经毒性，具有神经保护作用。

关键词： 左旋黄皮酰胺 阿尔茨海默病 冈田酸 β淀粉样肽$_{25-35}$ 神经保护作用

Protective effect of (-)clausenamide against neurotoxicity induced by okadaic acid and β-amyloid peptide25-35

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Abstract:

This study is to investigate the protective effect of (-)clausenamide against the neurotoxicity of okadaic acid in SH-SY5Y cell line, and injection β-amyloid peptide$_{25-35}$ (Aβ_{25-35}) to the cerebral ventricle in ovariectomy (OVX) rats. MTT assay, LDH assay, and Hoechst 33258 staining were used to detect the effect of (-) clausenamide on the toxicity of okadaic acid in SH-SY5Y cell line. The animal model was induced by ovariectomized and injection of Aβ_{25-35} in the cerebroventricle of rats. The effect of (-)clausenamide on learning and memory deficiency was observed by step-through test. Electron microscope, Nissl body staining, and HE staining were used to examine the morphological changes in hippocampus and cerebral cortex neurons. Pretreatment of (-)clausenamide and LiCl decreased the rate of cell death from MTT, LDH release, and apoptosis from Hoechst 33258 staining in SH-SY5Y cell line. The step-through tests showed (-)clausenamide could improve the ability of learning and memory. The Nissl body staining and HE staining experiments also showed the neuroprotective effects of (-)clausenamide on the neurons of hippocampus and cerebral cortex. (-)Clausenamide has the protective effects against the neurotoxicity induced by okadaic acid and Aβ .

Keywords: Alzheimer's disease okadaic acid β-amyloid peptide$_{25-35}$ neuroprotective effect (-) clausenamide

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