Reviewer's report

Title: The Effects of Low-dose X-irradiation on Osteoblast-like Cells in Vitro

Version: 1 Date: 23 January 2012

Reviewer: Lexie Holliday

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Major Compulsory changes

1. In my view the author’s need to make more clear the rationale of th study: To use low dose radiation to enhance bone healing clinically? To study the biology of the effects of radiation of on cells? Why is it important to do these studies?

2. The author's suggest that low dose radiation increase alk phos activity, bone nodule formation and change gene expression but there are no efforts to understand the underlying mechanism. How does low dose radiation cause these effects?

3. The alk phos assay was not quantitative.

4. A crucial finding in this study was that low dose radiation induced changes in gene expression, but these changes were not measured by a quatitative technique, ie Real Time PCR, competitive RT- PCR or Northerns. The approach used is not quantitative.

Minor discretionary recvisions revisions

1. It would strengthen the report if primary osteoblasts were also tested. there is no guarantee that the effects of low dose radiation will be the same on them as the cell line. This is particularly important given that there are apparent discrepncies in the literature, as pointed out in the discussion, between studies using primary cells versus cell lines.

Level of interest: An article of limited interest

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 do not have any competing interests.