

Reviewer #1

Dear Authors, As an editorial, the authors ought to discuss an important issue in this field with the aim of provoking substantive consideration throughout the field that will translate into a sustainable movement forward in its perspectives and practices. However, the current editorial draft is too broad and general and may not present a powerful argument on research directions and future prospects within the field of the gut microbiome in health and diseases. Several editorials and review papers have previously been published on these similar subjects (e.g. Afzaal M, Saeed F, Shah YA, Hussain M, Rabail R, Socol CT, Hassoun A, Pateiro M, Lorenzo JM, Rusu AV and Aadil RM (2022) Human gut microbiota in health and disease: Unveiling the relationship. *Front. Microbiol.* 13:999001. doi: 10.3389/fmicb.2022.999001; Wang, L., Wang, S., Zhang, Q. et al. The role of the gut microbiota in health and cardiovascular diseases. *Mol Biomed* 3, 30 (2022). doi.org/10.1186/s43556-022-00091-2; Gao Y, Li D, Liu YX. Microbiome research outlook: past, present, and future. *Protein Cell.* 2023;pwad031. doi:10.1093/procel/pwad031). In addition, some important academic terminologies were wrongly presented, for example, GPR 41 and 43 receptors, not GPCR 41.

Answer to reviewers

All the concerns have been answered. In particular several points have been added to the text and it is now more fluent. 15 references have been added, 2 tables and 1 figures. The mistakes have been corrected both in the text and in the figure. The English has been properly revised by the American Journal Editors. All the modifications have been highlighted in yellow

Reviewer #2

As a review, it is written broadly and is not very focused on a few issues. In addition, references and articles are poorly interconnected.

Answer to reviewers

15 references have been added.

Re-Review

Specific Comments to Authors: The authors have well responded and revised the manuscript following the reviewers' comments.

JOURNAL EDITORIAL BOARD COMMENTS TO AUTHORS

The manuscript titled "Update on the gut microbiome in health and diseases" by Salvadori M et al. provides a comprehensive overview of the current understanding of the gut microbiome's role in health and various diseases. The authors cover a broad range of topics, including microbiome composition, factors influencing the gut microbiome, its functions, and its association with various diseases. The manuscript is generally well-organized and informative, but several areas need attention and improvement. The abstract provides a concise summary, but it lacks information about the methodology and major findings of the review. The introduction is informative, but it lacks a clear statement of the research question or objective. The definitions section is valuable, but it might benefit from a concise table summarizing the key terms (Microbiota, Microbiome, Metagenome, Indigenous microbiota, Dysbiosis, Pathobionts) for quick reference. The manuscript lacks a clear description of the methodology used for the review. The discussion section is extensive but could benefit from a more critical analysis of the literature. Highlight conflicting evidence or limitations in current studies. The conclusion is somewhat abrupt. Provide a more detailed summary of the key findings and potential future directions for research in this field.

Abstract has been modified;

Introduction has been modified.

Definitions now have a new table.

Methodology has been added.

Conflicting evidences have been highlighted in the discussion.

Key findings and future directions have been added.

Please find in red all the modifications.

Warmest regards,

Professor Maurizio Salvadori