

PEER-REVIEW REPORT

Name of journal: World Journal of Transplantation

Manuscript NO: 64371

Title: Biomarkers of graft-vs-host disease: Understanding and applications for the future

Reviewer's code: 02708103

Position: Peer Reviewer

Academic degree: PhD

Professional title: Research Scientist

Reviewer's Country/Territory: Spain

Author's Country/Territory: Japan

Manuscript submission date: 2021-02-16

Reviewer chosen by: AI Technique

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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 Grade E: Do not publish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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS



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This mini review is organised into a series of questions in which the author tries to describe known biomarkers and current knowledge about the usefulness or benefits in the clinical setting of aGVHD after allo-HSC, prior to the onset or follow up at different stages of the disease. Organisation of the data is good. Bibliography is up to date and probably due to space limitations, the information is very concise. There are extensive lists of biomarkers in several good reviews about GVHD. These biomarkers also depend on the affected organ such as decrease of bacterial diversity (gastrointestinal manifestations of GVHD) or HGF (liver aGVHD) or more generally, certain microRNAs that interfere with CK pathways. Even though there are many markers described, it seems that no reliable aGVHD combination of biomarkers is available soon for clinical practice. It is highly difficult to bring these indicators together for clinical early warning since aGVHD develops quickly.

PEER-REVIEW REPORT

Name of journal: World Journal of Transplantation

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Title: Biomarkers of graft-vs-host disease: Understanding and applications for the future

Reviewer's code: 01548565

Position: Editorial Board

Academic degree: MD

Professional title: Director

Reviewer's Country/Territory: China

Author's Country/Territory: Japan

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Scientific quality	<input checked="" 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 type="checkbox"/> Grade E: Do not publish
Language quality	<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
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input 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

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Graft-versus-host disease (GVHD) is the severe complication of hematopoietic stem cell transplantation (HSCT). Minimizing acute GVHD and inducing its chronic form is necessary to achieve good clinical outcomes in HSCT. In this minireview, the author briefly summarizes the current understanding of GVHD biomarkers and future prospects. The sensitive and specific biomarkers that predict the severity and prognosis of the disease have been intensively discussed using proteomics, transcriptomics, genomics, cytomics, and tandem mass spectrometry methods. It is expected that its essential pathology will be disclosed and the available biomarkers will be discovered in the near future.