

论著

## 恶性疟原虫乳酸脱氢酶特异性单克隆抗体的制备

汪俊云,包意芳,杨玥涛,汤林华

中国疾病预防控制中心寄生虫病预防控制所,世界卫生组织疟疾血吸虫病和丝虫病合作中心,上海 200025

收稿日期 修回日期 网络版发布日期 接受日期

摘要

目的制备恶性疟原虫乳酸脱氢酶特异性单克隆抗体。方法克隆、表达恶性疟原虫乳酸脱氢酶基因,并以表达的重组蛋白免疫BALB/c小鼠,采用杂交瘤技术制备单克隆抗体,对所制备的单克隆抗体确定其亚类和效价,蛋白质印迹法(Western blotting)分析其特异性。结果成功克隆并表达了恶性疟原虫乳酸脱氢酶基因,以重组恶性疟原虫乳酸脱氢酶蛋白作为免疫源制备单克隆抗体,共筛选了15株能高效分泌效价在1:6400~1:51200特异抗体的细胞株,抗体亚类为IgG1或IgG2。所有抗体均能唯一识别恶性疟原虫虫源蛋白Mr 33000组分,而与疫区非疟疾发热病人的红细胞组分无交叉反应。结论以重组恶性疟原虫乳酸脱氢酶蛋白为免疫源成功制备了能识别天然恶性疟原虫乳酸脱氢酶蛋白的特异性单克隆抗体。

关键词 [恶性疟原虫](#) [乳酸脱氢酶](#) [单克隆抗体](#)

分类号

## Preparation of Monoclonal Antibodies Specific to Lactate Dehydrogenase of *Plasmodium falciparum*

WANG Jun-yun, BAO Yi-fang, YANG Yue-tao, TANG Lin-hua

National Institute of Parasitic Diseases, Chinese Center for Disease Control and Prevention, Shanghai, 200025, China

Abstract

Objective To prepare monoclonal antibodies specific to lactate dehydrogenase of *Plasmodium falciparum*. Methods The *Plasmodium falciparum* lactate dehydrogenase (pLDH) gene was amplified from whole blood of malaria patients by PCR and cloned into expression vector pGEX-3X. Recombinant pLDH protein was expressed and purified, and used for immunizing mice to prepare monoclonal antibodies (McAbs). The McAbs were characterized by Western blotting analysis. Results The *Plasmodium falciparum* lactate dehydrogenase gene was amplified and cloned into expression vector pGEX-3X. The recombinant pLDH plasmid was expressed in *E. coli* BL-21 cells. 15 cell lines of McAbs with high titer against pLDH were obtained using the recombinant pLDH as immunogen. Western blotting analysis showed that these McAbs recognized a Mr 33000 of native *Plasmodium falciparum* protein without cross-reaction with constituents of red blood cell of febrile patients from endemic area of malaria. Conclusion Fifteen hybridoma cell lines secreting high titer of McAb specific to *Plasmodium falciparum* LDH were established based on the recombinant pLDH.

Key words [Plasmodium falciparum](#) [Lactate dehydrogenase](#) [Monoclonal antibodies](#)

DOI:

通讯作者

作者个人主页 汪俊云;包意芳;杨玥涛;汤林华

### 扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF \(331KB\)](#)

▶ [\[HTML全文\]\(OKB\)](#)

▶ [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“恶性疟原虫”的相关文章](#)

▶ 本文作者相关文章

· [汪俊云](#)

· [包意芳](#)

· [杨玥涛](#)

· [汤林华](#)