Reviewer's report

Title: The utility of circulating LHCGR as a predictor of Down's syndrome in early pregnancy

Version: 1 Date: 7 March 2014

Reviewer: Roseli M Y Nomura

Reviewer's report:

This paper describes the role of sLHCGR forms as biomarkers for Down's syndrome (DS) in first trimester screens. It is well-written paper and provides a valuable contribution for prenatal first trimester screening. This study demonstrates that the ratio sLHCGR/hCG-sLHCGR can increase the detection rate and reduce false positive rate in DS screening.

Major Compulsory Revisions:

1. My one main issue with this paper is that larger population-based studies, involving both low and high-risk groups, are required to establish the cut-off values for serum sLHCGR/hCG-sLHCGR to detect DS. In the results, the authors suggest a cut-off of 2.0.

Minor essential revisions:

2. On abstract the size of control group (N=300) is different than figure 1 (N=206). This should be clarified.
3. Methods: What criteria were used to select the controls? They were prospectively or retrospectively collected?
4. In the Results section (first paragraph) the authors included some aspects that could be more appropriate in the discussion (when comparing the results of the present paper with ref 8)
5. The discussion section is short; it should be improved including aspects of physiological role for sLHCGR, the limitations of the study, and the need for population-based studies, involving both low and high-risk groups, to establish the cut-off values for serum sLHCGR/hCG-sLHCGR.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests