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OPEN PEER REVIEW

Biological Activity of Novel Pyrrole Derivatives as Antioxidant Agents Against 6-OHDA Induced Neurotoxicity in PC12 Cells

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1 Original submission

1 comment · 28 Sep 2023

Mohammad Ismail Mahboubi Rabbani Reviewer

MAJOR REVISION 28 Sep 2023

Thanks for your valuable work and your useful results. I really appreciate you. But some points must be reconsidered before full publication. Here's the deal.

1. The chemical structures of the tested compounds must be sketched in detail.
2. A brief explanation regarding the mechanism of action of the tested compounds must be disclosed.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear editor in chief,

Manuscript ID: 140450

Thank you for giving us the opportunity to submit a revised draft of our manuscript entitled "*Synthesis and biological activity of novel pyrrole derivatives as antioxidant against 6-OHDA induced neurotoxicity in PC12 cells*" in *IJPR*. We appreciate the reviewer's encouraging, critical and constructive comments on this manuscript. We are grateful to the reviewers for their insightful comments on our paper. Please see below, for a point-by-point response to the reviewers' comments and concerns.

Reviewers' Comments:

Reviewer 1:

Thanks for your precious work, and your useful results. I really appreciate you. But some points must be reconsidered before complete publication. Here's the deal.

1. The chemical structures of the tested compounds must be sketched in details.

Thank you for your suggestion. It was added as Scheme 1.

2. A brief explanation regarding the mechanism of action of the tested compounds must be disclosed.

Thanks for your comment. We have already mentioned the mechanism of action of the tested compounds in the conclusion as " *It seems that mechanism of action of the pyrrolic compounds is through damping COX-2 expression, reduction of PGE2 level, and suppression of ROS production, lipid peroxidation and oxidative stress-induced apoptosis which ultimately results in neuroprotective effect against 6-OHDA.*" If it was not satisfying, we can add some further explanations

Reviewer 2:

1. As the synthesis of compounds were not directly presented in the main text, it would be better to change the title to more focus on the bioactivity of the synthesized compound

Thank you for your suggestion. The title has changed to "*Biological activity of novel pyrrole derivatives as antioxidant agents against 6-OHDA induced neurotoxicity in PC12 cells*".

2. Add the complete form of all abbreviation before their first use, such as PD or ROS in abstract. Please check through the text

Thanks for your consideration. It was corrected and highlighted in the whole text.

3. Clarify the identity of compounds A, B and C, in the abstract

It was clarified in the abstract.

4. Add a figure that shows the structures of compounds A, B and C in main text

Thank you for your suggestion. It was added as Scheme 1.

5. Add a brief text in the introduction to describe the logics behind these derivatives' design

Thank you for your suggestion. It was added in the introduction as "*The current therapy prescribed for PD is L-DOPA; however, long-term use of L-DOPA leads to the generation of an excess amount of dopamine in the cytosol and formation of DA quinone, which is closely linked to oxidative stress and inflammation (17). Hence, developing novel compounds capable of inhibiting neuronal oxidation and neuroinflammation would be a promising therapeutic strategy to slow the progression and reduce the severity of PD*".

6. In MTT assay, the 570-595 nm absorption is routinely measured. Why the author chose the 550 nm?

Thank you for your precise comment. It was corrected in the text.

7. Divide figure 4 in a and b parts

Was done, accordingly.

8. Mark a and b in figure 3 and add related descriptions in figure caption

It has been corrected in the Figure file.

2 Revision 1

0 comments

No public comments in this round.