

论著

## 三七总皂甙对肺缺血再灌注损伤时细胞凋亡及Fas/FasL的影响

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收稿日期 2003-12-22 修回日期 2004-5-8 网络版发布日期 2009-10-18 接受日期 2004-5-8

**摘要** 目的: 探讨细胞凋亡与肺缺血再灌注损伤的关系以及三七总皂甙的作用及机制。方法: 健康日本大耳白兔84只, 随机分为对照组、肺缺血再灌注1、3、5 h组和三七总皂甙干预1、3和5 h组。复制肺缺血再灌注损伤模型。采用原位缺口末端标记(TUNEL)法观测肺组织细胞凋亡指数, 免疫组化和原位杂交技术检测肺组织细胞Fas/FasL系统蛋白和基因表达的变化。结果: 肺缺血再灌注组肺组织细胞凋亡指数和Fas/FasL蛋白及基因表达均显著高于对照组(均P<0.01)。三七总皂甙干预组Fas/FasL mRNA及其蛋白质的表达显著低于缺血再灌注组(P<0.01), 肺组织细胞凋亡指数也显著低于缺血再灌注组(P<0.01)。肺组织细胞凋亡指数分别与Fas/FasL蛋白和Fas/FasL mRNA之间均呈显著正相关(r分别=0.540,0.658,0.668,0.686;均P<0.01)。结论: Fas/FasL系统活化启动的肺组织细胞凋亡可能参与了肺缺血再灌注损伤的发生。三七总皂甙可能通过抑制Fas/FasL系统的激活, 阻遏肺组织细胞凋亡, 从而减轻肺缺血再灌注损伤。

**关键词** 肺; 再灌注损伤; 细胞凋亡; Fas/FasL; 三七

分类号 [R363.2](#)

## Effects of panax notoginseng saponins on pneumocyte apoptosis and Fas/FasL expression in rabbits with lung ischemia/reperfusion injury

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### Abstract

<FONT face=Verdana>AIM: To explore the relationship between apoptosis in the lung tissues and lung ischemia/reperfusion injury, and observe effects of panax notoginseng saponins (PNS) on apoptosis in lung ischemia/reperfusion injury. METHODS: Single lung in situ ischemia/reperfusion animal model was used. Eighty four Japanese white rabbits were randomly divided into control group (control), ischemia/reperfusion 1 h group (IR1h), IR3h, IR5h, Panax Notoginseng Saponins 1 h group (PNS1h), PNS3h and PNS5h. TUNEL, immunocytochemistry and in situ hybridization techniques were used to observe apoptosis and Fas/FasL expression in various phases of lung ischemia/reperfusion. RESULTS: Cell apoptosis in lung tissues were significantly high, Fas/FasL mRNA and its protein were up-regulated in lung tissues of lung ischemia/reperfusion injury compared with control (all of P<0.01). The PNS suppressed apoptosis as well as expression of Fas/FasL mRNA and its protein (P<0.05 or P<0.01, respectively). There was a significant correlation between expression of Fas/FasL protein, Fas/FasL mRNA and cell apoptosis (r=0.540, 0.658, 0.668, 0.686; all P<0.01). CONCLUSIONS: Activation of Fas/FasL system and its initiating cell apoptosis of lung tissues may contribute to the pathogenesis of lung ischemia/reperfusion injury. The protective effects of PNS include suppressing the activation of Fas/FasL system and blocking apoptosis in lung tissues in lung ischemia/reperfusion injury.</FONT>

**Key words** [Lung](#) [Reperfusion injury](#) [Apoptosis](#) [Fas/FasL](#) [Radix Notoginseng](#)

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