

## PEER-REVIEW REPORT

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

**Manuscript NO:** 78447

**Title:** Serum metabolic profiling of targeted bile acids reveals potentially novel biomarkers for primary biliary cholangitis and autoimmune hepatitis

**Provenance and peer review:** Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 02997260

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Senior Researcher

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

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

**Manuscript submission date:** 2022-06-28

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-07-05 09:12

**Reviewer performed review:** 2022-07-08 12:42

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

Scientific quality	<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 Grade E: Do not publish
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<b>Peer-reviewer statements</b>	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

The manuscript presents interesting results. The methods used are novel and well selected. There is a need to correct punctuation and mistakes in the abstract and elsewhere in the manuscript text and tables, though, the main imperfection of this manuscript is results presentation. In present form the manuscript is difficult to read. The result presentation should be changed to more understandable and reliable way.

Here are some suggestions for improving this. 1. According to the manuscript title, a difference in blood BAs concentration between PBC and AIH was object of interest in this research. Moreover, only disparity in BAs composition was confirmed as putative noninvasive marker for PBC and AIH differentiation. Therefore, I would suggest to present only comprehensive results from BAs analysis and exclude other metabolites detected. 2. In the Table 1 TBA amount should be indicated for the Control. 3.

Please, provide a raw amount of tested BAs in the serum of PBC, AIH and Controls, since lg10 was used in the further analyses. 4. If possible, an additional analysis of BAs changes in blood of PBC and AIH patients depending on disease duration would also be interesting. 5. The diseases mentioned in this sentence are not autoimmune: "Clinical manifestations of AIH may have similarities to other autoimmune liver diseases, such as drug-induced hepatitis, alcoholic liver disease, inherited metabolic disorders, and hepatitis C virus infection" Please, specify. 6. Clarify the information: "The Child-Pugh class A was found in 26 PBC cases, Child-Pugh class B in 19 PBC cases, and Child-Pugh class C in 9 PBC cases. The Child-Pugh class A was identified in 17 cases, followed by Child-Pugh class B in 9 cases." 7. This is not informative: "The levels of 17 of the 26 potential biomarkers were elevated in the serum samples of PBC patients, while the

levels of 9 of these 26 potential biomarkers were reduced in the serum samples of PBC patients compared with HCs. The levels of 17 of the 25 potential biomarkers increased in the serum samples of AIH patients, while the levels of 8 of these 25 potential biomarkers decreased in the serum samples of AIH patients compared with HCs.” 8. This sentence needs to be reconstructed: “It may be due to the high similarity between PBC and AIH, both diseases are autoimmune liver diseases.” The only common feature of PBC and AIH is the autoimmune origin, but the pathological mechanisms differ significantly. In PBC the liver injury starts from the autoimmune attack of the bile canalicular cell membranes, while in AIH – from autoimmune attack of hepatocytes. Finally, since the additional blood samples were taken from patients for this research purposes, the Institutional Board approval is not sufficient. Authors should submit an approval from regional Bioethics Committee.

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**Reviewer's code:** 03967085

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Assistant Professor, Chief Doctor

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

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

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**Reviewer chosen by:** AI Technique

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**Review time:** 3 Days and 8 Hours

Scientific quality	<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
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No



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<b>Peer-reviewer statements</b>	Peer-Review: [ <input checked="" type="radio"/> ] Anonymous [ <input type="radio"/> ] Onymous Conflicts-of-Interest: [ <input type="radio"/> ] Yes [ <input checked="" type="radio"/> ] No
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## **SPECIFIC COMMENTS TO AUTHORS**

The aim is stated clear. The authors stated clearly what study found and how they did it.

The title is informative and relevant. The references are relevant and recent. The cited sources are referenced correctly. Appropriate and key studies are included. The introduction reveals what is already known about this topic. The research question is clearly outlined. The research question also justified given what is already known about the topic. The process of selection of the subjects was clear. The variables are well defined and measured appropriately. The study methods are valid and reliable. There are enough details provided in order to replicate the study. The data is presented in an appropriate way. The text in the results add to the data and it is not repetitive. Statistically significant results are clear. It is clear which results are with practical meaning. Results are discussed from different angles and placed into context without being overinterpreted. The conclusions answer the aim of the study. The conclusions are supported by references and own results. The limitations of the study are not fatal, but they are opportunities to inform future research. Specific comments on weaknesses of the article and what could be improved: Major points - none Minor points 1.

Could you please discuss the clinical implications of the results 2. What would be your recommendations based on the obtained results?