

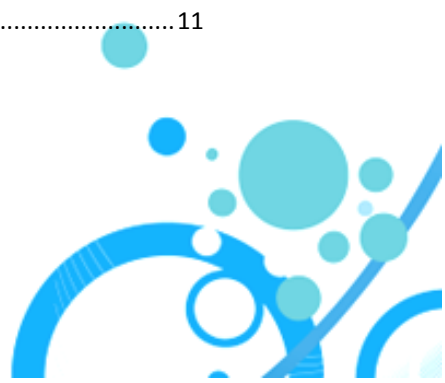
热带病学术热点追踪报告

2013年第1期(总第1期)

目 录

一、国际热带病热点研究.....	3
1. 疟疾相关	3
(1) <i>The Unique Structure of the Apicoplast Genome of the Rodent Malaria Parasite Plasmodium chabaudi chabaudi</i>	3
(2) <i>A whole cell pathway screen reveals seven novel chemosensitizers to combat chloroquine resistant malaria.</i>	3
(3) <i>Population-based laboratory surveillance of imported malaria in metropolitan calgary, 2000-2011</i>	3
(4) <i>The utility of Plasmodium berghei as a rodent model for anti-merozoite malaria vaccine assessment.</i>	4
2. 血吸虫相关.....	4
(1) <i>Trichobilharzia mergi sp. nov. (Trematoda: Digenea: Schistosomatidae), a visceral schistosome of Mergus serrator (L.) (Aves: Anatidae).</i>	4
(2) <i>Anthelmintic activity of the cyclotides (kalata B1 and B2) against schistosome parasites.</i>	5
(3) <i>Schistosome egg antigens elicit a proinflammatory response by trophoblast cells of the human placenta.</i>	5
(4) <i>Intestinal schistosomiasis in chimpanzees on Ngamba Island, Uganda: observations on liver fibrosis, schistosome genetic diversity and praziquantel treatment.</i>	5
3. 其他寄生虫相关	6

(1)	<i>Microarray analysis of rat immune responses to liver fluke infection following vaccination with Fasciola hepatica phosphoglycerate kinase.</i>	6
(2)	<i>The origin of the giant liver fluke, Fascioloides magna (Trematoda: Fasciolidae) from Croatia determined by high-resolution melting screening of mitochondrial cox1 haplotypes.</i>	6
(3)	<i>Hydatid cyst: an unusual solid breast mass.</i>	7
(4)	<i>Left ventricular endocardial echinococcosis associated with multiple intracranial hydatid cysts.</i>	7
(5)	<i>Application of loop-mediated isothermal amplification assay for the sensitive and rapid diagnosis of visceral leishmaniasis and post-kala-azar dermal leishmaniasis.</i>	7
二、国内热带病热点研究		8
1. 疟疾相关		8
(1)	山东省疟疾高发地区发病率与气象因子的多元逐步回归分析	8
(2)	北海市消灭疟疾后 14 年监测结果分析	8
(3)	2011 年江苏省疟疾疫情流行病学分析	8
(4)	中国 2006—2010 年疟疾流行趋势分析	9
2. 血吸虫相关		9
(1)	日本血吸虫 TOM34 基因的克隆和表达分析	9
(2)	血吸虫病防治标准修订在推进我国消除血吸虫病规划中的作用	9
(3)	血吸虫病疫情评价指标体系的研究	10
(4)	日本血吸虫重组多表位核酸疫苗的构建与免疫保护效果评估	10
3. 其他寄生虫相关		10
(1)	肝包虫病相关因子的研究进展	10
(2)	超声造影剂协同下的高强度聚焦超声对包虫原头蚴酶活性的影响	11
(3)	肝片吸虫组织蛋白酶 L 真核表达载体构建及重组蛋白活性分析	11
(4)	黑热病患者检出 438 株病原菌分布及耐药性分析	11
(5)	基于聚类分析的重庆市人群土源性线虫感染流行特征	11



一、国际热带病热点研究

1. 疟疾相关

(1) *The Unique Structure of the Apicoplast Genome of the Rodent Malaria Parasite Plasmodium chabaudi chabaudi*

Abstract*

The apicoplast genome of the rodent malaria parasite *Plasmodium chabaudi chabaudi* (Pcc) isolate CB was characterized. The copy number of some tRNA genes differs between Pcc and other *Plasmodium* species because the Pcc DNA has only one rRNA/tRNA gene cluster. The Pcc DNA occurs in two isoforms with an internal inversion between them. The presence of a unique variant in the duplicated trnT gene suggests that the two isoforms are interconvertible. This is the first report of the complete nucleotide sequence of a *Plasmodium* apicoplast DNA^[1].

(2) *A whole cell pathway screen reveals seven novel chemosensitizers to combat chloroquine resistant malaria*

Abstract

In this study, we propose a simple and direct means to rapidly screen for such compounds using a fluorescent-tagged CQ molecule. When this screen was applied to a small library, seven novel chemosensitizers (octoclothebin, methiothebin, metergoline, loperamide, chlorprothixene, L-703,606 and mibefradil) were quickly elucidated, including two which showed greater potency than the classical chemosensitizers verapamil and desipramine^[2].

(3) *Population-based laboratory surveillance of imported malaria in metropolitan calgary, 2000-2011*

Abstract

* 为了给读者提供更简明扼要的信息，本报告中的英文摘要均经过编辑和精简。

Increased travel leads to a heightened risk of imported infectious diseases. Patterns of immigration to countries like Canada have changed such that countries of malaria endemicity are frequented in larger numbers. In keeping with the changes in travel patterns and immigration, the major metropolitan city of Calgary has seen a dramatic rise in malaria incidence over the last decade. Fuelling this rise in Calgary has been the apparent complacency with prophylaxis in individuals visiting friends and relatives and potentially inadequate public health intervention in areas of the city with increased immigration and lower socioeconomic status^[3].

(4) The utility of *Plasmodium berghei* as a rodent model for anti-merozoite malaria vaccine assessment

Abstract

Increasing data suggest the *P. berghei* rodent malaria may be able to circumvent vaccine-induced anti-merozoite responses. Here we confirm a failure to protect against *P. berghei*, despite successful antibody induction against leading merozoite antigens using protein-in-adjuvant or viral vectored vaccine delivery. An improved understanding of the mechanisms responsible for protection, or failure of protection, against *P. berghei* merozoites could guide the development of an efficacious vaccine against *P. falciparum*^[4].

2. 血吸虫相关

(1) *Trichobilharzia mergi* sp. nov. (Trematoda: Digenea: Schistosomatidae), a visceral schistosome of *Mergus serrator* (L.) (Aves: Anatidae)

Abstract

Parasitological investigations on red-breasted mergansers (*Mergus serrator* L.) in Iceland revealed digenean flukes of the family Schistosomatidae. Adult worms were detected in blood vessels of the large intestine and eggs were deposited in the mucosa and surrounded by granulomatous reactions. Traditional morphological methods showed that the flukes have very slender filiform bodies, males are



equipped with a short gynaecophoric canal and both suckers and spatulate ends are present on each sex^[5].

(2) Anthelmintic activity of the cyclotides (kalata B1 and B2) against schistosome parasites

Abstract

Our studies show that kB2 acts as a promising anti-schistosomal against Philippine *S. japonicum*, and it or other cyclotides may be developed further as general anthelmintics. With thousands of cyclotides occurring naturally in plants, and the susceptibility of these peptides to combinatorial variation, there is potential for their exploitation as wide-spectrum anthelmintics^[6].

(3) Schistosome egg antigens elicit a proinflammatory response by trophoblast cells of the human placenta

Abstract

Schistosomiasis affects nearly 40 million women of reproductive age. Many of these women are infected while pregnant and lactating. We report here a direct impact of SEA on primary human trophoblast cells, which are critical for many aspects of a healthy pregnancy. Our data indicate that schistosome antigens can activate proinflammatory responses in trophoblasts, which might compromise maternal-fetal health in pregnancies complicated by schistosomiasis^[7].

(4) Intestinal schistosomiasis in chimpanzees on Ngamba Island, Uganda: observations on liver fibrosis, schistosome genetic diversity and praziquantel treatment

Abstract

8 animals were closely examined under anaesthesia in March 2011 with portable ultrasonography and by rectal snip biopsy. All 8 animals were treated under anaesthesia by oral gavage with PZQ at 60 mg/kg dosing that was well tolerated. Only 1 chimpanzee appeared to be free from infection and active egg excretion was



confirmed in 6 animals. If intestinal schistosomiasis is to be controlled within this setting, a long-term disease management plan is required which should combine active case-detection with an insistent treatment regime with praziquantel for these chimpanzees, exploring perhaps the performance of even higher dosing^[8].

3. 其他寄生虫相关

(1) Microarray analysis of rat immune responses to liver fluke infection following vaccination with *Fasciola hepatica* phosphoglycerate kinase

Abstract

In this present paper we analyzed the expression levels of cytokines in rats infected with F. hepatica following immunization with F. hepatica phosphoglycerate kinase - a novel vaccine antigen. The result indicates the vaccine did not influence the major modulation of immune responses typically observed during Fasciola infections, however, other subtle but significant variations were observed that indicated altered inflammatory and possibly T helper cell responses^[9].

(2) The origin of the giant liver fluke, *Fascioloides magna* (Trematoda: Fasciolidae) from Croatia determined by high-resolution melting screening of mitochondrial *cox1* haplotypes

Abstract

The high-resolution melting (HRM) method, recently optimized as a reliable technique for population study of the European Fascioloides magna populations, was applied to determine an origin of F. magna individuals from Croatia. The results of this paper support the theory that the Danube floodplain forests population of F. magna represents uniform genetic pool of the parasite. The spread of F. magna alongside the Danube River down to Croatia was possible due to suitable ecological conditions for definitive and intermediate hosts present in this unique biotope^[10].



(3) Hydatid cyst: an unusual solid breast mass

Abstract

We aimed to present the mammographical and sonographic findings of a 50-year-old woman patient consulted to our mammography unit of whom we determined a Breast Imaging-Reporting and Data System class 4 solid lesion in the right breast and come out as hydatid cyst pathologically^[11].

(4) Left ventricular endocardial echinococcosis associated with multiple intracranial hydatid cysts

Abstract

We report a 15-year-old boy presented with a rare combination of a left ventricular subendocardial hydatid cyst associated with multiple cysts in the left cerebral hemisphere and right posterior occipital lobe. The patient underwent successful surgical excision of the left ventricular hydatid cyst using cardiopulmonary bypass^[12].

(5) Application of loop-mediated isothermal amplification assay for the sensitive and rapid diagnosis of visceral leishmaniasis and post-kala-azar dermal leishmaniasis

Abstract

We have applied LAMP assay using SYBR Green for clear-cut naked eye detection of *Leishmania (Leishmania) donovani* in 200 clinical samples of visceral leishmaniasis (VL) and post-kala-azar dermal leishmaniasis (PKDL). The assay was specific for *L. (L.) donovani*, the causative species for VL and negative for *L. (L.) infantum*, *L. (L.) tropica*, and *L. (L.) major*. This is the first comprehensive clinical study demonstrating the applicability of the LAMP assay for a rapid and reliable molecular diagnosis of VL and PKDL^[13].

二、国内热带病热点研究

1. 疟疾相关

(1) 山东省疟疾高发地区发病率与气象因子的多元逐步回归分析

【摘要】*

目的：探索山东省疟疾高发地区气象因子与疟疾流行之间的关系。方法：收集 2006-2009 年山东高疟区菏泽市月疟疾发病率资料和月平均气温、月降水量、月雨日数和月平均相对湿度气象资料,应用 Spearman 等级相关分析气象因子与疟疾发病率之间的相关关系,用多元逐步回归建立气象因子与发病率回归方程。结论：气象因素能够影响疟疾的流行,尤其雨日数和降雨量,可以依据拟合方程预测山东高疟区疟疾流行趋势^[14]。

(2) 北海市消灭疟疾后 14 年监测结果分析

【摘要】

目的：分析北海市在基本消灭疟疾后该病的流行现状及特点。方法：收集市区各医疗卫生单位对临床诊断疟疾或疑似疟疾及不明原因发热等 3 种对象,血检发现疟原虫阳性的血片,经省、市级疾控中心复核后为确诊的病例。结论：当地疟疾防治工作成绩显著,输入性疟疾是当前的主要危险^[15]。

(3) 2011 年江苏省疟疾疫情流行病学分析

【摘要】

目的：分析江苏省 2011 年的疟疾疫情及流行特征。方法：收集全省网络报告疟疾疫情和专报系统的流行病学调查资料,并进行统计分析。结论：江苏省本地感染间日疟病例明显下降,流行范围明显缩小;但境外输入性疟疾仍呈明显上升趋势,且感染疟原虫虫种呈多样性^[16]。

*为了给读者提供更简明扼要的信息，本报告中的中文摘要均经过编辑和精简。

(4) 中国 2006—2010 年疟疾流行趋势分析

【摘要】

目的：分析中国 2006—2010 年疟疾发病趋势和时空分布特征。方法：从国家疾病监测信息报告管理系统收集整理 2006—2010 年中国各省(市、区)疟疾疫情数据,运用 Arc GIS 9.0 软件建立疟疾地理信息数据库,分层对 5 年的中国疟疾时空流行趋势进行描述性分析。结论：中国疟疾发病率大幅降低,安徽、云南和海南 3 省以及江淮流域应成为疟疾防控重点地区^[17]。

2. 血吸虫相关

(1) 日本血吸虫 TOM34 基因的克隆和表达分析

【摘要】

目的：克隆、表达日本血吸虫线粒体外膜转运酶 34 基因(SjTOM34),并对其生物特性进行初步研究。方法：应用 RT-PCR 方法从 42d 日本血吸虫成虫 cDNA 中扩增 SjTOM34 基因。应用实时定量 RT-PCR 方法分析了 SjTOM34 基因在日本血吸虫不同发育阶段虫体中的表达状况。Western blotting 分析了重组抗原的免疫原性及该蛋白在不同发育阶段虫体中的表达情况,利用免疫组化方法观察了该蛋白在虫体内的分布情况。结论：获得了日本血吸虫 SjTOM34 基因,初步明确了该基因在日本血吸虫童虫和成虫中的表达情况,及在成虫中的分布^[18]。

(2) 血吸虫病防治标准修订在推进我国消除血吸虫病规划中的作用

【摘要】

本文围绕我国 6 次修订血吸虫病控制和消灭标准的历史背景,以及其在不同防治时期对推进我国血吸虫病控制规划中的作用,提出了在当前消除血吸虫病进程中进一步修订完善防治标准的必要性。并基于文献复习与提炼、回顾性调查、专家论证、完善指标等工作基础,就修订完成我国新的《控制和消除血吸虫病标准》的背景进行了阐述^[19]。

(3) 血吸虫病疫情评价指标体系的研究

【摘要】

目的：建立科学、客观、可操作性强的血吸虫病疫情评价指标体系,为修订《血吸虫病控制和消灭标准》(GB15976-2006)提供参考依据。方法：采用文献查阅法设计调查问卷,选择 20 位从事血吸虫病防治、科研和管理的专家进行德尔菲法调查,对血吸虫病疫情指标的重要性进行评分,建立血吸虫病疫情评价指标体系并计算体系中各指标的归一化权重和组合权重。结论：建立的血吸虫病疫情评价指标体系指标合理、全面、权威性强,可为《血吸虫病控制和消灭标准》修订提供参考依据^[20]。

(4) 日本血吸虫重组多表位核酸疫苗的构建与免疫保护效果评估

【摘要】

为构建重组日本血吸虫多表位核酸疫苗,并通过小鼠免疫保护试验比较不同重组多表位疫苗诱导的免疫保护效果,筛选并以 PCR 方法扩增日本血吸虫抱雌沟蛋白(SjGCP)、谷胱甘肽-S-转移酶(Sj28GST)的抗原表位和 23ku 膜抗原大亲水区(LHD-Sj23)的编码 DNA 片段,构建了三种日本血吸虫多表位核酸疫苗;采用肌肉注射法接种昆明系小鼠;用日本血吸虫尾蚴攻击感染后,剖杀小鼠,计算减虫率。结果表明该重组多表位核酸疫苗可诱导较高的免疫保护效果,获得的三价核酸疫苗 pCMV-BGCP-LHD-Sj23-BSj28 具有潜在的应用价值^[21]。

3. 其他寄生虫相关

(1) 肝包虫病相关因子的研究进展

【摘要】

包虫病是我国西部地区广泛分布的人兽共患病。细胞因子在肝包虫病免疫中的作用正不断得到阐明。其中,对 OPN、IL-10、TNF- α 、IL-2、IL-6 和 INF- γ 等的免疫保护与病理损伤机制的研究较为深入。对肝包虫病的发病机制并对疾病的严重程度、疗效及预后的判断具有重要意义^[22]。



(2) 超声造影剂协同下的高强度聚焦超声对包虫原头蚴酶活性的影响

【摘要】

为探索高强度聚焦超声结合适宜比例的微泡造影剂对离体细粒棘球绦虫原头蚴酶活性的影响,实验分离包虫原头蚴,在原头蚴悬液中加入比例为 1:80 的微泡造影剂(含氟脂质体微泡),以声功率为 50W 的高强度聚焦超声波辐照 30s,辐照后悬液涂片作酶组织化学染色,检测原头蚴三磷酸腺苷酶、葡萄糖-6-磷酸酶和琥珀酸脱氢酶的活性^[23]。

(3) 肝片吸虫组织蛋白酶 L 真核表达载体构建及重组蛋白活性分析

【摘要】

目的: 构建肝片吸虫组织蛋白酶 L(CatL)的真核表达载体,研究重组蛋白的生物学活性。方法: 以构建好的重组质粒 pET30a-FhCatL 为模板,利用 PCR 技术扩增肝片吸虫组织蛋白酶 L 基因(catL),连接真核表达载体 pEGFP-N1,构建重组质粒 pEGFP-N1-CatL,转染 HeLa 细胞,荧光显微镜下观察绿色荧光,Western blotting 检测重组蛋白表达情况。结论: 肝片吸虫 CatL 真核表达载体构建成功,真核表达产物可与自然感染的山羊阳性血清发生特异性反应,具有免疫反应性,可作为分子疫苗的候选和诊断抗原进行进一步的研究^[24]。

(4) 黑热病患者检出 438 株病原菌分布及耐药性分析

【摘要】

目的: 探讨医院黑热病患者感染病原菌的分布及耐药现状,为临床合理使用抗菌药物提供依据。方法: 统计分析黑热病患者的临床资料;细菌鉴定采用法国生物梅里埃公司 VITEK-32 全自动细菌分析系统;药敏试验用 K-B 法进行。结论: 黑热病患者感染病原菌有其自身特点,敏感药物可作为临床治疗首选^[25]。

(5) 基于聚类分析的重庆市人群土源性线虫感染流行特征



【摘要】

目的：了解重庆市人群土源性线虫感染的聚集性,为今后制定科学的防治对策提供依据。方法：在重庆市 38 个区县,每个区县以县城为中心,按东南西北 4 个方向,随机抽取 4 个村为调查点。采用改良加藤厚涂片法检查其土源性线虫卵。利用 SAS9.2 统计软件对 38 个区县的蛔虫、钩虫、鞭虫的感染率进行系统聚类分析。结论：重庆市人群土源性线虫感染率存在明显的地区差异,应采取不同的防治对策^[26]。

【参考文献】

(如需参考文献中论文全文, 请发送论文标题至 yaoyaoyu1987@163.com)

1. Sato S, Sesay AK, Holder AA. *The Unique Structure of the Apicoplast Genome of the Rodent Malaria Parasite Plasmodium chabaudi chabaudi*[J].*PLoS One*, 2013,8(4):e61778
2. Ch'ng JH, Mok S, Bozdech Z, et al.. *A whole cell pathway screen reveals seven novel chemosensitizers to combat chloroquine resistant malaria*[J]. *Sci Rep*,2013, 3:1734
3. Lee CS, Gregson DB, Church D, et al. *Population-based laboratory surveillance of imported malaria in metropolitan calgary, 2000-2011.*[J].*PLoS One*,2013,8(4):e60751
4. Goodman AL, Forbes EK, Williams AR et al. *The utility of Plasmodium berghei as a rodent model for anti-merozoite malaria vaccine assessment*[J].*Sci Rep*,2013,3:1706
5. Kolářová L, Skírnisson K, Fert éH et al. *Trichobilharzia mergi sp. nov. (Trematoda: Digenea: Schistosomatidae), a visceral schistosome of Mergus serrator (L.) (Aves: Anatidae)*[J].*Parasitol Int.* 2013,62(3):300-8
6. Malagán D, Gray D, Botterill B et al. *Anthelmintic activity of the cyclotides (kalata B1 and B2) against schistosome parasites*[J].*Biopolymers*,2013
7. McDonald EA, Kurtis JD, Acosta L et al. *Schistosome egg antigens elicit a proinflammatory response by trophoblast cells of the human placenta*[J].*Infect Immun*,2013,81(3):704-12

8. Standley CJ, Mugisha L, Adriko M et al. Intestinal schistosomiasis in chimpanzees on Ngamba Island, Uganda: observations on liver fibrosis, schistosome genetic diversity and praziquantel treatment[J].*Parasitology*,2013,140(3):285-95
9. Wesolowska A, Jaros S, Norbury LJ et al. Microarray analysis of rat immune responses to liver fluke infection following vaccination with *Fasciola hepatica* phosphoglycerate kinase[J].*Exp Parasitol*,2013,134(1):33-8
10. Bazsalovicsová E, Králová-Hromádová I, Radványky J et al. The origin of the giant liver fluke, *Fascioloides magna* (Trematoda: Fasciolidae) from Croatia determined by high-resolution melting screening of mitochondrial *cox1* haplotypes[J].*Parasitol Res*,2013
11. Elverici E, Barça AN, Erhuner Z et al. Hydatid cyst: an unusual solid breast mass[J].*Clin Imaging*,2013, 37(3):577-9
12. Darwazah AK, Zaghari M, Eida M et al. Left ventricular endocardial echinococcosis associated with multiple intracranial hydatid cysts[J].*J Cardiothorac Surg*,2013,8(1):104
13. Verma S, Avishek K, Sharma V, et al. Application of loop-mediated isothermal amplification assay for the sensitive and rapid diagnosis of visceral leishmaniasis and post-kala-azar dermal leishmaniasis [J].*Diagn Microbiol Infect Dis*,2013,75(4):390-5
14. 张本光,赵长磊,卜秀芹等.山东省疟疾高发地区发病率与气象因子的多元逐步回归分析[J],*中国人兽共患病学报*,2013(3):257-261
15. 张万标,梁健,许承宝等.北海市消灭疟疾后 14 年监测结果分析[J],*现代预防医学*,2013(4): 773-775
16. 周华云,曹俊,王伟明等.2011 年江苏省疟疾疫情流行病学分析[J],*中国血吸虫病防治杂志*,2013(1): 31-35
17. 李亚楠,温亮,李承毅等.中国 2006—2010 年疟疾流行趋势分析[J],*中国公共卫生*,2013(2): 263-265
18. 洪炆,李学珍,傅志强等.日本血吸虫 TOM34 基因的克隆和表达分析[J].*中国人兽共患病学报*,2013(2): 122-128



19. 周晓农,许静,林丹丹等.血吸虫病防治标准修订在推进我国消除血吸虫病规划中的作用[J].中国血吸虫病防治杂志,2013(1): 1-4
20. 许静,徐俊芳,朱蓉等.血吸虫病疫情评价指标体系的研究[J].中国血吸虫病防治杂志,2013(1): 5-10
21. 章登吉,傅志强,石耀军等.日本血吸虫重组多表位核酸疫苗的构建与免疫保护效果评估[J].中国兽医科学,2013(1)
22. 高亮亮,张示杰等.肝包虫病相关因子的研究进展[J].中国人兽共患病学报,2013(1): 78-81
23. 孔璟,蔡辉,叶彬等.超声造影剂协同下的高强度聚焦超声对包虫原头蚴酶活性的影响[J].四川动物,2013(1): 108-111
24. 闻晓波,冉旭华,王春仁等.肝片吸虫组织蛋白酶 L 真核表达载体构建及重组蛋白活性分析[J].中国人兽共患病学报,2013(1): 51-53+58
25. 杜春辉,付玉华等.黑热病患者检出 438 株病原菌分布及耐药性分析[J]. 中华医院感染学杂志,2013(1): 202-204
26. 吴成果,罗飞等.基于聚类分析的重庆市人群土源性线虫感染流行特征[J]. 现代预防医学,2013(5) :953-955+959

编辑：中国疾病预防控制中心寄生虫病预防控制所

报告制作：路瑶、黄骞

核发：卢延鑫、肖宁

联系电话：021-64377008

传真：+86-021-64332670 邮编：200025

地址：上海市卢湾区瑞金二路 207 号



寄生虫病预防控制所