

## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**ESPS manuscript NO:** 14651

**Title:** A new model for cardiomyocyte sheet transplantation using a virus-cell fusion technique

**Reviewer's code:** 00241774

**Reviewer's country:** Japan

**Science editor:** Fang-Fang Ji

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good		<input type="checkbox"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input checked="" type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
	<input type="checkbox"/> Grade D: Rejected	BPG Search:	<input checked="" type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

### COMMENTS TO AUTHORS

Yuko Takahashi et al. investigated whether the treatment of HVJ-E and tissue maceration facilitate the close contact between the transplanted cardiomyocyte sheets and host skeletal muscle. Cardiomyocyte sheets were transplanted between latissimus dorsi and inter costal muscles of adult rats. The beating domains of rats treated with HVJ-E and NaOH demonstrated higher in the number, size, motion image amplitudes, and action potential compared with the rats treated with HVJ-E only or NaOH only. Part of the skeletal muscle sarcoplasm seemed to project into the myocardiocyte plasma and some nuclei appeared to share sarcoplasmas. The current study provided the evidence that new method using HVJ-E and NaOH may facilitate the cell transplantation into the tissues. Major comments 1. The merge of cardiomyocytes and skeletal muscle is quite partial and not convincing. 2. In page 14 lines 3-10, authors classified the beating pattern of the transplanted cell sheet, but the biological significance of classification is not clear. 3. Although HVJ-E may facilitate the fusion of the cardiomyocytes and skeletal muscles, it is still not clear whether these two cells are just closely attached or fused. By EM observation, authors may observe gap junction, or adherence



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junction structures. EM observation is absolutely necessary for demonstrating the contact of these two sets of the cells in vivo. Minor comments 1. In page 3 lines 4-5, how many cells were used for the culture and cell sheet preparation? 2. In page 3 lines 14-15, the official gene symbol should be italicized. 3. In page 3 result section, the paragraph is not double-spaced. 4. In page 9 lines 2-4, authors should give the brief procedures for the HJV-E. Did authors centrifuge the cells with HJV-E? 5. In page 9 lines 21-22, authors should give the concentration of NaOH. What did authors mean in 20% NaOH? 6. In page 13 lines 6-7, Figure 2a and 2b is interchanged? 7. In page 15 line 3, 'Figure 6d' is not correct.