Reviewer’s report

Title: The radiosensitizing effects of doranidazole on human colorectal cancer cells exposed to high dose irradiation

Version: 1 Date: 1 May 2007

Reviewer: Natsuo Oya

Reviewer’s report:

General

The present study reported the in-vitro radiosensitizing efficacy of Doranidazole, using several colorectal cancer cell lines. Although the data did not provide novel knowledge, the present study may give an experimental basis for the clinical use of Doranidazole, especially in treating colorectal cancer with intraoperative radiotherapy. However, in the Results and Discussion sections, there are several points to be answered and revised.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. Page 8 (colony assay) and Figure 2, Page 8 (PI assay) and Table 1;
   (1) In page 8, line 7, the SER values in colony assay were described to be 1.26 and 1.79 for low radiation dose and high radiation dose, respectively. The Authors should describe the definition of SER and how these values were calculated.
   (2) In Figure 2, the set of plots representing ?Doranidazole plus irradiation? was fit to a straight line. Regression to a linear-quadratic curve would be better.
   (3) In page 8, line 19, and Table 1, again, SER was used undefined. The Reviewer’s understanding is that SER is defined as ?the ratio of two radiation doses, required to obtain the same effect in different two experimental conditions?. The Authors mentioned in the Discussion section (also in the title of the paper) that the radiosensitizing effect of Doranidazole was more significant in the high-radiation dose range. Therefore, appropriate evaluation of SER is very important.

2. In ?Morphological changes of the cells? and ?Cell migration assay?, no quantitative analysis was performed. Omit them or provide quantitative data.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

There are several typographic errors;
   page 3, line 4, defection
   page 7, line 19, show
   page 8, line 20, doranidazoel
   page 9, line 16, along

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

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 interests