

PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 67917

Title: Gut microbiome composition can predict the response to nivolumab in advanced hepatocellular carcinoma patients

Reviewer's code: 05443743

Position: Peer Reviewer

Academic degree: DVM, MSc, PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: China

Author's Country/Territory: South Korea

Manuscript submission date: 2021-05-20

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-05-28 05:53

Reviewer performed review: 2021-06-08 07:53

Review time: 11 Days and 1 Hour

Scientific quality	<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 Grade E: Do not publish
Language quality	<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
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Chung M-W et al. attempted to identify the gut microbiota biomarkers that can predict the prognosis of immunotherapy (nivolumab) in hepatocellular carcinoma patients. There is no significant impact on the gut microbiota of patients due to immunotherapy. However, a number of bacterial taxa were linked to therapeutic response. The authors proposed two potential predictive markers, including F/B ratio and P/B ratio for non-responders. Although the authors generated very interesting findings that will lead to clinical applications, I have a few minor comments below; 1) The study is limited by the small sample size. Thus, authors should be careful when proposing those potential biomarkers because they can be cofounded by sample size and baseline characteristics. 2) I would suggest the authors include a paragraph indicating the strengths and limitations of the study in the discussion. 3) Fig 2A. The heatmap should include the name of bacterial taxa on Y axis. 4) I would suggest using PERMANOVA tests to indicate p-values to confirm no differences for the comparisons. 5) Figure 4B. Please include the p-values in the figure for the comparisons. 6) Have you compared F/B ratios as in Figure 4B? 7) Since all non-responders are infected by Hepatitis B, do you think the treatment response is associated with Hepatitis B infections? It would be good to include this in the discussion.