

论著

子一代实验室钉螺细胞色素c氧化酶I、细胞色素b基因序列分析

张仪¹, Yamasaki Hiroshi², 刘和香¹, 冯婷¹, 冯正¹

1 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, 卫生部寄生虫病重点实验室; 上海200025

2 日本旭川医学院寄生虫系; 寄生虫分子和细胞系, 现在日本旭川医学院寄生虫系。

收稿日期 修回日期 网络版发布日期 接受日期

摘要

目的 了解钉螺子一代(F1)实验室钉螺群(湖北钉螺湖北亚种)内的遗传变异。方法 实验室饲养的F1钉螺, 单个抽提基因组DNA, PCR扩增细胞色素c氧化酶I(COI)、细胞色素b(Cytb)基因并测序, 用GENETYX MAC ver. 9软件进行同源排序、DNA和氨基酸序列分析, 同时与GenBank相同基因序列比较。结果 实验室螺群内, COI基因差异为12.2%, 94个氨基酸发生变化。Cytb基因差异6.4%, 有25个氨基酸发生变化。湖北亚种与滇川亚种COI基因序列差异率为13.5%。与GenBank中湖北钉螺滇川亚种Cytb基因序列比较, 差异为13.6%, 在203个氨基酸中6个氨基酸发生变化。结论 F1实验室钉螺群内核苷酸与氨基酸序列均发生变异。

关键词 [螺](#) [子代](#) [基因](#) [遗传变异](#)

分类号

Analysis of Cytochrome c Oxidase I and Cytochrome b Genes of F1 in Laboratory Line *Oncomelania hupensis hupensis*

ZHANG Yi, Yamasaki Hiroshi, LIU He xiang, FENG Ting, FENG Zheng

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

Abstract

Objective To analyze the diversity of F1 in laboratory line *Oncomelania hupensis hupensis*. Methods Genomic DNA was isolated, and cytochrome c oxidase I (COI) and cytochrome b (Cytb) genes were amplified by polymerase chain reaction (PCR). The nucleotide sequences of the PCR products were analyzed by GENETYX MAC software package (ver.9). Results Pairwise divergences among six F1 individuals were found in 12.2% nucleotides in COI gene fragments. 13.5% of genetic divergences between *O.h.hupensis* and *O.h.robertsoni* were identified. 94 amino acids were observed in difference. In Cyt b gene fragments, 6.4% of divergence was observed among four F1 samples. 25 amino acids were observed differently. The divergence of Cyt b genes from *O.h.robertsoni* and *O.h.hupensis* were 13.6%, included 6 amino acids. Conclusion Diversities were found in both COI and Cyt b gene sequences of F1 in laboratory line *O.h.hupensis*.

Key words [Snails](#) [F1 filial generation](#) [Genes](#) [Genetic variation](#)

DOI:

通讯作者

作者个人主页

张仪¹; Yamasaki Hiroshi²; 刘和香¹; 冯婷¹; 冯正¹

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF \(340KB\)](#)

▶ [\[HTML全文\]\(OKB\)](#)

▶ [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“螺”的相关文章](#)

▶ [本文作者相关文章](#)

· [张仪](#)

· [Yamasaki Hiroshi](#)

· [刘和香](#)

· [冯婷](#)

· [冯正](#)