国际病理科学与临床杂志 2008 28 (6): 461-464 ISSN: 1673-2588 CN: 43-1458/R

论著

抗菌肽FALL-39及其突变肽对诱生型一氧化氮产生的影响

郝杰， 杨云霞， 王伯瑶

四川大学华西基础医学与法医学院， 成都 610044

收稿日期 2008-9-4 修回日期 2008-11-11 网络版发布日期 接受日期

摘要
目的：比较人抗菌肽FALL-39及其突变肽对细菌脂多糖（lipopolysaccharides，LPS）介导的诱生型一氧化氮（nitric oxide, NO）产生的影响。方法：体外常规培养人单核吞噬细胞THP-1，LPS刺激细胞，分别用人抗菌肽FALL-39以及突变肽FALL-39-Lys24，FALL-39-Lys32，FALL-39-Lys24′32处理细胞。应用RT-PCR方法测定LPS诱生型一氧化氮合酶（induced nitric oxide synthase，iNOS） 以及FALL-39 mRNA的表达，用硝酸还原酶法测定细胞培养上清液中NO的含量。小鼠腹腔注射更生霉素和LPS建立内毒素血症模型，分别用抗菌肽处理动物，取?舛く 逯蠼O的含量。结果：LPS刺激FALL-39 mRNA的表达增加；同时也诱导NO mRNA的表达以及细胞培养上清液中NO含量的增加。人抗菌肽FALL-39及其突变肽FALL-39-Lys24，FALL-39-Lys32，FALL-39-Lys24′32可以抑制LPS诱导的NO的产生；其中FALL-39-Lys24′32的抑制作用最为明显。结论：抗菌肽FALL-39及其突变肽具有抗内毒素作用，其机制与抑制LPS诱导的NO产生有关。

关键词 抗菌肽；FALL-39；突变；一氧化氮

分类号

Effect of antibacterial peptide FALL-39 and its mutant peptides on production of nitric oxide induced by lipopolysaccharides

HAO Jie, YANG Yun-xia, WANG Bo-yao

West-China School of Preclinical and Forensic Medicine, Sichuan University, Chengdu 610041，China

Abstract
ObjectiveTo study the effect of antibacterial peptide FALL-39 and it mutantpetides on production of nitric oxide (NO) induced by lipopolysaccharides (LPS). MethodsTHP-1 cells were treated with LPS, FALL-39 and it mutant petides FALL-39-Lys24, FALL-39-Lys32, FALL-39-Lys24′32. Semi-quantitative reverse-transcription polymerase chain reaction (RT-PCR) was used to determine the FALL-39 and iNOS mRNA expression. NO content was detected by using nitrate reductase method. The endotoxima model in BALB/C mice was created by using LPS and actinomycin D. The mice were treated with the peptides and NO content in serum was detected. ResultsThe FALL-39 and iNOS mRNA expression were increased induced by LPS. FALL-39 and it mutant petides inhibited the induced nitric oxide synthase (iNOS) mRNA expression and the production of NO in THP-1 cells. Among them, FALL-39-Lys24′32 had the most potential effect. ConclusionAntibacterial peptide FALL-39 and its mutantpetides have anti-endotoxin effect, and this effect is associated with inhibiton of iNOS mRNA expression and NO production.

Key words antibacterial peptide FALL-39 mutation nitric oxide

DOI:

通讯作者 杨云霞 jacque@sina.com

作者个人主页 郝杰; 杨云霞; 王伯瑶