

PEER-REVIEW REPORT

Name of journal: *World Journal of Gastrointestinal Pathophysiology*

Manuscript NO: 86113

Title: Novel, non-colonizing, single-strain live biotherapeutic product AD 24 protects against *Clostridioides difficile* infection challenge in vivo

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06182798

Position: Peer Reviewer

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: India

Author's Country/Territory: United States

Manuscript submission date: 2023-06-01

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-06-03 04:58

Reviewer performed review: 2023-06-13 05:47

Review time: 10 Days

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 Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	<input checked="" type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
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 type="checkbox"/> Yes <input checked="" 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

The manuscript by Murphy et al describes the promising *Bacillus velezensis* strain ADS024 as a live biotherapeutic product that protects significantly against infections caused by *Clostridioides difficile* in the animal model study. Overall, the study is an extension of the previous work reported by the same group where they have characterized the strain ADS024 isolated from the human fecal sample and studied its potential to inhibit the CDI in vitro assays. The current study takes into account if the strain can be used as a live biotherapeutic agent in future human trials against CDI. The study reveals promising results, specifically its antagonistic potential against *C. difficile*. The study has been well designed, executed, and presented well. I congratulate the authors for their nice work. As such I do not have any specific comments for the authors, but would like to get some clarifications that may be incorporated in the manuscript. 1. The fig. 1B shows the log₁₀ CFU of ADS024 for different treatment groups for different time durations. However, in the placebo (no ADS024 addition) the CFU has also been represented for ADS024 which is difficult to understand. The authors may clarify this. 2. The single dose vs triple dose of ADS024 does not show a significant difference in the



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study which needs some additional clarification in the text.