

论著

## 丹皮酚对过氧化氢诱导的PC12细胞凋亡的抑制作用

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收稿日期 2008-7-8 修回日期 网络版发布日期 2008-12-2 接受日期 2008-10-24

**摘要** 目的 探讨丹皮酚对过氧化氢(H<sub>2</sub>O<sub>2</sub>)诱导的PC12细胞凋亡的抑制作用及其机制。方法 建立H<sub>2</sub>O<sub>2</sub>致PC12细胞损伤模型, 采用MTT法测定细胞存活率, 流式细胞术测定细胞凋亡率及细胞内活性氧含量, 化学比色法测定乳酸脱氢酶(LDH)释放量及细胞内丙二醛(MDA)含量。结果 PC12细胞经H<sub>2</sub>O<sub>2</sub> 100 μmol·L<sup>-1</sup>处理10 h可致细胞存活率下降, 并能诱导细胞凋亡, LDH释放量及细胞内活性氧和MDA含量明显增加; 丹皮酚(12, 25和50 μmol·L<sup>-1</sup>)预处理1 h可提高细胞存活率, 减少细胞凋亡、LDH释放量及细胞内活性氧和MDA含量。结论 丹皮酚对H<sub>2</sub>O<sub>2</sub>诱导的PC12细胞凋亡具有抑制作用, 该作用可能与其抗氧化作用有关。

**关键词** [丹皮酚](#) [过氧化氢](#) [细胞凋亡](#) [PC12细胞](#)

**分类号** [R971.1](#), [R963](#)

## Inhibitory effect of paeonol on hydrogen peroxide induced apoptosis in PC12 cells

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### Abstract

**AIM** To investigate the inhibitory effect of paeonol on hydrogen peroxide(H<sub>2</sub>O<sub>2</sub>)-induced apoptosis in PC12 cells.

**METHODS** The injury model in PC12 cells was generated by H<sub>2</sub>O<sub>2</sub> treatment. The cell viability was determined using methylthiazolyl tetrazolium reduction assay. Apoptotic cells and reactive oxygen species (ROS) were measured by flow cytometry. Lactate dehydrogenase (LDH) activity and malonyldialdehyde (MDA) content were measured by spectroscope respectively. **RESULTS** After PC12 cells were treated with H<sub>2</sub>O<sub>2</sub> (100 μmol·L<sup>-1</sup>) for 10 h, its viability obviously decreased, and apoptotic cells, LDH release into the culture media, ROS and MDA contents in PC12 cells significantly increased. When the cells were pretreated with paeonol (12, 25 and 50 μmol·L<sup>-1</sup>) for 1 h prior to incubation with H<sub>2</sub>O<sub>2</sub>, its viability was greatly increased, and apoptotic cells, LDH release, ROS and MDA contents significantly decreased.

**CONCLUSION** Paeonol protects PC12 cells from H<sub>2</sub>O<sub>2</sub>-induced apoptosis and this effect is probably achieved through its antioxidative action.

**Key words** [paeonol](#) [hydrogen peroxide](#) [apoptosis](#) [PC12 cells](#)

DOI: 10.3867/j.issn.1000-3002.2008.06.001

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