Author's response to reviews

Title: Rapid, Simple and Sensitive Detection of Spotted Fever Group Rickettsias by Loop-Mediated Isothermal Amplification of the ompB Gene

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Author's response to reviews: see over
Response letter to the Editor and the Reviewers

Dear Editor and Reviewers:

Thank you very much for your help and your comments. We have revised the MS carefully according to your comments and answered your questions as follows:

Reviewer 1

Raised concerns that the omp B gene is known to be present in Spotted Fever Group rickettsiae AND Typhus Group rickettsiae whilst your manuscript indicates that your omp B assay is specific for Spotted Fever Group rickettsial infections only. You will need to clarify within the manuscript whether your assay is positive or negative for R.prowazekii and R.typhi and amend the manuscript accordingly. Please note that if your assay also detects these species you will need to amend your conclusions.

Thank you very much for your time and your comments. In the first revised edition of the MS, we have explained that this set of primers is only specific to spotted fever group rickettsiae because no conserved sequences of ompB gene was found although this gene exist in R.prowazekii and R.typhi. According to your latest suggestions, we have addressed this in the materials and methods (design of primers), and also described this LAMP assay is negative for R.prowazekii and R.typhi in the section of results and amended this results in the conclusions of the abstract.

Needs some language corrections before being published

Thanks lot! We have revised this MS by a native-English speaker with scientific expertise (http://www.biomedcentral.com/authors/authorfaq/editing)

Reviewer 2

1) On the first page of the cover letter, the authors tried to answer the Question

1. It was mentioned that, one of the reasons that sample from” case 9” showed negative in PCR assay is due to the extraction of DNA. I think, if the positive
Controls were included and work well in the experiment, the possibility of DNA to inhibit Taq DNA polymerase would be excluded.

Thank you so much for your time and your help. Indeed, we have just finished experiments on the inhibition of some background of DNAs (human or other eukaryotic DNA) on Taq DNA polymerase used in general PCR, and DNA polymerase used in real time PCR and DNA polymerase used in LAMP and results indicated that background of DNAs inhibited much Taq DNA polymerase used in general PCR, and DNA polymerase used in real time PCR than that used in LAMP. Similar reports were found from other countries. However, the maximum inhibition is reached at 10 times.

As to the situation of the case 9, it is really difficulty to explain the reasons. Perhaps, it is an exceptional case beyond normal distribution.

2) On Page 2 of the cover letter, response to Question 4, if the authors could provide some references, for example, published studies using the CVi and CVo, it would be beneficial for the readers.

Thanks, we have added two references for this.

Reviewer 3

The manuscript is poorly written in English. There are many mistakes in spelling and grammar. For example in the abstract, rickettsiae was misspelled as rickettsias and the first sentence "Infection with spotted fever group rickettsias (SFGR) causes spotted fever, incidences of which are prevalent throughout China" is difficult to understand and the sentence can be simplified as "Spotted fever caused by rickettsiae is prevalent throughout China”. Due to too many mistakes, the reviewers will not point out the mistakes item by
item and the authors need ask a person who is fluent in English to revise the manuscript.

Thanks lot! Like we answered the Reviewer1, we have revised the MS by a native-English speaker (http://www.biomedcentral.com/authors/authorfaq/editing)

To the Editor

We have improved the style of written English for the MS and formatted to the journal style. Please see the attached confirmation file. Thank you very much!

Sincerely yours, zhanglijuan in Beijing