Reviewer's report

Title: Microarray analysis of DNA damage repair gene expression profiles in cervical cancer cells radioresistant to 252Cf neutron and X-rays

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Reviewer: Kazuhiko Ogawa

Reviewer's report:

In the current study, the authors established radioresistant human cervical cancer cell lines by chronic exposure of radiation and identified a set of genes related to radiosensitivity by microarray analysis. They found that the genes related to DNA damage repair were significantly altered, and that radioresistant cells. They concluded that chronic exposure of cells to ionizing radiation induces adaptive responses that enhance tolerance of ionizing radiation, and allow investigation of cellular radioresistance mecanisms.

I think this manuscript is well written, and these findings may be used for further investigation for elucidating the mechanisms of radiosensitivity. However, I think the priority of this manuscript is not so high, and it would be more preferable to indicate the possible candidate genes that could influence the radiosensitivity in the conclusion sections. Review of the previous reports concerning the differential expression profiles of radiosensitive and radioresistant genes may help upgrade the quality of this paper.

1) Review of the previous reports of radiosensitivity (cervical cancer)
I think it is desirable to review the previous reports concerning the differential expression profiles of radiosensitive and radioresistant genes.

2) Fig.1
I think it is desirable to add the standard deviation from three independent experiments in each point.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.