Reviewer’s report

Title: Anti-oncogenic and Pro-differentiation Effects of Inhibition of Monoamine oxidase A on High Grade Prostate Cancer Cells

Version: 2 Date: 5 January 2009

Reviewer: Anne Collins

Reviewer’s report:

Previous work by the authors had shown that Clorgyline, an MAO-A inhibitor, induces differentiation of prostate basal cells. They have built on this work here and show that downregulation of enzyme activity inhibits various oncogenic pathways and induces differentiation of high grade prostate cancer.

This is an interesting study and has potential therapeutically. However, I think the data is preliminary and warrants some further work.

Major compulsory revisions:
1. My major criticism is that only one high grade prostate cancer was used for this study. I do have some sympathy as it is a move in the right direction, away from studies on cells lines. However, microarray studies should be based on more that one sample.
2. The functional effect of inhibition of MAO-A activity is alluded to, but not tested. The authors demonstrate differentiation of prostate cells, but it would strengthen the paper to study the functional consequence of Clorgyline treatment. For example, what is the effect on clonogenic recovery following treatment? If differentiation is induced, it would be expected that the colony forming activity would be affected.
3. Figure 5A shows error bars but is the difference statistically significant? On pg 16 of the discussion (pg 16, last paragraph Ln6) the authors state that the downregulation of EZH2 was significant, but it is not clear that a statistical test was carried out.

Minor compulsory revisions:
1. Figure 2A, Label Y-axis.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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 interest