

Dear Editorial Review Board,

We greatly appreciate your feedback. We have made the following changes to our document.

- 1) Audio file was added
- 2) PMID and DOI added to references. All authors listed.
- 3) All figures separated and placed in a ppt file
- 4) Abbreviations explained in the figure legend.
- 5) Responses to the peer-reviewer's comments (see below)

Please see the attached document with the highlighted changes (in light blue). Due to the very positive evaluation of the language quality of the reviewers and since we have native speakers among the authors, we decided to not involve a professional English language editing service.

We appreciate your time and thank you for your feedback.

Sincerely,

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Response to Reviewer comments:

Reviewer 1:

This minireview authored by international experts from Austria, Italy, S. Africa and Sweden the authors provided an overview of the molecular analysis of *H. pylori* in mummified human remains that were done so far and outlined methodological advancements in the field of ancient DNA research that support the reconstruction and authentication of ancient *H. pylori* genome sequences. Comments 1. This topic is important, was published in highest rating scientific journals and provides new information regarding the human demographic history from a bacterial point of view. The paper is well written and, in my opinion, will be very attractive for the readers. 2. If possible, the authors should comment on potential similarities and/or differences between *H. pylori* genome and mitochondrial gastric mucosal and specifically parietal cell mitochondrial genome

Scientific Quality: Grade B (Very good)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (High priority)

Thanks a lot for this encouraging evaluation!

Concerning your second comment: Moodley and colleagues showed 2012 a striking similarity between *H. pylori* and human mtDNA genome phylogenies which supports the co-divergence scenario of *H. pylori* and its human host out of Africa. This Paper beside others is mentioned in the introductory part of the review. We decided, however, in this review not to discuss this aspect in more detail.

Reviewer 2:

The worldwide distribution of *H. pylori* genotype is identical to the historical human migration route which arise from the Africa. This manuscript is interesting and further confirm this concept. Nevertheless, I don't think it is suitable for publication in the World Journal of Gastroenterology according to the journal's background. It may be more appropriate to submit to more specific journal such as in fields of archaeology or microbiology.

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Rejection

Thank you for your evaluation! This was an invited review specifically for this journal.

Reviewer 3:

N/A

Scientific Quality: Grade A (Excellent)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (General priority)

Thank you for your evaluation!

Reviewer 4:

This review report provides the insights into the Hp genome of 5,300-year old mummy of the “Icemen”. The molecular analysis of this ancient human remains revealed that the 5,300-year old strain of the Icemen was potentially virulent strain that is today strongly associated with gastric disease. Moreover, the presented results indicate that Iceman’s Hp was essentially identical to that of Asian origin (AE1) that existed in Europe before hybridization, thus indicating that African ancestral Hp component(AE2) arrived in Europe much more recently. The study is amply illustrated, well written, and certainly of interest to those pursuing the areas of bacterial ancient genome sequences.

Scientific Quality: Grade A (Excellent)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (High priority)

Thanks a lot for this encouraging evaluation!