

PEER-REVIEW REPORT

Name of journal: World Journal of Biological Chemistry

Manuscript NO: 53536

Title: Why the discovery of adherent-invasive Escherichia coli (AIEC) molecular markers is so challenging?

Reviewer's code: 00049275

Position: Peer Reviewer

Academic degree: PhD

Professional title: Professor

Reviewer's country: France

Author's country: Spain

Manuscript submission date: 2019-12-23

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-01-05 21:18

Reviewer performed review: 2020-01-18 14:06

Review time: 12 Days and 16 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The review is very well written and sums up the state of knowledge on the genetics of AIEC bacteria. Before publication, it would be important to clarify or comment on the 2 following points: - Do the authors think, as indicated in the abstract, that AIEC can be used as a "diagnostic tool", or should it rather be considered as a therapeutic target? This point deserves to be clarified. - Is the difficulty in identifying molecular markers due to the absence of a standardized method for characterizing AIEC strains, or to the fact that these are pathobiont bacteria which have adapted/evolved to the digestive environment in inflammatory condition, and that several genetic mechanisms can lead to the same phenotype? In the second case, even if the characterization methods are standardized, the identification of molecular markers will not improve. In fact, within the same collection characterized in a standardized way, the genetics of the strains are diverse. This point deserves to be clarified and discussed.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

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PEER-REVIEW REPORT

Name of journal: World Journal of Biological Chemistry

Manuscript NO: 53536

Title: Why the discovery of adherent-invasive Escherichia coli (AIEC) molecular markers is so challenging?

Reviewer's code: 02529364

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Senior Lecturer

Reviewer's country: Australia

Author's country: Spain

Manuscript submission date: 2019-12-23

Reviewer chosen by: Jie Wang

Reviewer accepted review: 2020-01-18 10:16

Reviewer performed review: 2020-02-10 07:04

Review time: 22 Days and 20 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

In this paper, the authors reviewed studies on the molecular markers for identification of adherent-invasive *Escherichia coli* (AIEC) strains that are associated with Crohn's disease (CD). This is an interesting topic. Overall, the paper is clearly written. However, some revisions are required, please see my comments below: 1. Line 23. Please change "Adherent-invasive *Escherichia coli* (AIEC) have been extensively" to "Adherent-invasive *Escherichia coli* (AIEC) strains have been extensively" 2. Line 52. Please also add "strains". 3. Lines 60-62. "Additionally, induction of 61 high levels of cytokine secretion and exacerbation of intestinal inflammation in susceptible 62 hosts due to AIEC presence has been reported (6-8)." Please revise this. The authors need to clearly state that these studies are animal studies. 4. Lines 67-71: Please revise this. These sentences do not make sense in their current form. "To further decipher the role of AIEC in CD (such as disease specificity or association with 68 active disease), in addition to uncovering the host range or AIEC reservoirs and 69 transmission paths is of paramount importance for eventually defining measures of 70 contamination risk and prevention and/or to provide personalized treatments for AIEC 71 carriers." 5. Line 84: "The first studies" sounds strange. Please revise this. 6. Lines 91-98: The authors mentioned so many genes, what are they? Please add a brief explanation. 7. Table 1: Phylogroup: is this phylogroup based on house-keeping genes? This information should be there. 8. Tables 2 and 3: please move the explanation sentences from the title to footnotes. 9. Lines 368-369: How do you measure the abundance of AIEC? Given that no molecular marker is available. Please explain this further.

INITIAL REVIEW OF THE MANUSCRIPT

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