[1]陈铭,卫国,祝元锋,等.CpG-c41分子对TLR7-MyD88依赖型信号通路的交叉干扰作用[J].第三军医大学学报,2013,35(10):927-930.
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Title: Cross-interference of CpG-c41 on TLR7-MyD88-dependent pathway

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关键词: CpG-c41; ssRNA83; TLR7-MyD88依赖型信号通路; 交叉干扰

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摘要: 目的 探讨TLR9强力拮抗剂CpG-c41分子对TLR7-MyD88依赖型信号通路的交叉干扰作用。 方法 体外实验采用ELISA法检测CpG-c41对TLR7激动剂ssRNA83刺激RAW264.7细胞24 h诱发的炎症介质TNF-α和IL-6表达的影响，Western blot检测CpG-c41对TLR7-MyD88依赖型信号通路中IκBα蛋白表达的影响；体内实验采用ELISA法检测CpG-c41对ssRNA83攻击BALB/c小鼠2 h诱发血清中TNF-α和IL-6表达的影响作用。 结果 体内、体外实验均表明，CpG-c41分子能够显著抑制经ssRNA83刺激诱发TLR7-MyD88依赖型信号通路介导的炎症介质TNF-α和IL-6的释放（$P<0.01$），体外实验表明抑制作用具有量效关系；而Western blot检测显示在CpG-c41作用下， TLR7-MyD88依赖型信号通路中IκBα的降解受干扰。 结论 TLR9强力拮抗剂CpG-c41分子通过干扰TLR7-MyD88依赖型信号通路中IκBα的磷酸化降解，抑制炎症介质的释放，发挥对ssRNA攻击小鼠的免疫保护作用。

Abstract: Objective To explore the cross-interference effect of toll-like receptor 9 (TLR9) anta-gonist CpG-c41 on TLR7-MyD88-dependent pathway. Methods The levels of TNF-α and IL-6 in the supernatants of RAW264.7 cells (supplied with CpG-c41 simultaneously) treated with TLR7 agonist ssRNA83 were measured by ELISA at 24 h, and IκBα expression mediated by TLR7-MyD88-dependent pathway was assayed by Western blotting. CpG-c41-mediated immune protection of ssRNA83 attacked BALB/c mice was observed according to detection of serum levels of TNF-α and IL-6 by ELISA at 2 h. Results The results of *in vitro* and *in vivo* experiments demonstrated that the expression levels of TNF-α and IL-6

were all significantly inhibited (P<0.01). The results of *in vitro* experiment showed a dose-dependent inhibition, and Western blotting results showed that CpG-c41 could interfere with the degradation of IκBα mediated by TLR7-MyD88-dependent pathway. Conclusion CpG-c41 has a cross-interference effect on the degradation of IκBα mediated by TLR7-MyD88-dependent pathway, which consequently inhibits the release of pro-inflammatory cytokines, and protects mice against ssRNA attacking.

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