**Reviewer's report**

**Title:** Characteristics of pncA Mutations in Multidrug-resistant Tuberculosis in Taiwan

**Version:** 1  **Date:** 2 May 2011

**Reviewer:** Elvira Richter

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BMC manuscript 'Characteristics of pncA Mutations in Multidrug-resistant Tuberculosis in Taiwan' by Chiu et al.

The manuscript describes the analysis of PZA resistance using MGIT technique, the activity of Pyrazinamidase, and sequence analysis of the pncA gene from 66 MDR-TB strains from Taiwan.

Worldwide rising numbers of MDR strain are isolated. Due to this, rapid techniques are necessary for early determination of drug resistance, also to other drugs besides INH and RMP. These data also need to be collected for different regions to assess possible differences between different strains or countries. Thus, this topic is of high interest.

In total, the paper is well written and the questions were addressed in an appropriate manner.

I have some minor remarks:

In general, page numbers or line numbers would be advantageously for reviewing.

**Methods:**

DST: the authors should cite the guideline according to which DST was performed. Furthermore, they should cite the source for the use of the higher concentration (5 µg/ml) for rifampicin, since this is not usual.

pncA sequencing:

Has the gene been sequenced in both directions? I.e. have the mutations been proved by both-side sequencing?

**Discussion:**

The following sentence is not clear: 'When taking the spoligotyping results into consideration, no clustered isolates were found.....' How can they find clustered isolates if not confirmed by spoligotyping? Please reformulate and state the conclusion more precisely.

**Tables:**
Table 2 is very confusing and should be reorganized. For a reader the finding of sensitive strains is very difficult. The strains should not be gathered according to the spoligotyping pattern (which is not the topic of the analysis) but according to the mutations. Thus, most WT strains are in series. The spoligotyping result can still be included as result in a column. Furthermore, mutations are listed without a count in column No. of Isolates and without designation of PZA susceptibility. If these are cases with multiple mutations this should be indicated unequivocally.

**Level of interest**: An article of importance in its field

**Quality of written English**: Acceptable

**Statistical review**: Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests**:

I declare that I have no competing interests