

Dear Editor, Dear Reviewer

Thank you for the insightful comments from the reviewers on our manuscript, "Decoding the Genetic Landscape of Autism: A Comprehensive Review." We appreciate the constructive feedback and have addressed each comment to enhance the clarity and quality of our article.

Reviewer Comments and Our Responses:

1. **Comment:** As the current presentation makes it difficult to understand the whole context of this article, it would be better to include a summarized figure of the functions and localizations of the representative molecules where mutations have been observed. Particularly, having a diagram related to the synapses would visualize the descriptions within this review and make it easier to understand.

Our Response: Thank you for your valuable feedback. We understand the need for a clearer presentation of the genetic findings related to ASD and their implications. To address your comment, we have incorporated a summarized figure that highlights the functions and localizations of the representative molecules where mutations have been observed.

Specifically, we included a diagram illustrating the role of these molecules in synaptic function, providing a visual representation of how genetic mutations affect synaptic processes and contribute to ASD. This figure will help contextualize the descriptions within the review and enhance the reader's understanding of the complex interactions involved.

We appreciate your suggestion and have ensured that the revised manuscript includes this visual aid to better convey the information.

2. **Comment:** The introduction provides a detailed and well-summarized overview of the symptoms of autism, so summarizing the overview of autism again in the discussion section seems a bit redundant. This part could be expressed more concisely.

Our Response: We have taken your suggestion into consideration and have summarized the overview, incorporating it with the section titled "Overview and Phenotypic Heterogeneity of Autism." This revision streamlines the content and avoids redundancy, providing a more concise discussion of autism symptoms within the manuscript.

3. **Comment:** There is the part summarizing the relationship between gender differences in autism symptomology and sex chromosome effects in this article. Regarding sex differences, it would be beneficial to also include individual

molecules related to sex chromosomes, such as MECP2, NLGN4X, NLGN4Y, and PTCHD1. I hope this will be useful to you.

Our Response: We have expanded the discussion on sex differences in autism symptomatology by including specific molecules related to sex chromosomes, such as MECP2, NLGN4X, NLGN4Y, and PTCHD1. These changes are highlighted in red in the revised manuscript to clearly indicate the additions.

We believe these revisions address the reviewers' comments and significantly improve the manuscript. We appreciate the opportunity to revise our work and look forward to your feedback.

Thank you for considering our revised manuscript for publication.

Sincerely,

Prof. Mohammed Elbeltagi

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