Reviewer’s report

Title: Histological, immunohistochemical and mRNA gene expression responses in coeliac disease patients challenged with gluten using PAXgene fixed paraffin-embedded duodenal biopsies

Version: 0 Date: 13 Aug 2019

Reviewer: Rong Jun Guo

Reviewer's report:

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This is an interesting technical study attempting a quantitative approach to evaluating histological changes in the small intestine in the pathogenesis of celiac disease. I have two concerns regarding this study:

1) As we all know RNAs extracted from formalin-fixed tissues, in many cases, work pretty well. The authors argue that, in some RNAs, formalin fixation do not work. That was why the authors thought PAX gene was a better choice. However, the authors did not perform a parallel study comparing these two fixatives when they performed their RNA study, raising the suspicion that formalin fixed tissues might also work for the expression of the two genes they studied.

2) In all of cases the authors studied, I assume the diagnosis had been established before the patients were registered. The diagnosis of a celiac disease is based on clinical, serological and histological correlation. The typical histological features are characteristic of, but not specific for, a celiac disease. Several other entities can result in identical histological changes, such as Crohn disease, and medication-related injury. The authors should clearly address this limitation.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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