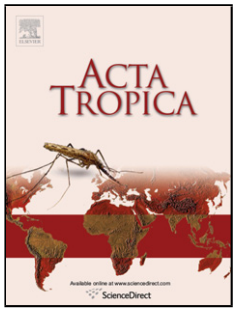

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A Rapid High-Resolution Melting Method for Differentiation of *Leishmania* Species Targeting *lack* gene

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Abstract

Objectives: The aim of this research is to verify that if *lack* gene can be used for differentiation of *Leishmania* under HRM assay.

Methods: Two specific primers were designed targeting polymorphic sites on the lack gene sequence. DNA from promastigotes of six species of *Leishmania* based on reference strains were tested following a HRM protocol. We also tested ten Chinese isolates in blind to validate our method.

Results: Combined with amplicon of the two primers, the six reference strains can be easily discriminated without the effect of initial concentration of DNA templates. Ten Chinese isolates detected by our HRM method resulted in full accord with the standard identification results in previous study.

Conclusion: HRM is a rapid and reproducible method to discriminate different *Leishmania* species and *lack* gene is a potential novel biological characteristic for easy differentiation of *Leishmania* isolates in China.

Keywords: *Leishmania* species, high-resolution melting, *lack* gene, leishmaniasis

1. Introduction

Caused by more than 20 species of *Leishmania*, Leishmaniasis is prevalent in many