

## ESPS PEER-REVIEW REPORT

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

**ESPS manuscript NO:** 20608

**Title:** Arctic ground squirrel neuronal progenitor cells resist oxygen and glucose deprivation-induced death

**Reviewer's code:** 02446077

**Reviewer's country:** United States

**Science editor:** Fang-Fang Ji

**Date sent for review:** 2015-06-16 14:19

**Date reviewed:** 2015-08-31 07:11

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 checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" 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 checked="" 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 checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

This studies characterized an interesting oxygen and glucose deprivation resistance in a model of Arctic ground squirrel (AGS) derived neuronal progenitor cells. This study demonstrated an acute response of AGS NPS to oxygen and glucose deprivation in a number of parameters, including proliferation, ATP, survival...etc. The key study is the use of human NPS under similar condition as a comparison. The current data did clearly demonstrate a resistance of AGS NPS cells, but more vulnerable to H<sub>2</sub>O<sub>2</sub>, as compared to human NPS cells. The study presented a interesting possibility that the Arctic ground squirrel may carried a different genetic background or being primed with differential epigenetic coding that bestows the differential resistance or response to environmental factor e.g. oxygen or glucose. This interpretation of the differential response was interpreted that AGS offer a unique and robust model of resistance to brain injury following global cerebral ischemia in vivo. Although methodology and technical analyses are sound and the data are interesting, there are however a number of weakness in the design and in the interpretation of the studies. First, the comparisons between squirrel and human NPCs are not entirely equal footed.



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There are two orders of difference—the human and AGS cells have intrinsic difference disregard of the protective property. Second, the respective procurement and screening condition of the NPCs may also contribute to the differences. If the goal of the study is to identify the underlying mechanism of promoting survival and proliferation after injury in AGS, it will be transcriptional difference of NPCs as consequence of the genetics or the artice environment introduced epigenetic marks. Current data is still yet to establish if AGS NPCs really have the upper-hand in protecting injury of human brain.

## ESPS PEER-REVIEW REPORT

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

**ESPS manuscript NO:** 20608

**Title:** Arctic ground squirrel neuronal progenitor cells resist oxygen and glucose deprivation-induced death

**Reviewer's code:** 00183658

**Reviewer's country:** Thailand

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

The article is aimed to compare the effects of oxygen and glucose deprivation on cell viability and death in human neuronal progenitor cells vulnerable to cerebral ischemia/reperfusion injury and in Arctic ground squirrels that resists ischemia/reperfusion injury. The title is "Arctic ground squirrel neuronal progenitor cells resist oxygen and glucose deprivation-induced death". I have some questions. The authors should to clarify and add the following issues in the text. 1. Several factors influence the effects of oxygen and glucose deprivation on cell viability and death. Some limitations might be occurred. 2. Please add the limitations of the study in the text. 3. Please also change the references into the journal style. 4. The clinical application of the study is very important. The authors should to recommend the readers to apply this knowledge into routine clinical practice.