Reviewer’s report

Title: Microsphere-based antibody assays for human parvovirus B19V, CMV and T. gondii

Version: 0 Date: 04 Aug 2015

Reviewer: Peter Coyle

Reviewer’s report:

This is a useful paper describing the development and validation of an IgG multiplex SIA for CMV, B19 and TG. Additionally an SIA for B19 IgM was also developed. The authors used well characterised cohorts of sera to run the validation protocols and recorded sensitivity, specificity and kappa values for comparison and a Persons coefficient. The 3 viral targets all have potential roles in any universal antenatal screening program. The methodology is sound and the authors have shown this approach to be feasible and that with minor additional standardization could be exploited as a more cost effective commercial instrument than is currently the case. While the B19 IgM SIA is of interest, it is a bit of a distraction from the core rationale of the study i.e. the development of a multiplex IgG SIA. The somewhat high discordant IgM results in the control cohort again are an issue that would be better discussed in a separate manuscript.

Some points:

The numbers of sera used for the multiplex SIAs should be stated in the methods and results.

Are the clinical timings on disease onset accurate for the sera showing discordant IgG results - in other words is the discordance related to the test of the clinical characterisation

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

Yes

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

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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