

论著

## 大蒜素抑制脑缺血-再灌注诱导的海马神经元凋亡及其机制初探

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**摘要** 目的: 探讨大蒜素抗脑缺血-再灌注诱导的海马神经元凋亡作用及其机制。方法: 采用大鼠全脑缺血-再灌注模型, 应用流式细胞仪检测海马神经元凋亡率; 采用比色法测定海马组织NO和MDA含量及SOD活性。结果: I-R组大鼠海马神经元凋亡率、海马组织NO和MDA含量明显高于sham组, 而SOD活性显著低于sham组; 静脉给予大蒜素预处理可抑制上述变化, 且呈剂量依赖性效应。结论: 大蒜素具有抑制全脑缺血-再灌注诱导的海马神经元凋亡作用及抗氧化作用; 大蒜素的抗氧化作用可能是其抑制海马神经元凋亡的重要机制之一。

**关键词** [大蒜](#); [脑缺血](#); [再灌注损伤](#); [细胞凋亡](#); [海马](#)

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## Allicin inhibits hippocampal neuronal apoptosis induced by global cerebral ischemia-reperfusion

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### Abstract

<FONT face=Verdana>AIM: To explore the effect of allicin on hippocampal neuronal apoptosis induced by global cerebral ischemia-reperfusion and its mechanisms. METHODS: Wistar rats were subjected to 15 min global cerebral ischemia followed by 72 h reperfusion. Flow cytometry (FCM) was used to evaluate the rate of hippocampal neuronal apoptosis and colorimetric method was used for the measurement of nitric oxide (NO), malondialdehyde (MDA) contents and superoxide dismutase (SOD) activity in hippocampal tissue. RESULTS: Neuronal apoptotic rate, nitric oxide and malondialdehyde contents in hippocampal tissues of rats in I-R group were significantly higher than those in sham group. However, superoxide dismutase activity in hippocampal tissues of rats in I-R group was obviously lower than that in sham group. Allicin pretreatment inhibited the above changes in a dose-dependent manner. CONCLUSION: Allicin hihibits hippocampal neuronal apoptosis induced by global ischemia-reperfusion insult through anti-oxidation. The anti-oxidation action of allicin may be one of the mechanisms of inhibitory effects on hippocampal neuronal apoptosis. </FONT>

**Key words** [Allicin](#) [Brain ischemia](#) [Reperfusion injury](#) [Apoptosis](#) [Hippocampus](#)

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