Reviewer’s report

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

Version: 3  Date: 1 May 2014

Reviewer: Robin Spiller

Reviewer’s report:

This is a wide ranging review of a subject of great current interest which reflects the expertise of the international group who produced it. Like many multi-author manuscripts it need a bit of editing to remove repetition and shorten it a bit.

I very much enjoyed reading it and I think it will be useful to be field.

Comments

1. The first 6 pages defining the terms should be shortened as it does repeat itself.

2. The section on cannabinoids is very brief. It really does not justify a separate section unless it is expanded with more references.

3. The section on microbiota has an introduction which can be omitted and simply referenced. It overlaps so much with many other recent reviews.

4. Page 11 paragraph 2 More comment is warranted on the utilisation of mucus as an energy source and the role of commensal bacteria in mucus degradation. There is much current interest in the role of mucus derived sialic acid in pathogen expansion after antibiotic use 1.

5. Page 12 Here it would be important to mention how Na+-dependent transport of nutrients such as glucose and alanine increase permeability of tight junctions 2.

6. Page 15 The comment that TNFa increases permeability needs a caveat since in some models it actually increases the barrier 3.

7. The section on measurement seems out of place. As a methodological section should it not go at the beginning?

8. Page 17 Should you not mention the effect of glutamine which has been shown to correct impaired barrier function 4.

9. Not sure I agree that butyrate deficiency is an indirect marker of permeability. The reference quoted does not validate this in humans.

6. Minor typos

References have dual numbering e.g. 91 (78) please correct

Reference List

(1) Ng KM, Ferreyra JA, Higginbottom SK, Lynch JB, Kashyap PC, Gopinath S et al. Microbiota-liberated host sugars facilitate post-antibiotic expansion of enteric


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