

ESPS PEER REVIEW REPORT

Name of journal: World Journal of Stem Cells

ESPS manuscript NO: 12770

Title: Imprinted Zac1 in Neural Stem Cells

Reviewer code: 01905258

Science editor: Ling-Ling Wen

Date sent for review: 2014-07-25 10:04

Date reviewed: 2014-08-11 17:04

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"/> Existing	<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	<input type="checkbox"/> Existing	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

The Ms. By Guillaume et al. reviews the implication of imprinted gene expression in neural stem cell (NSC) physiology. To this aim, the authors focus on the Zac1 gene network, known to regulate neuronal versus astroglial differentiation of NSCs. This represents an interesting and timely topic not previously addressed in the scientific literature. The article is well written, and the title accurately reflects the major topic and content of the study. Nevertheless, some aspects of the Ms. should be improved before getting published. Although the Ms. is mainly focused in Zac1, the authors also summarize the state-of-the-art of other imprinted genes relevant for the neurogenic process. In this regard, some important imprinted genes known to participate in cell cycle control and neurogenesis are missing from this initial discussion. For instance, Necdin and MAGE-L2 are two imprinted genes present within the Prader-Willi-Syndrome imprinted region which have been shown to be relevant for the differentiation of the nervous system, but they are not mentioned in this review. Another example of imprinted gene expressed by stem cells is Peg3, which should be included in this review. There are several statements throughout the text that are not supported by references. Just as an example, most of the statements from pages 16 and 19 lacks references. Authors should make an effort to include references for all statements included in the Ms. Minor points: 1. In page 12, lines 8-9, it is stated that "Zac1 can also act as a coregulator for unrelated transcription factors of the nuclear receptor or p53 family". Does this imply that nuclear receptor is synonym of the p53 family? 2. Page 14, lines 11-13: the p53 family has also a key role in apoptosis. 3. Page 15, 7-8: "the cornu



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ammonis layers of the Ammon's horn" is a redundant expression.

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<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
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COMMENTS TO AUTHORS

Neural stem cells (NSCs) and imprinted genes have been largely studied independently of each other since they both play an important role in brain development. Recently imprinted genes have gained increasing apprehension in NSC biology due to their critical roles in quiescence, stemness, and cellular differentiation. The author well reviewed the recent studies on their interaction. However, in the conclusion, the authors should discuss and give the specific future direction on the role of Zac1 in the diagnosis or treatment of associated conditions ranging from imprinting disorders to age-related diseases.