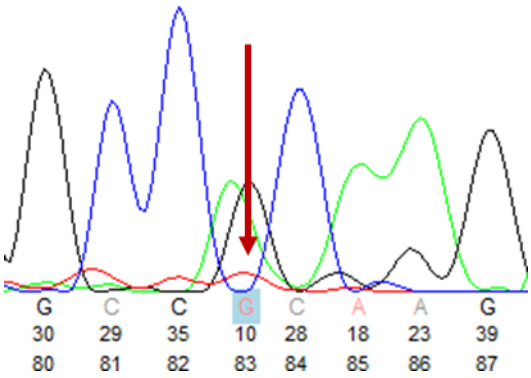
Dear Prof.

Thank you for your letter and for the reviewers' comments concerning our manuscript entitled "A novel heterozygous missense mutation of SLC12A3 gene in Gitelman syndrome: A case report" (NO.45831). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. The main corrections in the paper and the responds to the reviewer's comments are as flowing:

Reviewer 00503199:

1. Response to comment: The authors need to discuss and explain more the fact that the mutation is heterozygous and to confirm the diagnosis.

Response: Sanger sequencing was used to verify the mutation, see the figure below.



2. Response to comment: the clinical presentation is not typical; the gas analysis showed is more consistent with metabolic acidosis rather than alkalosis.

Response: Typical GS manifests as hypokalemia, hypomagnesemia, metabolic alkalosis, renal potassium loss and magnesium loss, RAS activation, normal or low blood pressure, however, the patient's clinical phenotype is highly variable and can be free of any symptoms, so clear diagnosis requires genetic mutation monitoring.

3. Response to comment: "The patient was given Potassium therapy with antisterone" Antisterone is spironolactone?

Response: Yes.

4. Response to comment: Balavoine et al. Where is this reference?

Response: I have added the reference.

Reviewer 03475636:

1. Response to comment: Suggest to create a table summarized reported mutation in exon 22 of SLC12A3 gene

Response: I have added the table.

We tried our best to improve the manuscript and made some changes in the manuscript. These changes will not influence the content and framework of the paper. We appreciate for Editors/Reviewers' warm work earnestly, and

hope that the correction will meet with approval. Once again, thank you very much for your comments and suggestions.