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论文

人参皂苷Rb1、Re对Aβ_{25-35}诱导SK-N-SH细胞损伤的保护作用

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摘要：

目的 观察人参皂苷Rb1和Re对Aβ25-35诱导损伤SK-N-SH细胞的保护作用进而研究其内在机制。方法 用Aβ25-35处理人神经母细胞瘤细胞(SK-N-SH细胞)，模拟阿尔茨海默病的神经元损伤，并以适当浓度人参皂苷Rb1或Re处理。采用MTT 法测定细胞存活率，荧光探针法检测细胞内ROS水平变化，Western blot 法检测tau蛋白磷酸化水平及活性GSK-3β蛋白表达。结果 培养基中添加Aβ25-35后SK-N-SH细胞存活率明显下降，而人参皂苷Rb1和Re均能显著提高损伤细胞的存活率，降低细胞内ROS水平，降低活性GSK-3β的表达，造成tau蛋白396位点的磷酸化程度下降，缓解tau蛋白的过度磷酸化。结论 人参皂苷Rb1和Re对Aβ25-35诱导损伤的SK-N-SH细胞具有一定的保护作用。

关键词： 人参属；阿尔茨海默病；tau蛋白类；Ca(2+)钙调蛋白依赖性蛋白激酶

Protective effects of ginsenoside Rb1 and Re on SK-N-SH cells injured by Aβ_{25-35}

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Abstract:

Objective To investigate protective effects of ginsenoside Rb1 and Re against injury of SK-N-SH cells induced by Aβ_{25-35} and the possible mechanism. Methods Aβ25-35 was added to the medium for cell culture to make a cell model of Alzheimer disease, and ginsenoside Rb1 or Re were used to treat the injured cells. Cell survival rates were determined by the MTT assay, intracellular ROS levels were determined by fluorescence probes, and expressions of phosphorylated tau and active glycogen synthase kinase 3β(GSK-3β) were determined by Western blot. Results The survival ratio of SK-N-SH cells were significantly decreased after exposure to Aβ_{25-35}, and treatment with ginsenoside Rb1 or Re significantly increased the survival ratio and decreased the cellular ROS level. Ginsenoside Rb1 and Re decreased expressions of phosphorylated tau and active GSK-3β, respectively. Conclusion Ginsenoside Rb1 and Re may exert a neuroprotective effect on SH N SH neural cells induced by neurotoxic Aβ_{25-35}.

Keywords: Panax; Alzheimer disease; Tau proteins; Ca(2+) calmodulin dependent protein kinase

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