

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 65586

Title: Low Complexity Domains, Condensates, and Stem Cell Pluripotency

Reviewer's code: 05818335

Position: Peer Reviewer

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-03-10

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-03-10 23:39

Reviewer performed review: 2021-03-13 11:42

Review time: 2 Days and 12 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

SPECIFIC COMMENTS TO AUTHORS

This is an excellent review from Vodnala et al.. The authors provided a comprehensive review on the latest advances concerning LCD-driven interactions to promote cell-specific transcription, DNA damage response, and DNA repair, especially in the biological context of embryonic stem cells. The authors also discussed the challenges in the researches of phase separation regulating biological processes and how to resolve these discrepancies. The review is well done and potentially of interest to the broad readership. I recommend publication in its current form.

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 65586

Title: Low Complexity Domains, Condensates, and Stem Cell Pluripotency

Reviewer's code: 05122799

Position: Editorial Board

Academic degree: PhD

Professional title: Full Professor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-03-10

Reviewer chosen by: AI Technique

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Reviewer performed review: 2021-03-23 15:20

Review time: 12 Days and 15 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

In the manuscript titled with “Low Complexity Domains, Condensates, and Stem Cell Pluripotency”, Fong and colleagues summarized current studies about low-complexity sequence domains (LCDs) and liquid-liquid phase separation (LLPS) in pluripotent stem cells. They focused on proteins enriched with LCDs and reviewed the roles of those proteins in transcription activation and repression and DNA repair. Major comments:

1. It would be better to provide a table summarizing LCDs functioned in transcriptional activation and repression in ESCs. 2. Some key molecules shown in Figure 1 are not introduced in the text. 3. No much differences shown between Figure 1A and 1B. In general, the figures were pretty beautiful, but some panels within the same figure or in different figures are quite similar, and thus it's difficult to get the major and precise information. 4. HP1 and ABCF1 are introduced in different part and have diverse role in stem cells. If it is better to summary their role in one figure?

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: World Journal of Stem Cells

Manuscript NO: 65586

Title: Low complexity domains, condensates, and stem cell pluripotency

Reviewer's code: 05122799

Position: Editorial Board

Academic degree: PhD

Professional title: Full Professor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2021-03-10

Reviewer chosen by: Man Liu

Reviewer accepted review: 2021-04-21 15:54

Reviewer performed review: 2021-04-24 08:09

Review time: 2 Days and 16 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

No more question.