药学学报 2006, 41(7) 636-640 DOI: ISSN: CN:

论文

乌司他丁对脂多糖致小鼠急性肺损伤的保护作用以及与诱导型一氧化氮合酶和c-Jun表达的关系

谭正怀;余凌虹;魏怀玲;刘耕陶[1]

1. 中国医学科学院、中国协和医科大学 药物研究所， 北京 100050; 2. 四川省中药研究所, 四川 成都 610041

摘要：

目的探讨乌司他丁对脂多糖(LPS)致小鼠急性肺损伤的作用及其机制。方法小鼠腹腔注射乌司他丁(50和100 ku·kg^{-1})或等体积生理盐水30 min后，分别静脉注射LPS 15 mg·kg^{-1}或等体积生理盐水，于注射LPS后不同时间检测有关各项指标。ELISA法测定血清和肺组织中TNF*α*水平，RT-PCR法测定TNF*α* mRNA和iNOS mRNA的表达。Western blotting法检测c-Fos，c-Jun及iNOS等蛋白表达。结果乌司他丁100 ku·kg^{-1}能显著降低LPS引起的小鼠的肺脏指数、肺组织及血清中NO水平的增加，下调肺组织c-Jun蛋白表达量和iNOS mRNA及其蛋白的表达量，而对小鼠的血清和肺组织冲洗液中TNF*α*含量以及肺组织MDA无明显影响。结论乌司他丁对LPS引起的小鼠肺损伤有保护作用，该作用与其抑制c-Jun蛋白和iNOS mRNA的表达有关。

关键词： 脂多糖 急性肺损伤 乌司他丁 iNOS c-Jun

Protective action of ulinastatin against lipopolysaccharides-induced acute lung injury in mice and the relation of it to iNOS and c-Jun expressions

TAN Zheng-huai; YU Ling-hong; WEI Huai-ling; LIU Geng-tao

Abstract:

AimTo study the protective action of ulinastatin against lipopolysaccharide (LPS)-induced acute lung injury in mice and the mechanism of its action. MethodsMice were intraperitoneally injected with ulinastatin (50 and 100 ku·kg^{-1}) or saline at a period of 12 h, separately, 30 min after the last injection of ulinastatin, except normal control, all mice of other groups were injected a dose of LPS 15 mg·kg^{-1} via tail vein. The levels of TNF*α* in serum and lung were measured by ELISA. The expression of TNF*α* mRNA and iNOS mRNA in lung was assayed by RT-PCR. The expression of c-Fos and c-Jun protein in lung was measured by Western blotting method. And the NO_2^-/NO_3^- level in serum and MDA in lung were measured with kits. ResultsThe levels of NO_2^-/NO_3^- and TNF*α* in serum, MDA and TNF*α* in lung all increased after iv injection of LPS. The expressions of TNF*α* mRNA, iNOS mRNA, c-Fos and c-Jun in lung of LPS-injected mice were enhanced. Pretreatment with ulinastatin 100 ku·kg^{-1} decreased the levels of NO_2^- / NO_3^- in serum and lung, reduced the index of lung, and inhibited the expressions of iNOS mRNA and c-Jun in lung induced by LPS in mice, while ulinastatin showed no effect on TNF*α* level in serum and lung. ConclusionUlinastatin protected mice from acute lung injury induced by lipopolysaccharides via inhibiting the activation of c-Jun and iNOS mRNA expression.

Keywords: acute lung injury ulinastatin iNOS c-Jun lipopolysaccharides

收稿日期 2005-11-17 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 刘耕陶

作者简介:

参考文献：

本刊中的类似文章

1．汤慧芳;毛连根;江若安;钱韵;陈季强.甘草酸单铵对脂多糖致小鼠急性肺损伤的保护作用[J]. 药学学报, 2007,42(9): 954-958

2．郭;颖;胡玉芳;程桂芳.炎性刺激剂对小鼠腹腔巨噬细胞NF-κB的诱导[J]. 药学学报, 1999,34(8): 586-589

3．李靖;程桂芳;王文杰;白金叶.5种炎性刺激剂对小鼠腹腔巨噬细胞生成肿瘤坏死因子的影响[J]. 药学学报, 2000,35(1): 60-62
4．胡玉芳;郭颖;程桂芳;.吲哚美辛和美洛昔康对脂多糖诱导的小鼠腹腔巨噬细胞NF-κB的抑制作用[J]. 药学学报, 2001,36(3): 161-164
5．刘柏合;李怡棠;沈放;赵丹阳;程桂芳.脂多糖对人类风湿性关节炎滑膜细胞基质金属蛋白酶-9表达的影响[J]. 药学学报, 2003,38(4): 245-249
6．任德成;杜冠华;张均田.细胞间粘附分子-1抑制剂的高通量筛选[J]. 药学学报, 2003,38(6): 405-408
7．刘柏合;沈放;李怡棠;赵丹阳;程桂芳.脂多糖对人类风湿性关节炎滑膜细胞白介素-6表达的影响脂多糖对人类风湿性关节炎滑膜细胞白介素-6表达的影响[J]. 药学学报, 2003,38(6): 420-423
8．白金叶;刘柏合;赵丹阳;程桂芳.吲哚美辛对脂多糖引起的人类风湿性关节炎滑膜细胞中白介素-6表达的影响[J]. 药学学报, 2003,38(11): 809-812
9．聂珍贵;彭珊瑛;王文杰.银杏内酯B对脂多糖刺激的小鼠腹腔巨噬细胞TNFα生成及大鼠胸腔多形核白细胞NF-κB活化的影响[J]. 药学学报, 2004,39(6): 415-418
10．张俊平;胡振林;冯增辉;林文;余祥彬;钱定华.水飞蓟宾对小鼠肝脏炎症损伤和肿瘤坏死因子的产生及活性的影响[J]. 药学学报, 1996,31(8): 577-580
11．林文;张俊平;胡振林;钱定华.苦参碱对细菌脂多糖诱导大鼠枯否细胞释放肿瘤坏死因子及白细胞介素-6的影响[J]. 药学学报, 1997,32(2): 93-96
12．钟淼;程桂芳;王文杰;陈洁;朱秀媛;张均田.4种刺激剂对小鼠腹腔巨噬细胞生成白细胞介素6的研究[J]. 药学学报, 1997,32(12): 893-897
13．胡振林;张俊平;万莫斌;余祥彬;林文;钱定华.苦参碱对脂多糖/痤疮丙酸杆菌诱导的小鼠肝炎及产生肿瘤坏死因子的影响[J]. 药学学报, 1996,31(9): 662-665
14．王洪斌;郑钦岳;鞠佃文;方军.商陆多糖Ⅱ体外对小鼠脾细胞增殖及产生集落刺激因子的影响[J]. 药学学报, 1993,28(7): 490-493
15．王佩;任兴昌;俞进;林宜;吴锡铭.*n*,*n*′-二乙酰-L-胱氨酸对半乳糖胺联用脂多糖引起小鼠免疫性肝衰竭的作用[J]. 药学学报, 2004,39(10): 782-786
16．陈美珺;梁统;周克元.原花青素对脂多糖诱导RAW264　7细胞COX-2酶活性、mRNA及蛋白表达的影响[J]. 药学学报, 2005,40(5): 406-409
17．郭竹英 王世婷 徐芒华 矫 强 高丰厚.重组人Ⅱ型肿瘤坏死因子受体－抗体融合蛋白对脂多糖诱导休克大鼠肠损伤的保护作用[J]. 药学学报, 2009,44(6): 586-590

文章评论 (请注意:本站实行文责自负, 请不要发表与学术无关的内容!评论内容不代表本站观点.)

反馈人		邮箱地址	
反馈标题		验证码	5624