Reviewer's report

Title: ALDH1A2 (RALDH2) genetic variation in human congenital heart disease

Version: 1 Date: 22 June 2009

Reviewer: Maria Grazia Andreassi

Reviewer's report:

This study investigated the relationship between vitamin A-derived morphogen retinoic acid (RA) genetic variations and congenital heart disease (CHD) risk. The study hypothesis is interesting, but there are fundamental issues regarding the clarity of writing that need to be addressed. Specifically:

1. Please clarify the number of patients who were underwent genetic analysis, especially for mutation screening: 234 CHD in the abstract; 101 trios in the methods for association study; 83 patients with multiple CHD + 50 TOF for mutation screening; 201 patients with TOF and 44 healthy subjects for case control study!

2. Sample size of 44 healthy subjects is too small to discuss the statistical significance of association between cases and controls!

3. Moreover, it is important to include a table with the clinical data of the patients.

4. A major problem with the paper is that it is too “full” of data. Introduction and discussion are too long and redundant. There also are too many references.

5. The paper would benefit from careful extensive rewriting to improve the clarity of the message that the authors are trying to convey.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests