

论著

日本血吸虫虫卵中毛蚴抗原的融合表达及抗原性分析

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摘要

目的 重组表达制备日本血吸虫虫卵中毛蚴抗原(SjMP10)。方法 根据日本血吸虫虫卵中毛蚴抗原SjMP10分子的读框序列设计合成1对引物, 扩增SjMP10 DNA片段并克隆到表达载体pGEX-4T-3中。转化BL21(DE3)后, 诱导表达谷胱甘肽转移酶-虫卵中毛蚴抗原10(GST-SjMP10)融合蛋白。采用洗脱法制备GST-SjMP10融合蛋白, 应用免疫印迹法(Western blotting)和淋巴细胞增殖试验进行重组蛋白的抗原性分析。结果 SjMP10基因克隆到表达质粒pGEX-4T-3后, 经异丙基-β-D-硫代半乳糖苷(IPTG)诱导能表达出Mr 39 000的GST-SjMP10融合蛋白, 经电洗脱法纯化的上述重组融合蛋白可被血吸虫感染兔血清所识别, 并能刺激血吸虫感染鼠脾淋巴细胞增殖。结论 日本血吸虫虫卵中毛蚴抗原SjMP10融合表达获得成功。

关键词 [日本血吸虫](#) [毛蚴抗原](#) [表达](#) [抗原性分析](#)

分类号

Fusion Expression and Antigenicity Analysis of Miracidial Antigen from Eggs of *Schistosoma japonicum*

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Abstract

Objectives To express the miracidial antigen from eggs of *Schistosoma japonicum* (Chinese mainland strain) (SjMP10), and investigate the role of the miracidial antigen during the hepatic granuloma formation of schistosomiasis. Methods A pair of specific primers was designed and synthesized according to the nucleotide sequence of the open reading frame of the miracidial antigen gene. The open reading frame of the miracidial antigen gene was amplified, digested by restrictive enzyme (*Bam*HI, *Sal*I), and cloned directly into the expression plasmid pGEX-4T-3 to construct the recombinant plasmid. The recombinant plasmids were transformed into *E. coli* BL21(DE3), and induced by IPTG to express the fusion protein of GST-SjMP10. The expressed fusion protein was purified by electric elution method, and its antigenicity was examined by Western blotting and lymphocyte proliferation test. Results The gene of miracidial antigen was cloned into the expression plasmid pGEX-4T-3. After induced by IPTG, the recombinant expressed a fusion protein of GST-SjMP10, with a molecular weight of 39 000 approximately. The purified fusion protein showed proper antigenicity that could be recognized by the sera of rabbits heavily infected by *Schistosoma japonicum* and could stimulate the proliferation of splenic lymphocytes of infected BALB/c mice. Conclusion The miracidial antigen from eggs of *Schistosoma japonicum* was expressed successfully.

Key words [Schistosoma japonicum](#) [Miracidial antigen](#) [Expression](#) [Antigenicity analysis](#)

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