Reviewer's report

Title: Mesenchymal and stemness circulating tumor cells in early breast cancer diagnosis

Version: 1 Date: 7 September 2011

Reviewer: Sabine Kasimir-Bauer

Reviewer's report:

1. The methods are poorly described. The AdnaTest is a molecular approach for the detection of CTCs as well as CTCs with stemness features in peripheral blood of breast cancer patients. This test with all advantages and disadvantages has been described in detail in primary and metastatic breast cancer in journals with high impact factors but not one of the studies has been cited in this paper.

2. I guess that for the detection of BMI and CD44 transcripts, single-plex RT-PCR has been performed. No detailed information about the methodological procedure is given in the "Method Section" and no information is supplied about the number of normal donors tested to establish a cut-off for these markers. A positivity rate of 67% for BMI is too high and implicates a high number of false-positive samples.

3. In my opinion, statistical analysis is not feasible with 61 patients. Furthermore, the Patient Characteristics (Table 1) are documented in a quite unusual form. Type of surgery is missing.

4. The discussion is more or less a review of EMT features and figure 2 should be deleted. The data are not discussed with results currently published and contain too many speculations.

5. .."our results highlight a new paradigm: The absence of lymph node invasion is not a criteria of non dissemination." This is no new paradigm at all. Braun et al. 2001 impressively demonstrated this phenomenon in his publication in the New Engl J of Medicine.

6. The paper is poorly written. It needs some corrections in grammar and spelling.

Level of interest: An article of limited interest

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

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

Declaration of competing interests:

I declare that I have no competing interests.