

PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Cases*

Manuscript NO: 82421

Title: Astrocytes in the central nervous system and their functions in health and disease:
a review

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03731081

Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: Russia

Author's Country/Territory: Slovenia

Manuscript submission date: 2022-12-17

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-17 20:11

Reviewer performed review: 2022-12-21 09:03

Review time: 3 Days and 12 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" 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 Grade E: Do not publish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 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



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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

An interesting manuscript, but it does not correspond to the mini-review format because it has a small amount of information (40 references). I consider it necessary to add modern material on the topic of genetic polymorphism astrocytes - their role in pathology. After revision and updating, the manuscript can be recommended for publication in this journal in the format of a mini-review.

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Title: Astrocytes in the central nervous system and their functions in health and disease:
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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03764379

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Director, Professor

Reviewer's Country/Territory: Argentina

Author's Country/Territory: Slovenia

Manuscript submission date: 2022-12-17

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-24 22:00

Reviewer performed review: 2022-12-30 17:04

Review time: 5 Days and 19 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
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
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 type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Astrocytes in the central nervous system and their roles in health and disease: a review, by Lidija Gradisnik, Tomaz Velnar The authors review a topic of increasing relevance: astrocytes, and the growing evidence of their new functions in both physiological and pathological conditions. The chosen subtopics are appropriate and the references are consistent with the review. Major concern. Despite the correct review, it is superficial and there are no suggestions and/or discussion on the edge of current knowledge of each subtopic. As an example of this point of view, they should delve into the pathophysiology of astrocytes under conditions of hyperammonemia. As P. Souto et al., WJG, 2016, reviewed hyperammonemia hepatic encephalopathy, astrocytes are the target cells. They induce severe changes such as: cell death, cell damage, changes in energy metabolism, neurosteroid synthesis/peripheral-type benzodiazepine receptor, neutrophil activation, changes in membrane potential, increased intracranial pressure, pH change, NMDA/cGMP, astrocyte morphology, inflammation, changes in the release of neurotransmitter systems, receptors and transporters, oxidative/nitrosative stress, altered intracellular calcium signaling, modification of cerebral blood flow, changes in



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mRNA and protein expression , mitochondrial dysfunction. Type II astrocytes (Type II Alzheimer's) was Norenberg's first description in humans, and a wealth of data has since become available on this interesting and challenging topic involving astrocytes. The whole point of this reviewer is please authors dig deeper into this amazing topic, you need to review current astrocyte data to be aware of what's going on.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: Russia

Author's Country/Territory: Slovenia

Manuscript submission date: 2022-12-17

Reviewer chosen by: Jia-Ru Fan

Reviewer accepted review: 2023-02-24 15:28

Reviewer performed review: 2023-02-24 16:02

Review time: 1 Hour

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 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	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

I thank the authors for correcting the manuscript in accordance with the recommendations. The updated manuscript fully complies with the requirements of the best publications. This manuscript is recommended for publication.