

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 80272

**Title:** Microbiota of the gastrointestinal tract: Friend or foe?

**Provenance and peer review:** Invited manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 02462498

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Doctor, Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Russia

**Manuscript submission date:** 2022-09-21

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-09-21 06:25

**Reviewer performed review:** 2022-09-21 07:12

**Review time:** 1 Hour

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

## SPECIFIC COMMENTS TO AUTHORS

Microbiota is currently considered as a special “organ” on host immunity, metabolism and other functions. The current paper aims to update the microbiota-host interactions in recent years. This is important work and different from the most of other reviews. However, there are minor comments as below. 1. The latest most important progress on therapy based on microbiome are washed microbiota transplantation, spores as investigational drug and colonic transendoscopic tube for directly delivering microbiota into deep colon. These should be covered in the paper. A recent systematic literature review on FMT published from 2011 to 2021 has provided an overview of the reported clinical benefits of FMT, the methodology of processing FMT, the strategy of using FMT, and the effectiveness from all clinical FMT uses in 85 specific diseases. 2. As the evidence of foe, this new finding in CELL should be discussed. Tumor-resident microbiota play an important role in promoting cancer metastasis. Tumor-resident intracellular microbiota promotes metastatic colonization in breast cancer. Cell. 2022 Apr 14;185(8):1356-1372.e26. doi: 10.1016/j.cell.2022.02.027. 3. “microflora” has been not commonly used in the recent years. 4. One sentence is not good way to be set as one paragraph. In order to decrease the feeling of “scattered stataments”, I suggest to integrate some similar 1,2,3,4,5...within one section as a whole. 5. As the evidence to show the importance of microbes as foe or friend, the earliest evidence to use FMT through intestine to treat serious infectious internal fistula in patient with Crohn’s disease. The infections beyond gut benefited from reconstruction of microbiota within gut. (World J Gastroenterol. 2013;19:7213-6. doi: 10.3748/wjg.v19.i41.7213)

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**Peer-review model:** Single blind

**Reviewer's code:** 05077941

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** Poland

**Author's Country/Territory:** Russia

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**Reviewer chosen by:** AI Technique

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**Reviewer performed review:** 2022-09-29 14:09

**Review time:** 8 Days and 5 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input checked="" type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

## SPECIFIC COMMENTS TO AUTHORS

The publication prepared by Professor Marina A. Senchukova contains a lot of detailed but well-known and basic information about the microbiota and the intestinal barrier. However, it does not, in my opinion, fulfill the function of an editorial article. According to the WJG rules, "Editorial board members are invited to make Editorial on an important topic in their field, regarding its current research status and future directions that will promote development of the discipline." It follows that an Editorial should succinctly present the author's view of an issue that will inspire readers to think and discuss the problem and conduct further research. Presenting basic and textbook information certainly does not serve this purpose. After reading this article, I don't know if the author believes that the microbiota of the gastrointestinal tract is friend or foe. I also don't know in what direction research on the microbiota and ways to modify it should go. For example, there is no mention of postbiotics or antibiotics to regulate the microbiota. Also of note are several basic inaccuracies or inconsistencies: 1. the number of bacterial and somatic cells is similar (10.1371/journal.pbio.1002533). 2. The genus and the species names should be written in italics. 3. The definition of dysbiosis is not clear and should be developed. It is difficult to agree with the statement that "dysbiosis leads to disease." The problem is much more complicated and deserves a more extensive analysis in an Editorial-type publication. 4. What was the selection criterion and the purpose of presenting the studies included in Table 1? The same question is also valid for other included studies. 5. The causal relationship between microbiota and diseases was not addressed at all. 6. The problems of comparing microbiota results with their standardization, etc. were not addressed.

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**Peer-review model:** Single blind

**Reviewer's code:** 05775860

**Position:** Editorial Board

**Academic degree:** PhD

**Professional title:** Assistant Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Russia

**Manuscript submission date:** 2022-09-21

**Reviewer chosen by:** Dong-Mei Wang

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**Review time:** 3 Days and 21 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

## SPECIFIC COMMENTS TO AUTHORS

The manuscript entitled “Microbiota of the gastrointestinal tract. Friend or foe?” reports a review on the roles of gut microbiota in affecting the resident cells and immune systems of the gut as well the whole human body. The author summarized the current understanding of important cells that contribute to form the epithelial barrier and the first line of defense system against pathogenic microbes. Next, the author summarized the roles of well-recognized gut microbes and their metabolites in developing various diseases. Lastly, the author proposed important questions for future research. Overall, the manuscript has reported the current important progresses on gut system and microbiota and may contribute to the field. The below lists several suggestions that the author may need to consider.

1. An editorial paper is usually short. This manuscript is more suitable to be considered as a review paper for publication. Figures are suggested to be prepared and provided for general readers to better understand the content.
2. In table 1, there are too few examples for colorectal cancer. Because colorectal cancer is a very important disease and many progresses have advanced, the author should look up more references and provide a better summary for the relevant research and key species that have been identified to be involved in colorectal cancer development and recurrence. Maybe other diseases in table 1 need to be checked and make sure that important progresses have been mentioned.
3. Some bacterial metabolites, such as trimethylamine N-oxide, hydrogen sulfide, nitrosamines, heterocyclic amines and polycyclic aromatic hydrocarbons, are interesting. Their roles may be described with more details.
4. The overall writing is good. The author may consider improving the manuscript by checking grammar and organizing paragraphs (some are too short).
5. Bacterial names should be italicized. “eg” should be replaced by “e.g.”.

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**Reviewer's code:** 05198253

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Academic Research, Chief Doctor, Doctor, Research Scientist

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Russia

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**Reviewer chosen by:** Dong-Mei Wang

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**Review time:** 7 Days and 14 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

## SPECIFIC COMMENTS TO AUTHORS

The article introduces the topic from a query and tries to engage the reader in thinking and inquiry about microbiota of the gastrointestinal tract. Friend or foe?. However, there are still serious problems to be solved. 1. The article is too long and should not be published as an editorial; the authors should consider rewriting it as a review article with further figures and content. 2. The authors describe a lot of background knowledge about gut microbes, which overlaps a lot with the published content. The authors should reduce this part and focus on the subsequent discussion part. 3. The second half of the article should further develop the discussion by gathering more relevant literature and comparing their views on the impact of microbes in disease models. 4. The authors should clearly answer the questions listed in the title of the article, rather than leaving the reader to guess. 5. The conclusion section should give a more cautious conclusion, such as "Violations in the qualitative and quantitative composition of the microbiome lead to the development of a wide" These conclusions are still open to debate and subsequent research exploration. 6. The authors need to add a perspective section that raises some key unresolved questions to guide the researcher's subsequent direction.



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**Reviewer's code:** 05491748

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Associate Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Russia

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<b>Scientific quality</b>	<input checked="" type="radio"/> Grade A: Excellent <input type="radio"/> Grade B: Very good <input type="radio"/> Grade C: Good <input type="radio"/> Grade D: Fair <input type="radio"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="radio"/> Grade A: Priority publishing <input type="radio"/> Grade B: Minor language polishing <input type="radio"/> Grade C: A great deal of language polishing <input type="radio"/> Grade D: Rejection
<b>Conclusion</b>	<input checked="" type="radio"/> Accept (High priority) <input type="radio"/> Accept (General priority) <input type="radio"/> Minor revision <input type="radio"/> Major revision <input type="radio"/> Rejection
<b>Re-review</b>	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="radio"/> Anonymous <input type="radio"/> Onymous

**statements**

Conflicts-of-Interest: [ ] Yes [Y] No

**SPECIFIC COMMENTS TO AUTHORS**

The present manuscript is a very clear and comprehensive review describing impacts of intestinal microbiota on the regulation of barrier function, organ growth and development, metabolites, microbiome homeostasis and their related diseases, and proposed the potential strategies for disease treatments. In particular, this review comprehensively discussed the important role of intestinal microbiota on the physical and chemical barriers to maintain human health. The reviewer is impressively satisfied with the overall contents and recommends to accept if the following minor issues solved.

1. Microorganism names should be in italics. 2. It is recommended to edit subheadings to make the content more clearer. 3. Too many short paragraphs may influence the overall readability of the paper. The reviewer suggests to integrate those short paragraphs with clearer logical orders and transitions. 4. Please check and correct some typos in the manuscript (e.g. page 21: dietis). 5. Please delete the last sentence in Conclusion section.