Reviewer’s report

Title: Prevalence and molecular characterization of pyrazinamide resistance among multidrug-resistant Mycobacterium tuberculosis isolates from Southern China

Version: 0 Date: 02 Jun 2017

Reviewer: Delphi Chatterjee

Reviewer’s report:

The manuscript describes the potential benefit of using mutations in the pncA gene as a marker for pyrazinamide resistance in MDR TB. The study is conducted in the Southern province of China in the Chongqing municipality where pyrazinamide resistance is prevalent.

The authors also find that in the pncA expression of strains, substitution from A to G at position -11 in the promoter region of pncA was significantly lower than that of H37Rv. The work although interesting seems to be little premature as the study involves only a limited set of samples (133) from a region where MDRTB is high and clinical samples were obtained only from one clinic. Wider sampling will give more credence to this study.

The authors claim that loss of pncA expression caused by promoter mutation confers PZA resistance in MDR-TB isolates- I see no substantiation of this statement.

Line 72, please correct pyrazinoic acid

Chongqing has both TB and MDR-TB in China. However, limited data is available for the prevalence of PZA resistance in M. tuberculosis isolates, especially

MDR-TB. I think inclusion of more MDR patients both in this particular region and from surrounding clinics for control will validate the study further.

How is retreatment defined for MDRTB?

As summarized in Table 2, the diversity in mutation seems to be wide spread in the pncA gene, hence may not be only due to the PZA resistance?

The authors need to check the manuscript thoroughly for grammatical mistakes and typos prior to submission.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
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Yes

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I recommend additional statistical review

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