Reviewer's report

Title: Methylthioadenosine (MTA) inhibits melanoma cell proliferation and in vivo tumor growth.

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Reviewer: Thirugnana Subramanian

Reviewer's report:

The manuscript submitted to BioMed Central Cancer by Pedro Andreu-Perez et.al entitled “Methylthioadenosine (MTA) inhibits melanoma cell proliferation and in vivo tumor growth” is very interesting work. Major Compulsary Revision is needed before its acceptance. The following corrections have to be included:

Major correction:
1. There is no control for the proliferation and colony formation assays. They should use normal primary cells as negative control in these experiments.
2. Figures 1 and 2 show some conflicting results. In figure 1C they wrote that the proliferation of UACC903 cells was completely arrested at 10 µM concentration of MTA. But in figure 2 they showed several colonies with the same concentration.
3. In page 8, last paragraph, they mentioned that they injected MTA when the tumor reached 50-100 mm3 for 30 days. But in figure 3, they showed only 18 days of tumor growth after the initiation of injection.

Minor correction:
1. Materials and Methods part is not written well. It has to be written with details. For example; (1) How many cells were plated for proliferation assays? (2) After how long the colonies were stained? (3) How much volume of DMSO or MTA in DMSO is injected into mouse? Page 4, lines 18-21, and page 5, line1, UACC903 or (SKMel ) were ---should be written as UACC903 cells were. Page5, line9, Cyclin D1 antibodies were --- should be antibody was. Page 5, line 12, Genescript --- should be Genscript.
2. It is not clear when the colonies were stained with crystal violet. In Materials and Methods, it is until visible difference between treated and untreated cells and in Figure Legends, it is after one week of plating the cells. Which one is right?
3. In figure 1 Number of cells has to be corrected to Viable number of cells. In A and B Number of cells are miss typed in the middle of figures (2 times) and in the bottom of A (1) place.
4. There is no legend for Table 1.

Level of interest: An article of importance in its field
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 interest.