Review Form 2

Book Name:	Research Perspectives of Microbiology and Biotechnology
Manuscript Number:	**Ms_BPR_3611**
Title of the Manuscript:	**Therapeutic Genome Editing With CRISPR/Cas9 in a Humanized Mouse Model Ameliorates α1-antitrypsin Deficiency Phenotype**
Type of the Article	**Book chapter**

PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	**I generally liked this manuscript because it involes projects its clinical goals aimed at helping treat patients, and it has been conducted by a reputable group. Establishing definitive treatments for disease that currently have no cure is very important.**	
Is the title of the article suitable? (If not please suggest an alternative title)	**Yes**	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	**The abstract is comprehensive, but I suggest the addition of some points. It would be more obvious to write PiZ mice express the human SERPINA1 variant. The impact would be more clearer if they could write the percentage of reductions in abstract. It should be more impactful to write the concept of editing.**	
Are subsections and structure of the manuscript appropriate?	**Yes**	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	**The manuscript is scientifically robust and technically sound due to its comprehensive approach and use of advanced methodologies. It rigorously validates the therapeutic potential of CRISPR/Cas9-mediated gene editing for α1-antitrypsin deficiency, employing a well-established PiZ mouse model. The study demonstrates significant phenotypic reversals, including improved liver histology, reduced fibrosis, and lowered circulating levels of pathological markers, supported by quantitative molecular and histological analyses. Furthermore, the meticulous off-target evaluation and genomic disruption assessments enhance its reliability and applicability to human therapy.**	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	**Since the manuscript was published at 2018, the references is sufficient and recent.**	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	**Yes, the language is clear and fluency very understandable.**	
Optional/General comments	**Firstly, the project is excellent and very well done. However, the point is that the change that occurred in creating this disease is a single mutation, and the authors should have explained how they corrected this single mutation using the CRISPR-Cas9. If they have performed genetic modification, they should also have the template construct, but there is no mention of the concept and type of mutation correction. The second point is that given the characteristics of adenovirus and adeno-associated virus, why was adeno-associated virus not used? It could have been more logical.**	

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PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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