

论著

日本血吸虫模拟虫卵抗原表位的筛选和鉴定

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摘要

目的 通过噬菌体肽文库技术探索可用于诊断日本血吸虫病的模拟虫卵抗原。方法 用日本血吸虫虫卵单克隆抗体 6 B12作“诱饵”,采用生物淘金法从噬菌体 15 -肽文库中经过 3轮筛选,有效地富集与 6 B12有亲和力的噬菌体肽克隆。随后采用 EL ISA、竞争 EL ISA、Western blotting等检测方法,从 4 0 0个单克隆化的噬菌体株中得到 13株与 6 B12有特异性、高亲和力反应的噬菌体克隆。结果 对噬菌体所携带的外源 DNA片段序列测序结果表明,13株噬菌体所携带的外源多肽序列完全相同。该噬菌体多肽抗原包被酶标板经 EL ISA方法对血吸虫病患者及健康人血清Ig G抗体检测结果表明,两者有显著性差异。结论 噬菌体多肽模拟抗原有可能替代天然抗原用于血吸虫病诊断

关键词 [日本血吸虫](#); [噬菌体肽文库](#); [模拟虫卵抗原](#);

分类号

Screening and Identification of Egg Mimotope of Schistosoma japonicum

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Abstract

Objective To explore egg mimotope of Schistosoma japonicum that can be used in the development of diagnostic reagents for schistosomiasis. Methods By performing three rounds of biopanning in the affinity selection before picking out single clones for identification, target specific phages were effectively enriched from a random 15 peptides phage library with an immobilized mAb 6B12 which is specific to egg antigen of S.japonicum as a bait. By using ELISA, competitive ELISA with natural egg antigen as competitor, and Western blotting, 13 phage clones with high affinity and specificity to 6B12 were obtained and amplified from 400 single clones. Results DNA sequencing revealed that all the 13 selected single clones were identical in displaying gene sequence. Serum samples were tested by ELISA for the presence of IgG antibodies to the phages with mimic epitope, and showed that there was a significant difference between healthy volunteers and schistosomiasis patients. Conclusion It is possible that the phage display peptide antigen, egg mimotope of S.japonicum may be a replacement of natural egg antigen for the diagnosis of schistosomiasis.

Key words [Schistosoma japonicum](#) [phage display random peptides library](#) [egg mimotope](#)

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