Reviewer's report

Title: Y-box protein-1/p18 fragment in plasma is a sensitive and specific novel disease marker in patients with malignancies of different origin

Version: 1  Date: 24 May 2013

Reviewer: Reinhold Schäfer

Reviewer's report:

The authors have determined serum levels of the YB-1 p18 polypeptide in cancer patients suffering from different carcinomas and demonstrated a high prevalence. The paper extends a previous publication from the same group (Tacke et al., BMC Cancer 11:185, 2011), showing that YB-1 p18 is present in serum of hepatocellular carcinoma patients but not detectable in sera of non-diseased individuals or patients with inflammatory disease. Hence, the claim suggesting specificity for malignant diseases is further strengthened. The authors have compared the sensitivity of p18 detection with that of 13 other tumor markers present in serum (e.g. CEA) and report overall superior performance of their marker. However, YB-1 p18 does not have any prognostic value. In my view, this limits the chances of translating YB-1 p18 detection into a clinical or diagnostic setting. I wonder, if the authors have considered to apply YB-1 p18 serum detection in a prospective setting or as an early marker for cancerogenesis. The paper would gain much more value as a tumor marker provided that the authors could correlate p18 detection with adenomas or any other benign precursor lesions.

The major drawback of work on p18 is the lack of functional data that would describe any specific function, particularly in view of the multifaceted roles of YB-1 in multi-drug resistance, control of transcription and translation etc. (although this was not the focus of their paper).

Specific points:

1. The authors have analyzed a broad range of tumors which limits their conclusions because the individual tumor cohorts are relatively small (Table 1-3).

2. Indicating a percentage for tumor groups in which the total number equals 1, 2 or 3 does not make sense (table 3).

3. Although immunoblotting is a semi-quantitative method at best, it would be interesting to determine the limit of detection using other markers for normalization (if possible) (Fig. 1). In hematological malignancies, one could try to correlate p18 concentration with the number of blasts present in the circulation.

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

**Quality of written English:** Acceptable

**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.