Reviewer’s report

Title: Knockdown of autophagy-related protein 5, ATG5, decreases oxidative stress and has an opposing effect on camptothecin-induced cytotoxicity in osteosarcoma cells.

Version: 1 Date: 26 August 2013

Reviewer: Vincent C O Njar

Reviewer’s report:

This manuscript attempts to investigate the impact of autophagy inhibition on camptothecin –induced cytotoxicity in osteosarcoma cell lines DLM8 and K7M3. Although the manuscript reports some interesting findings there are innumerable shortcomings which make the paper unacceptable for publication in the present form. Following is a detailed critique of the manuscript:

Major comments:
1. The introduction and discussion sections are lengthy, vague and confusing. The authors certainly need to revise both these sections.
2. Although the authors clearly delineate the reason for decreased cell death in DLM8 cells upon autophagy inhibition, solid and clear cut reasons for increase in cell death upon autophagy inhibition in K7M3 cells is not demonstrated clearly.
3. The reasons for the opposing effects of autophagy inhibition and its subsequent effects on cell death in the different OS cell lines need to be explained in detail.
4. CPT induced autophagy is demonstrated only by LC3 immunoblot analysis. Other reliable autophagy associated proteins such as Beclin 1, Atg proteins and Ulk1 also need to be examined. The morphological changes associated with autophagy may also be evaluated by TEM or fluorescense microscopy to confirm CPT- autophagy induction.
5. The authors have mentioned that autophagy inhibition also reduced basal oxidative stress. How was this examined?

Minor comment:
1. Acronym BSO need to be described at the first instance.

Overall impression

The manuscript cannot be accepted in the present form and needs extensive revision taking into account the above points.

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

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.