

ESPS Peer-review Report

Name of Journal: World Journal of Biological Chemistry

ESPS Manuscript NO: 7308

Title: Extracellular O-GlcNAc: Biology and relevance to human disease

Reviewer code: 00289703

Science editor: Gou, Su-Xin

Date sent for review: 2013-11-14 10:00

Date reviewed: 2013-11-26 22:33

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
[] Grade A (Excellent)	[] Grade A: Priority Publishing	Google Search:	[] Accept
[] Grade B (Very good)	[Y] Grade B: minor language polishing	[] Existed	[] High priority for publication
[Y] Grade C (Good)	[] Grade C: a great deal of language polishing	[] No records	[] Rejection
[] Grade D (Fair)	[] Grade D: rejected	[] Existed	[] Minor revision
[] Grade E (Poor)		[] No records	[Y] Major revision

COMMENTS TO AUTHORS

In this review, the authors have focused on the literature that supports the O-glycosylation of a range of extracellular proteins and its relevance to human diseases. Extracellular O-GlcNAc, as well as cytoplasmic and nuclear O-GlcNAc, has emerged as an interesting area of investigation. Thus, this review represents a potentially interesting and timely contribution. However, there are a number of ways that it could be improved. First, the authors don't really add to our understanding of the phenomena. The review is essentially composed of a list of O-GlcNAc subtitles with a brief description. It would have been much more interesting if the authors had presented more details and some critical analysis of the findings they were describing or if they had provided some insight into a bigger picture of how O-GlcNAc is integrated into the framework of human disease. Second, I did not find the figure 1 particularly illuminating. Instead, the authors might consider including a figure outlining O-GlcNAc, emphasizing the extracellular O-GlcNAc. Part B of that figure might include a panel to address any disease-relevance. Third, the authors need to expand more contents to address the upstream signal transduction or pathophysiological setting (s) that triggers extracellular O-GlcNAcylation. That is relevant to their functional consequences. Finally, the authors need to check their English usage carefully throughout the text. For example, "It is also possible that loss of Eogt directs the increased UDP-GlcNAc pool in the cytoplasm, leading to elevated pyrimidine synthesis, such as uracil, that is likely to promote wing blistering". It is too lengthy that could be easily reworded into two sentences. Additionally, many references should be cited. For example, they should add reference(s) to the statement of "The intracellular O-GlcNAcylation is reversible, and the cycling is dynamically regulated by O-GlcNAc transferase (OGT) and O-GlcNAcase".

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Name of Journal: World Journal of Biological Chemistry

ESPS Manuscript NO: 7308

Title: Extracellular O-GlcNAc: Biology and relevance to human disease

Reviewer code: 00484021

Science editor: Gou, Su-Xin

Date sent for review: 2013-11-14 10:00

Date reviewed: 2013-12-07 02:08

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 checked="" type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<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"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input checked="" type="checkbox"/> Major revision

COMMENTS TO AUTHORS

This manuscript reviews the research done on O-GlcNAc-modification of extracellular proteins and the relevance of this glycosylation to human health. While O-GlcNAc is well established as an important posttranslational modification for intracellular proteins, and governs a wide range of biological functions in the nucleus and cytoplasm, the field of extracellular O-GlcNAc is quite new. Given the role of the authors in describing the EOGT enzyme, and the timing within this field, the review is appropriate. That said, there are a number of points that need to be addressed in order for this review to be fit for publication. The manuscript needs language revision and would also benefit from some reorganization; for example, sections 4 and 5 could easily be organized into one, since they both mainly talk of O-GlcNAc in the context of AOS. The manuscript currently reads as a laundry list of extracellular proteins that have thus far been identified as being modified with O-GlcNAc. Little effort is given to providing context and significance for these early findings. For this reason the review fails to yield clear insight into the implications of current findings, the holes in our knowledge and the potential future directions for the field. Given the complex roles of intracellular O-GlcNAc modification and the associated signal transduction pathways and crosstalk with phosphorylation, the authors fail to address how O-GlcNAc of external proteins could interplay with other posttranslational modifications or modify interactions with the extracellular matrix. It is therefore recommended that the review be revised both structurally and data wise to achieve the objective of the title before consideration of acceptance.

ESPS Peer-review Report

Name of Journal: World Journal of Biological Chemistry

ESPS Manuscript NO: 7308

Title: Extracellular O-GlcNAc: Biology and relevance to human disease

Reviewer code: 02446647

Science editor: Gou, Su-Xin

Date sent for review: 2013-11-14 10:00

Date reviewed: 2013-12-08 09:22

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<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"/> Existed	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

EOGT and N-acetylglucosamine modification were reviewed in this manuscript. If there is information and discussion on the blood levels of N-acetylglucosamine, the sugar moiety and its metabolites in the mutant model animals and patients may be explained.