Reviewer’s report

Title: Intestinal permeability - a new target for disease prevention and therapy?

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Reviewer: Alexandra Zhernakova

Reviewer’s report:

Bischoff and co-authors present a complete and well-written review on intestinal permeability. It provides a good overview of all permeability aspects as well as mechanistic insight and future perspectives.

I only have minor comments:

1. CD and UC should be written in full when used the first time. Same for other abbreviation.

2. “Paneth cells produce a range of antimicrobial factors to protect the crypt cells from infection with microorganisms including alpha-#defensins, lysozyme and Reg3 proteins corresponding to HIP/PAP in humans” – since the paper is about human intestinal barrier, it is better to name human protein and then their mouse homolog.

3. Gene names should be written in italic.

4. Mutagenomic (page 10) should be Metagenomic

5. It would be useful to add a few sentences on the link of gut bacterial richness and diseases.

6. It is surprising not to see celiac disease among the list of diseases linked with impaired intestinal permeability. There are several studies published on permeability in celiac disease.

7. Table 4: why is biomarker mentioned in the “disadvantage” column?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests