



**ESPS Peer-review Report**

**Name of Journal:** World Journal of Gastroenterology

**ESPS Manuscript NO:** 11091

**Title:** A Study on Radiobiological Characteristics of Cancer Stem Cells Derived from Esophageal Cancer Cell Lines

**Reviewer code:** 02446029

**Science editor:** Su-Xin Gou

**Date sent for review:** 2014-05-04 12:43

**Date reviewed:** 2014-05-06 20:22

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C (Good)	<input checked="" type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)		BPG Search:	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E (Poor)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input checked="" type="checkbox"/> Minor revision
		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

**COMMENTS TO AUTHORS**

This is an interesting study of the radiobiology of sorted cells from esophagus, human esophageal cancer cell lines KYSE-150 and TE-1 obtained from a hospital in China. No fresh human esophageal cancer specimens were tested. No fresh human stem cell populations were studied. The studies looked at self-renewal of sphere-type cultures and looked at cell cycle and cell surface markers. The radiobiology is not complete. The authors should do full radiation dose response curves and calculate a D0 and ?. They should look at the textbook by Hall and Gaccia to look for classic radiobiological properties. Figure 1 shows biological properties of the sphere. Figure 2 shows radiation dose on sphere formation. The survival fraction is shown, but D0 and ? should be calculated. The authors should represent the data as either linear quadratic or single hit, multi-hit statistical evaluation. Figure 3 shows influence of irradiation on cell cycle changes, and this needs to be evaluated more completely and described in the text. Figure 4 looks at expression of the stem cell marker genes on the cells in culture at various stages. The results are interesting and provocative and with attention to appropriate radiobiological parameters this will be a useful contribution to the literature. The discussion should be revised in view of the new data.



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**Name of Journal:** World Journal of Gastroenterology

**ESPS Manuscript NO:** 11091

**Title:** A Study on Radiobiological Characteristics of Cancer Stem Cells Derived from Esophageal Cancer Cell Lines

**Reviewer code:** 02398210

**Science editor:** Su-Xin Gou

**Date sent for review:** 2014-05-04 12:43

**Date reviewed:** 2014-05-14 21:46

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> [ Y] Accept
<input type="checkbox"/> [ Y] Grade B (Very good)	<input type="checkbox"/> [ Y] Grade B: minor language polishing	<input type="checkbox"/> [ ] Existed	<input type="checkbox"/> [ ] High priority for publication
<input type="checkbox"/> [ ] Grade C (Good)	<input type="checkbox"/> [ ] Grade C: a great deal of language polishing	<input type="checkbox"/> [ ] No records	<input type="checkbox"/> [ ] Rejection
<input type="checkbox"/> [ ] Grade D (Fair)	<input type="checkbox"/> [ ] Grade D: rejected	BPG Search:	<input type="checkbox"/> [ ] Minor revision
<input type="checkbox"/> [ ] Grade E (Poor)		<input type="checkbox"/> [ ] Existed	<input type="checkbox"/> [ ] Major revision
		<input type="checkbox"/> [ ] No records	

**COMMENTS TO AUTHORS**

In their article “A Study on Radiobiological Characteristics of Cancer Stem Cells Derived from Esophageal Cancer Cell Lines” the authors characterize sphere formation and radio sensitivity of two esophageal cancer cell lines. The article is well written and conclusive, however, some minor points need to be addressed. In particular, the authors should mention the cancer stem cell marker CD44 and CD271 in their part 1 (Introduction). In Figure 1, size bars are missing in all pictures. Error bars seem to be missing from Fig 1D. Analysis of BMI1 and SOX2 should be performed using real time PCR, or at least semi-quantitative PCR. Labels are missing from Fig.3B, it is not clear which one is the parental vs the sphere cell line, and which cell line represents which graph. Similarly, labels are missing from Fig.4A, which one is the parental or sphere cell line? Fig.4B does not correlate with Fig.4A. In Fig.4A it seems that around 2% of KYSE150 parental cells are positive for CD44 (0Gy), but on the graph in 4B it says 40%, which is not supported by the FACS data. Similarly, for TE1 cells at 0Gy 16.9% of cells are positive for both CD44 and CD271, but on the graph it says less than 1%. Fig.4B needs to be re-analysed completely. In Fig.4C it is not clear what “a” is supposed to mean. Apart from that a good article, short but focused.