

研究简报

日本血吸虫体表蛋白Tetraspanin 2-A核酸疫苗的构建及其对小鼠的免疫试验

张鹏,张薇娜,任翠平,刘森,沈际佳*

安徽医科大学病原生物学教研室, 合肥 230032

收稿日期 修回日期 网络版发布日期 接受日期

摘要

采用PCR法扩增日本血吸虫体表四跨膜家族蛋白2-A (SjTsp2-A) 基因, 构建重组质粒pcDNA3.1 (+) /SjTsp2-A, 将其转至大肠埃希菌DH5 α 制备DNA疫苗pcDNA3.1 (+) /SjTsp2-A。24只BALB/c小鼠均分3组, 每鼠于左股四头肌注射0.5 mg/ml盐酸布比卡因50 μ l。次日, A组同法注射DNA疫苗pcDNA3.1 (+) /SjTsp2-A, B组注射重组质粒pcDNA3.1 (+) /SjGST, C组注射空质粒pcDNA3.1 (+)。注射剂量均为100 μ g/只。每隔2周注射1次, 共3次, 末次免疫后2周各组均经腹部皮下感染日本血吸虫尾蚴40 \pm 2条/鼠, 45 d后剖杀, 计数减虫率和减卵率。ELISA检测抗体效价, A组化分析股四头肌局部组织蛋白表达情况。结果A组的平均检虫数和每克肝组织虫卵数均显著低于B组和C组 (P值均<0.05), A组的减虫率和减卵率分别为44.4%和28.4%。A组血清抗体效价高达1 : 25 600。A、B两组局部组织均有特异性蛋白表达。DNA候选疫苗pcDNA3.1 (+) /SjTsp2-A能诱导小鼠产生一定的免疫保护作用。

关键词 [日本血吸虫](#) [体表蛋白](#) [核酸疫苗](#) [免疫保护](#)

分类号

Construction of DNA Vaccine pcDNA3.1 (+) /Tetraspanin 2-A against *Schistosoma japonicum* and its Immuno-protective Effect in Mice

ZHANG Peng, ZHANG Wei-na, REN Cui-ping, LIU Miao, SHEN Ji-jia*

Department of Microbiology and Parasitology, Anhui Medical University, Hefei 230032, China

Abstract

Tetraspanin 2-A (SjTsp2-A) gene was amplified by PCR. pcDNA3.1 (+) /SjTsp2-A recombinant plasmids were constructed and transformed into *E. coli* DH5 α . Twenty four BALB/c mice were randomly divided into pcDNA3.1 (+) /SjTsp2-A group (A), pcDNA3.1 (+) /SjGST group (B) and pcDNA3.1 (+) group (C). Each mouse was injected through musculus quadriceps femoris by three times (two weeks interval) respectively with 100 μ g pcDNA3.1 (+) /SjTsp2-A, pcDNA3.1 (+) /SjGST, or pcDNA3.1 (+). At two weeks after the final inoculation, mice were each challenged by 40 \pm 2 cercariae of *S. japonicum*. Forty-five days after infection, all mice were sacrificed, the number of worms collected and eggs in liver tissue was counted. Anti-pcDNA3.1 (+) /SjTsp2-A antibody was detected by ELISA and protein expression in quadriceps muscle by immunohistochemical staining. The worm reduction rate (44.4%) and egg reduction rate (28.4%) of group A was higher than those of group B and C (P<0.05), but no significant difference between groups B (3.9%, 19.3%) and C. Higher antibody titer (1 : 25 600) was detected in sera of group A. Immunohistochemistry analysis showed an expression of specific antigens in quadriceps muscles of groups A and B. The DNA candidate vaccine induces partial protective immunity against *S. japonicum* in BALB/c mice.

Key words [Schistosoma japonicum](#) [Surface membrane protein](#) [DNA vaccine](#) [Protective immunity](#)

DOI:

通讯作者

作者个人主页

张鹏;张薇娜;任翠平;刘森;沈际佳*

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF \(235KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献\[PDF\]](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“日本血吸虫”的 相关文章](#)
- ▶ 本文作者相关文章

- [张鹏](#)
- [张薇娜](#)
- [任翠平](#)
- [刘森](#)
- [沈际佳](#)