

## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Biological Chemistry

**ESPS manuscript NO:** 19575

**Title:** Multifunctional facets of retrovirus integrase

**Reviewer's code:** 02615858

**Reviewer's country:** Spain

**Science editor:** Xue-Mei Gong

**Date sent for review:** 2015-05-13 17:25

**Date reviewed:** 2015-05-20 00:22

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" 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 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 checked="" type="checkbox"/> Minor revision
	<input type="checkbox"/> Grade D: Rejected	BPG Search:	<input 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

The authors briefly reviewed the multifaceted biological roles of retrovirus integrase (IN), summarizing the structure/function evidences of this family protein with special emphasis on its use as a target for human therapy. Relevant information is appropriately evaluated and the conclusions are convincingly supported by data presentation and analysis. Minor concerns and suggestions are provided below. 1. Abstract, line 3. "CA sequence" is suggested for better understanding. 2. The title of the section "Structures of IN" (Page 4) should be modified to avoid misleading interpretations; this section refers only to the domain organization of IN proteins. 3. Page 5, 3rd paragraph, first two lines. The sentence is not correct. The Gag-Pol precursor polyprotein (or any polyprotein or even a protein) does not have a 3' end. 4. Page 5, 3rd paragraph, lines 2-3. "The processing of..." is (not are) "different between...". 5. Page 6, last paragraph. Please define MA and Vpr, and quote reference/s for PIC composition and sedimentation coefficient. 6. Page 7, 3rd paragraph, lines 3-5. For HIV infection? It is not clear what it is meant. 7. Section "Solution properties of IN" (Page 8). The significance of the oligomeric state of IN for its function should be stressed. 8. Page 10, second to last line. Please define ODN. 9. Legend to Figure 4. Please indicate which viral and cellular proteins are



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represented in this figure. 10. Legend to Figures 6 and 8. The program used to redraw the PFV intasome and the active site structures, respectively, should be indicated.

## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Biological Chemistry

**ESPS manuscript NO:** 19575

**Title:** Multifunctional facets of retrovirus integrase

**Reviewer's code:** 02254242

**Reviewer's country:** United States

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	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"/> The same title	<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"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

### COMMENTS TO AUTHORS

The review manuscript "The multifunctional facets of retrovirus integrase" (Manuscript 20150512231259), submitted by Grandgenett, et al., presents a strong summary of retroviral and lentiviral integrase (IN) function. Overall, the review is well written and the organization is easy to follow. The authors have written a review that is accessible to a wide audience and provides much information about the roles of integrase during the retrovirus life cycle. The authors should consider the following minor points: 1. The review focuses on the multifaceted roles of IN in the retrovirus life cycle, so the places where IN is implicated should appear in Figure 1 to emphasize those roles. 2. Figure 2. The last sentence states that, "The exact MLV domain sizes are not structurally known". The authors should indicate why the domain sizes are not well defined. 3. The section "Structures of IN" is better titled as "IN Domains" or "IN Domain Organization", because actual three dimensional structures are discussed later in the review. 4. Page 5 bottom paragraph. The description of "specific mutations" does not say what or where the mutations are located in the HIV IN. For example, are those naturally observed mutations or site specific mutations? 5. Page 6, more correctly, "Whole genomic sequencing...demonstrates..." 6. Page 6, "...highly suggested..."



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either suggested or indicated. 7. Page 9, "...is bended..." could be "...is bent...". 8. Page 10 and references. Reference 68 is not on a separate line, but is found in the paragraph for Reference 67.