Reviewer's report

Title: Caveolin 1 protein expression in renal cell carcinoma predicts survival

Version: 1 Date: 8 August 2011

Reviewer: Peter Schraml

Reviewer's report:

Major Compulsory Revisions

The expression of CAV1 has already been studied in a number of different tumor types including ccRCC. According to the literature different CAV1 antibodies, IHC protocols and criteria have been used for analyzing CAV1 expression without validating the antibodies. This obviously lead to contradictory data.

In light of the large ccRCC cohort used here, the results of this study would gain more importance if the authors are able to validate the CAV1 binding specificity of the used antibody (i.e. Western blot analysis of some CAV1 negative and positive tumors (negative, weak, strong + reference). Replacing the primary antibody by non-immune serum is widely used in pathology labs but this not sufficient to justify it as negative control.

As the cores of tissue microarray elements are very small, the use of a score addressing the percentage of tumor cells is rather arbitrary. There is no data describing how many ccRCC were negative, weak, moderate and strong positive (cytoplasm and membranous). It would be interesting to see the associations between CAV1 expression (single groups and combined (i.e.0+1 and 2+3 or neg/pos) and clinical parameters by applying a 3 or 4-tiered staining score.

There is a significant correlation between membrane and cytoplasmic positive ccRCC. It is surprising that only cytoplasmic CAV1 expression is significantly correlated with pathological parameters and survival?

Minor Essential Revisions

The previous CAV-1 mRNA expression study was not cited.

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

Quality of written English: Needs some language corrections before being published

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