

**Commentary: associations between immune activation,  
intestinal permeability and irritable bowel syndrome -  
author's reply.**

Julien Matricon

► **To cite this version:**

Julien Matricon. Commentary: associations between immune activation, intestinal permeability and irritable bowel syndrome - author's reply.: Reply to Invited Commentary. *Alimentary Pharmacology and Therapeutics*, Wiley, 2013, 37 (2), pp.278-9. <10.1111/apt.12150>. <inserm-00771440>

**HAL Id: inserm-00771440**

**<http://www.hal.inserm.fr/inserm-00771440>**

Submitted on 8 Jan 2013

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

AP&T invited commentary by Jovani et al. - authors' reply

Jovani et al. October 2012

- . heightened immune activation in IBS + higher intestinal permeability
  - . non-inflammatory factors such depression/stress might influence the immune system
  - . inflammation cause or consequence?
  - . immune system + integrity of IEB but role of brain-gut axis?
- >role of gut microbiome and small intestinal bacterial overgrowth (SIBO) + potential benefits of probiotics and rifaximin

---

(i) The "Manuscript Type" should be entered as "Invited Commentary"

(ii) When entering a title, please begin this with "Reply to Invited Commentary: Associations between immune activation, intestinal permeability and irritable bowel syndrome" – in this way we can ensure it is associated with the original commentary.

(iii) During the submission process you will be asked for an abstract. However please just enter "None required" in the box and this will allow you to proceed.

(iv) In the box labelled "Running Head" – please just enter "Reply to Invited Commentary".

(v) At the end of your document (<300 words), please paste-in, "The authors' declarations of personal and financial interests are unchanged from those in the original article [ref as in references]."

---



**Manuscript Type:** Invited Commentary

**Reply to Invited Commentary: Associations between immune activation, intestinal permeability and irritable bowel syndrome**

**Julien MATRICON<sup>1</sup>**

1. Clermont Université, Université d'Auvergne, NEURO-DOL, BP 10448, F-63000 Clermont-Ferrand, France. Inserm, U1107, F-63001 Clermont-Ferrand, France.

**Running Head:** Reply to Invited Commentary

**Word count:**308

**Abstract:** None required

We thank Dr. Jovani and colleagues for their comments regarding our review on associations between irritable bowel syndrome (IBS) and gut inflammation.

Many studies have assessed inflammatory markers in IBS and yielded a considerable amount of heterogeneous data, which made the link between IBS and inflammation difficult to evaluate. Thus, the aim of our review was to clarify this link by determining if the levels of inflammatory markers in fecal samples, blood samples or intestinal biopsies were higher in IBS patients than in healthy controls.

Other risk factors such as stress and psychological factors are involved in IBS etiology<sup>1</sup>, however these were not described in detail since this was out of the scope of the present review. We also fully agree that alteration of the gut microflora can contribute to IBS etiopathogenesis. Actually, dysbiosis was quite consistently reported in IBS.<sup>2</sup> Small intestinal bacterial overgrowth (SIBO) has been somewhat associated with IBS<sup>3</sup> although the existence of a causal link between IBS and SIBO is still under debate because most of the existing studies are methodologically biased or lack the appropriate controls.<sup>4</sup>

In line with a possible involvement of dysbiosis and/or SIBO in IBS, recent studies have shown beneficial effects of the antibiotics mesalazine and rifaximin on symptomatology.<sup>5</sup> Probiotics can relieve symptoms in some cases as well.<sup>6</sup> Nevertheless, large randomized and controlled trials are still needed to further evaluate the effectiveness of anti-inflammatory agents and probiotics for treating IBS. Associations between beneficial effects of antibiotics and presence of SIBO are lacking as well.<sup>2</sup> Despite these shortcomings, modulation of the intestinal flora could indeed be a prosperous direction of future research. The pathophysiological

consequences of these microflora changes in IBS are not well understood. However, one explanation could be the increase in intestinal permeability following alteration of tight junction complexes in intestinal epithelial cells and subsequent immune activation within the mucosa.<sup>7</sup>

**Acknowledgement:** The authors' declarations of personal and financial interests are unchanged from those in the original article.<sup>8</sup>

## References

1. Chang L. The role of stress on physiologic responses and clinical symptoms in irritable bowel syndrome. *Gastroenterology* 2011;**140**(3):761-5.
2. Dahlqvist G, Piessevaux H. Irritable bowel syndrome: the role of the intestinal microbiota, pathogenesis and therapeutic targets. *Acta Gastroenterol Belg* 2011;**74**(3):375-80.
3. Ford AC, Spiegel BM, Talley NJ, Moayyedi P. Small intestinal bacterial overgrowth in irritable bowel syndrome: systematic review and meta-analysis. *Clin Gastroenterol Hepatol* 2009;**7**(12):1279-86.
4. Spiegel BM. Questioning the bacterial overgrowth hypothesis of irritable bowel syndrome: an epidemiologic and evolutionary perspective. *Clin Gastroenterol Hepatol* 2011;**9**(6):461-9; quiz e59.
5. Sachdev AH, Pimentel M. Antibiotics for irritable bowel syndrome: rationale and current evidence. *Curr Gastroenterol Rep* 2012;**14**(5):439-45.
6. Clarke G, Cryan JF, Dinan TG, Quigley EM. Review article: probiotics for the treatment of irritable bowel syndrome--focus on lactic acid bacteria. *Aliment Pharmacol Ther* 2012;**35**(4):403-13.
7. Ulluwishewa D, Anderson RC, McNabb WC, Moughan PJ, Wells JM, Roy NC. Regulation of tight junction permeability by intestinal bacteria and dietary components. *J Nutr* 2011;**141**(5):769-76.
8. Matricon J, Meleine M, Gelot A, et al. Review article: associations between immune activation, intestinal permeability and the irritable bowel syndrome. *Aliment Pharmacol Ther* 2012.