Reviewer's report

Title: A combination of p300 and Braf expression in the diagnosis and prognosis of melanoma

Version: 2 Date: 13 March 2014

Reviewer: Kenneth Tsai

Reviewer's report:

This report details findings on BRAF and p300 expression in melanoma. They find that BRAF expression is correlated with cytoplasmic p300 expression and inversely correlated with nuclear p300 expression. Nuclear p300 expression is independently correlated with patient survival. The combination of BRAF and p300 expression appears to be able to predict survival as well.

While the data appear compelling there are some major issues with the paper:

1. If nuclear p300 expression is independently predictive of survival, this should be shown with K_M curves (not only split into BRAF hi / BRAF lo, etc...) - show a KM curve that has just high and low p300 nuclear expression and a difference.

2. The decision trees figures have no legends and are not well described. What do all the numbers mean?

3. Distinguishing nevi from melanoma is rarely difficult on routine histology. It is unclear why using p300 / BRAF expression to distinguish them is clinically important. If applied to ambiguous lesions this would be very valuable.

4. Distinguishing primary from metastatic melanoma is valuable particularly if the data are all from the samples of the primary tumors - is this the case or are the metastatic samples from the metastatic lesions?

5. The functional consequences of these expression patterns of BRAF and p300 are overinterpreted throughout the paper. These are only correlations of expression - they have no actual functional information associated with them as determined by the authors - thus using this data to justify combination therapy and statements like "Cytoplasmic p300.. did not oppose the effects of BRAF" are overinterpretations of their data and must be avoided.

Level of interest: An article of limited interest

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

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
None