

论著

芍药苷对培养小鼠皮层神经元的保护作用

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摘要 目的 探讨芍药苷是否促进培养皮层神经细胞的存活, 并对抗兴奋性氨基酸海人藻酸(KA)所致的神经损伤。方法 解剖分离15 d胚胎小鼠皮层神经细胞, 接种于24孔板中加药培养, 台盼蓝染色细胞, 相差显微镜及免疫组织化学方法进行形态学观察。结果 ①加入芍药苷 20.8和41.6 mg·L⁻¹培养4 d增加神经细胞存活数量, 降低死亡率。②加入KA 50 μmol·L⁻¹作用30 min, 神经元肿胀, 失去折光性, 核偏位, 死亡率增高。预先加入芍药苷20.8和41.6 mg·L⁻¹培养4 d, 可对抗KA所致的神经损伤。结论 芍药苷可增加神经细胞存活数量, 降低死亡率, 对抗KA所致的兴奋性神经损伤。

关键词 [芍药苷](#) [神经元](#) [海人藻酸](#) [存活率](#) [细胞, 培养的](#)

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Protective effects of paeoniflorin on cultured cortical neurons of mice

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Abstract

AIM To determine whether paeoniflorin (PF) can increase the survival neurons and provide protection against the excitotoxic effect of kainic acid (KA) on primary cortical cultures. **METHODS** Primary cultured neurons were dissociated from 15 d old mouse embryo and plated on 24-well culture-plates with PF in the medium, neurons in the experimental group were treated with KA(50 μmol·L⁻¹) on d 3. Dying cells were identified by trypan blue, phase contrast microscope and immunocytochemistry were used to observe the morphology of the neurons. **RESULTS** ①Culturing cortical neurons with PF at 20.8 and 41.6 mg·L⁻¹ for 4 d increase the survival of neurons and decreased the death rate of cells. ②Damaged neurons induced by cultured with KA (50 μmol·L⁻¹) for 30 min showed various changes, such as cell swelling, lacking of dioptr, nucleus shifting to the cell periphery, and higher mortality. While pretreated with PF 20.8 and 41.6 mg·L⁻¹ for 4 d, the cortical neurons were resistant to the injury of KA. **CONCLUSION** PF can increase the mouse cortical neuronal survival rate, decrease the mortality and protect neurons against KA induced neurotoxicity.

Key words [paeoniflorin](#) [neurons](#) [kainic acid](#) [survival rate](#) [cells](#) [cultured](#)

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