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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Translational Medicine

ESPS manuscript NO: 20825

Title: p38 MAPK regulates type-I versus type-II phenotyping of human vascular endothelial cells

Reviewer's code: 01299180

Reviewer's country: United States

Science editor: Xue-Mei Gong

Date sent for review: 2015-06-29 11:48

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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

This is a manuscript that follows up a study that is being considered by the same journal on the topics of different types of vascular endothelial cells. The first study (not published yet) described the differential expression of RGS5 in two types of vascular endothelial cells. It was not quite clear whether the differential expression of RGS5 is indeed the cause of the distinctive phenotypes of the two types of vascular endothelial cells since the study has not been published. In the current study, it appears the authors set to explore what mediates the effect of RGS5. Accordingly, they compared kinase activity using an array available from Cell Signaling Technology between the two types of cells. As a result, they identified the activity of p38 is consistently different. Using p38 inhibitor as well as RGS5 overexpression, the authors suggested a model that RGS5 regulates type II to type I conversion via inhibiting p38 activity. The work could be of interest but the quality of some data could have been improved.

- Figure 3, it was unclear why the authors chose to using phosphor(T180)-p38alpha rather than the phosphor(T180/Y182)-p38alpha, since only the dually phosphorylated is in the active state.
- The authors put heavy emphasis on a potential positive



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feedback between RGS5 up-regulation and p38-alpha inhibition. However, the effect of p38 inhibition on RGS5 expression is rather modest as shown in Figure 3C. 3. The quality of co-immunoprecipitation results as shown in Figure 4 is completely unacceptable. In most cases, it is virtually impossible to identify a specific band. Using TrueBlot IP/Western might help minimize the interference of heavy/light chain on the signal. 4. The results reported here are related to a finding reported in JBC by Jin Y et al. entitled "RGS5, a hypoxia-inducible apoptotic stimulator in endothelial cells". The authors should compare and contrast their results with these earlier related studies. 5. On page 3, the last paragraph, "Interestingly, p38alpha MAPK inhibitor treatments suppressed the induction of RGS5 gene" should read "Interestingly, p38alpha MAPK inhibitor treatments enhanced the induction of RGS5 gene". 6. To firmly establish a role of p38 in this process, results from p38 activator in combination with RGS5 overexpression should be employed. 7. It would be more helpful to elaborate a bit on the proteomic kinase assay because not every reader is familiar with this method.



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		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

COMMENTS TO AUTHORS

In this study, the authors have identified that p38 alpha MAPK is a crucial downstream effector of RGS5 in type I-type II VECs conversion. This finding provides a new strategy in the drug discovery for the treatment of ischemic disease. In general, this is a quite interesting and nice study. Experiments were well designed with appropriate controls and executed. Conclusions are significant and justified based on the high quality data. This manuscript certainly deserves to be published.