

**Editors**

**World Journal of Gastroenterology**

**23 April 2022**

Dear Sirs,

Thank you very much for your message communicating the outcome of the editorial review of my manuscript No 75427 entitled "**Colon mucus in colorectal neoplasia and beyond**".

**Reviewer#1:**

**Comments:** I enjoyed reading Loktionov et al review article which is focused on the colon specific proteins, mucins, defining structural and functional characteristics of this substance. The paper provides importance of colon mucus which was largely ignored because its structure and functions were obscure. Human colon mucus comprises a dense inner layer impenetrable for bacteria and a loose outer layer providing a habitat for abundant commensal microbiota. Mucus barrier integrity is essential for maintaining homeostatic balance between colonic mucosa and gut microbiota, and its impairment opens direct bacterial access to the epithelium, which induces inflammation and can cause severe disorders, including inflammatory bowel disease and colorectal cancer. Recent advances in colorectal mucus exploration and emerging new clinical applications based on this knowledge are herein discussed. More interesting, the author described recent formation of bacterial biofilms within the inner colon mucus (CM) layer was shown to be associated with both inflammation and cancer. Although obvious gaps in public knowledge of human CM remain, its importance for the pathogenesis of major colorectal diseases, comprising inflammatory bowel disease (IBD) and associated colorectal cancer (IBD-CRC), is generally recognized. Continuing progress in the field of CM exploration promises considerable future achievements and is likely to result in the development of a range of new useful clinical applications addressing colorectal disease

diagnosis, prevention, and therapy. It is an outstanding well summarized review. Good job

**Reply:** Thanks for your comments.

**Reviewer#2:**

**Comments:** I found this manuscript very interesting, very well written and the subject in question addressed by the authors is still growing in the scientific community. The importance of CM for the integrity of the barrier is known, whether to prevent contact with harmful bacteria or maintain homeostasis, and impairments in CM structure and function can lead to colonic barrier deterioration that opens direct bacterial access to the epithelium, which can lead to dysregulates epithelial proliferation and causes inflammatory responses with possible carcinogenesis scenarios. I consider the use of images a great asset that will allow the reader to better understand the constitution and function of the CM. This manuscript requires some literature review, especially in terms that are poorly written, as is the case with Firmicutes on page 10, a minor repair. It's a very complete and the importance for the pathogenesis of major colorectal diseases is already recognised. Continuing progress in colon mucus exploration is interesting and likely to be confirmed in further studies.

**Reply:** The Reviewer correctly indicated that there were a few errors and typos in the text (e.g., misspelled *Firmicutes* on Page 10). All these errors, including inconsistent use of US spelling on some occasions (the paper is written using UK spelling) have been duly corrected. I have also made some minor corrections improving language style and punctuation.

I hope that the revised version of my paper will be found suitable for publication in WJG.

Yours sincerely,

**Dr Alexandre Loktionov**