Dear Dr. Vineeta Bajaj,

Attached please fine our revised manuscript JoVE58668R1 with a new title “Investigating the Effect of Taste Signaling Protein Abolishment on Gut Inflammation in an Inflammatory Bowel Disease Model”.

Thank you very much for the very helpful comments. My coauthors and I have revised according to your comments, and also corrected a couple of typos. Attached below is a point-to-point reply to each of your comments.

We hope that the revised manuscript is now acceptable. We are looking forward to hearing from you soon again.

Best regards,

Liquan Huang, PhD

College of Life Sciences

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**Point-to-point reply to editorial comments:**

(the line numbers indicated below are those in the newly revised manuscript)  
**1.** The editor has formatted the manuscript as per the journal's style. Please retain the same.

**Reply**: Thank the editor for formatting the manuscript as per the journal’s style. Yes, it has been retained.

**2.** Please address all the specific comments marked in the manuscript.

**Reply**: Yes, all the specific comments marked in the manuscript has been addressed.

Specifically:

1. Please make the title more concise and please do not use abbreviations.

**Reply**: The title has been revised and the new title is more concise and does not have abbreviations, which is: “Investigating the Effect of Taste Signaling Protein Abolishment on Gut Inflammation in an Inflammatory Bowel Disease Model”.

1. Mouse model is a bold term since no specific test is done to claim it as a model- please tone it down.

**Reply**: Yes, it has been changed to “an inflammatory bowel disease model”, which is generated by the dextran sulfate sodium induction and has been referred to as an IBD model in the field. We attempt to combine this prototype model with the gustatory gene knockout technology to make it more powerful.

Long Abstract: Please reduce the length as it is more than 300 word limit.

**Reply**: Yes, the Abstract has been reduced to 299 words.

Line 108: Citation for the sentence.

**Reply**: Yes, a new reference is cited here.

Lines 144 and 150: Not in imperative tense, hence converted to a note. Please check.

**Reply**: Yes, it is fine. Thanks for converting them into two notes.

Line 158: Do you have controls as well?

**Reply**: Yes, we do.

Line 162: How-manually?

**Reply**: Yes, manually.

Line 163: How? Is there a citation to refer?

**Reply:** Yes, a citation has been added.

Line 168: Citation?

**Reply:** Yes, a reference has been added.

Line 179: How big?

**Reply:** 3 cm long.

Line 200: So, you do not wear PPE before? Please move this sentence to the beginning of the protocol.

**Reply**: Thanks for pointing out. Yes, it has been moved to the beginning of the protocol (Line 137).

1. Line 210: We cannot have paragraph of text in the protocol section. Please make substeps so that each individual step has 2-3 action items. Please use imperative tense throughout.

**Reply:** Yes, it has been divided into 4 substeps. And imperative tense has been used throughout.

1. Line 226: Please move this to the Table of materials.

**Reply:** Yes, it is in the Table of Reagents.

1. Line 233: Please move the commercial term to the table of materials. We cannot have commercial terms in the manuscript. Please use generic term instead.

**Reply:** Yes, it is in the Table of Reagents. And a generic term is used instead.

1. Line 257: Is there a reference for the scoring system?

**Reply:** Yes, two references have been cited.

1. Line 271: Non-ionic detergent?

**Reply:** Yes, it is.

1. Line 290: Please move the commercial term to the table of materials. We cannot have commercial terms in the manuscript. Please use generic term instead.

**Reply:** Yes, it is in the Table of Reagents. And a generic term is used.

1. Line 290: Please use imperative tense throughout and use generic term instead. Please also explain how you do the procedure-graphical user interface, button clicks on the software etc.

**Reply:** Yes, imperative tense and generic term are used throughout. It has been revised to explain how the immunoreactive cells and the tissue areas are identified and measured.

1. Line 303: Please convert to imperative tense.

**Reply:** Yes, it has been converted to imperative tense.

1. Line 304: Please move the commercial term to the table of materials. We cannot have commercial terms in the manuscript. Please use generic term instead.

**Reply:** Yes, it is in the Table of Reagents. And a generic term is used.

1. Line 307: Since this is highlighted do you want to show the entire RNA isolation procedure? Else this can be used as a connective statement.

**Reply:** Yes, it can be used as a connective statement. We do not want to show the entire RNA isolation procedure.

1. Line 312: Is this correct? Changed to generic term. Please check.

**Reply:** It is mostly correct. More commonly, it is called microspectrophotometer.

1. Line 320: Fluorescent green dye?

**Reply:** Yes, DNA-binding fluorescent cyanine dye.

1. Line 322: Analyzed or Run? Please use imperative tense.

**Reply:** “Run” is better. It has been changed to imperative tense.

1. Line 331: Please tone down the novel mouse model claim.

**Reply:** Yes, it has been changed to “a DSS-induced IBD procedure”.

1. A typo is corrected: Line 394: “Scale bar: 1 mm” has been changed to “Scale bar: 1 cm”.

**3.** After formatting, please ensure that the highlight is no more than 2.75 pages including headings and spacings.

**Reply**: Yes, we have made sure that the highlighted part is no more than 2.75 pages.