

PEER-REVIEW REPORT

Name of journal: *World Journal of Diabetes*

Manuscript NO: 79615

Title: Advances in microfluidic chips based on islet hormone-sensing techniques

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03372482

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Academic Research, Assistant Professor, Associate Professor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: China

Manuscript submission date: 2022-08-29

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-08-30 08:07

Reviewer performed review: 2022-08-30 08:44

Review time: 1 Hour

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 Grade E: Do not publish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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous

statements

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

SPECIFIC COMMENTS TO AUTHORS

Diabetes mellitus is a global health disease that results from islet dysfunction or insulin resistance. The mechanisms of islet dysfunction are still under exploration. Islet hormone secretion as the main function of the islet plays an important role in the homeostasis of blood glucose. Explaining the detailed mechanism of islet hormone secretome distortion can provide clues to treating diabetes. Therefore, it is crucial to develop accurate, real-time, labor-saving, high-throughput, automated, and cost-effective techniques for the detection of islet secretome. Microfluidic chips, an elegant platform with a combination of biology, engineering, computer science, and biomaterial, have attracted tremendous interest from scientists in diabetes all around the world. These tiny devices are miniatures of traditional experimental systems with more advantages of time-saving, reagent-minimization, automation, highthroughput, and online detection. These features of microfluidic chips meet the demands of islet secretome analysis, and varieties of chips have been designed in recent 20 years. In this review, a brief introduction to microfluidic chips is described, and three microfluidic chips-based islet hormone sensing techniques are summarized. We focus mainly on the theory of these techniques and then give detailed examples based on these theories. We hope to provide some insight into the design of future chips and detection systems. In General: it's a good paper and the subject of the manuscript is applicable and useful. Title: the title properly explains the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, the language used in the abstract is easy to read and understand, and there are no suggestions for improvement. Introduction: authors do provide adequate background on the topic and reason for this article and describe what the authors hoped to achieve. Results: the results are presented clearly, the authors provide accurate

research results, and there is sufficient evidence for each result. Conclusion: in general: Good and the research provides sample data for the authors to make their conclusion. Grammar: Need More revision. (Check The Paper Comments). Please provide the following information in the Paper 1. Conflict of Interest 2. Source of Funding Finally, this was an appealing article, in its current state it adds much new insightful information to the field.

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Reviewer's code: 05740520

Position: Peer Reviewer

Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: India

Author's Country/Territory: China

Manuscript submission date: 2022-08-29

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2022-10-13 11:30

Reviewer performed review: 2022-10-22 11:23

Review time: 8 Days and 23 Hours

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
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous



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statements

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

SPECIFIC COMMENTS TO AUTHORS

1. Figure title should be concise 2. Provide the equation numbers 3. The main problems of the paper are: lack of comparisons with the results of previous researchers, unclear formulation of the algorithm, unclear scheme for validating the results.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Peer-review model: Single blind

Reviewer's code: 05740520

Position: Peer Reviewer

Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: India

Author's Country/Territory: China

Manuscript submission date: 2022-08-29

Reviewer chosen by: Jing-Jie Wang

Reviewer accepted review: 2022-11-14 08:59

Reviewer performed review: 2022-11-14 09:00

Review time: 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 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
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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SPECIFIC COMMENTS TO AUTHORS

Accept