中国寄生虫学与寄生虫病杂志
CHINESE JOURNAL OF PARASITOLOGY AND PARASITIC DISEASES
ISSN 1000-7423
CN 31-1248/R
主管：中华人民共和国卫生部
主办：中华预防医学会
中国疾病预防控制中心寄生虫病预防控制所

中国寄生虫学与寄生虫病杂志 » 2011, Vol. 29 » Issue (4) :263-266 DOI:

巢式PCR法在疟疾检测及虫种鉴别中的应用

师永霞, 黄吉城, 苏锦坤, 洪烨, 李小波, 郑夔, 幸芦琴, 郭波旋

广东出入境检验检疫局检验检疫技术中心，广州 510700

Nested PCR for Malaria Detection and *Plasmodium* Species Identification

SHI Yong-Xia, HUANG Ji-Cheng, SU Jin-Kun, HONG Ye, LI Xiao-Bei, ZHENG Kui, NIE Hu-Qin, GUO Bei-Xuan

Health Quarantine Laboratory，Guangdong Inspection and Quarantine Technology Center，Guangdong Entry-Exit Inspection and Quarantine Bureau，Guangzhou 510700，China

摘要 根据疟原虫小亚单位核糖体核糖核酸（SSU rRNA）基因序列设计疟原虫通用型和种特异性的引物，对60份血样进行巢式PCR检测及虫种鉴定，并与血样的吉氏染色镜检结果进行比较。巢式PCR检出40份疟原虫阳性血样，其中22份为恶性疟原虫（Plasmodium falciparum）阳性、13份为间日疟原虫（P. vivax）阳性、3份为恶性疟原虫和间日疟原虫混合感染、1份为卵形疟原虫阳性（P. ovale）、1份未能分型。与镜检结果一致的血样为46份，占76.7%（46/60），其中恶性疟原虫阳性18份、间日疟原虫阳性11份和阴性17份。将两种检测结果不一致的血样进行扩增片段序列测定和实时荧光PCR分析，检测结果均与巢式PCR结果一致。卵形疟原虫阳性血样扩增片段的序列分析结果显示，该序列与卵形疟原虫SSU rRNA基因序列（GenBank登录号DQ845247）的对应部分同源性为100%，证实该病例为输入性卵形疟原虫感染病例。

关键词： 疟疾；巢式PCR；小亚单位核糖体核糖核酸

Abstract： According to the sequences of small subunit ribosomal RNA （SSU rRNA） gene of Plasmodium spp.， universal and species-specific primers were designed to detect malaria and identify species. 60 blood samples were detected by the established nested PCR method. The results were compared with those of microscopic examination. 40 blood samples were Plasmodium-positive by nested PCR with 22 samples of P. falciparum，13 of P. vivax，3 with P. falciparum and P. vi-vax mixed infection, 1 of P. ovale and 1 of unclassified malaria infection. Altogether, the coincidence between the results of nested PCR and microscopy stood for 76.7% （46/60），including 18 of P. falciparum，11 of P. vivax and 17 negatives. Further sequence analysis and real-time PCR were performed to detect blood samples with discrepancy，results of which were the same as that of nested PCR. The amplified product of P. ovale was sequenced and showed 100% homology to the corre-sponding part of P. ovale SSU rRNA gene sequence （GenBank No. DQ845247），which confirmed that the case was imported ovale malaria.

Keywords： Malaria Nested PCR Small subunit ribosomal RNA

引用本文:
师永霞, 黄吉城, 苏锦坤, 洪烨, 李小波, 郑夔, 幸芦琴, 郭波旋.巢式PCR法在疟疾检测及虫种鉴别中的应用[J] 中国寄生虫学与寄生虫病杂志, 2011,V29(4): 263-266

SHI Yong-Xia, HUANG Ji-Cheng, SU Jin-Kun, HONG Ye, LI Xiao-Bei, ZHENG Kui, NIE Hu-Qin, GUO Bei-Xuan.Nested PCR for Malaria Detection and *Plasmodium* Species Identification[J] , 2011,V29(4):263-266