Reviewer's report

Title: Decrease in thyroid adenoma associated (THADA) expression is a marker of dedifferentiation of thyroid tissue

Version: 1 Date: 7 August 2011

Reviewer: Vasyl Vasko

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Major Compulsory revisions

There are several specific points to address:

1. Introduction.
   a. The hypothesis is not clearly stated:
      i. the functional role of THADA in regulation of thyroid cell differentiation?
      ii. the role of THADA in apoptosis?
      iii. The role of THADA in normal thyroid development or tumorogenesis?
      iv. Association of THADA expression and diabetes?

2. Methods
   a. Please provide clinico-pathological data of patients with thyroid cancer. The information on functional activity of thyroid adenomas will be useful.
   b. Thyroid cancer cell lines are listed in method section. However there are no data on THADA expression in thyroid cancer cell lines in results section of manuscript.

3. Results
   a. The section “Assay validation” is too detailed.
   b. THADA expression in normal tissues. There is discrepancy between the data presented in Fig 1 and statement on sensitivity/specificity.
   c. THADA expression in thyroid tumors
      i. Provide p value for the difference between the level of THADA expression in normal thyroid and benign lesions (goiter, adenomas).
      ii. Provide p value for the difference between the level of THADA expression in normal thyroid and differentiated papillary thyroid cancer.
      iii. Provide data on expression of well established thyroid differentiation markers (NIS, TG, TPO and other) in relation to THADA expression.
      iv. Which genetic abnormality were detected in examined anaplastic thyroid cancer
      v. The results on HMGA2 expression were already reported. It is unclear how you performed correlation analysis using data from previous study.
d. Transcription factor binding.
i. Define in more detail the functional relationships between THADA and CREB

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**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