

Reviewer #1:

**Scientific Quality:** Grade B (Very good)

**Language Quality:** Grade B (Minor language polishing)

**Conclusion:** Minor revision

**Specific Comments to Authors:** Comments about the manuscript: "Mitochondrial carrier homolog 2 increases malignant phenotype of GES-1 cells and promotes proliferation, invasion and migration of gastric cancer cells" The work presented here concerns research on the role of mitochondrial carrier homolog 2 (MTCH2) involved in the cancerization of gastric cells and in the formation of metastases, a role which is not yet fully understood. For this, the authors studied 65 samples of poorly differentiated gastric cancer tissues with their adjacent tissues; they constructed models of overexpressed and inactivated cells whose proliferation (GES-1 cells), migration and invasion they evaluated by different methods, notably concerning the measurement of mitochondrial function. The results obtained show that MTCH2 can increase the malignant phenotype of GES-1 cells and promote the proliferation and migration of gastric cancer cells by regulating mitochondrial function. This work may thus provide a basis for targeted therapy of gastric cancer cells. This well presented although complex study deserves to be forgotten after some improvements to the manuscript. Here are some minor remarks.

1. Page 5, line 130. Write "Two parallel scratches were made" instead of "Two parallel scratches was made".

**Response: We've already replaced it.**

2. Page 5, line 136. "according to the manufacturer's instruction" is not sufficient: briefly explain the method.

**Response: We added the description of the ATP experimental method.**

3. Page 6, line 152. Write "Photos were taken under an inverted optical microscope" instead of "Photoes were taken under a inverted optical microscope".

**Response: We've already replaced it.**

4. For immunohistochemistry, were there negative controls (without first antibody for example)? Please, explain.

**Response: We put the negative control results in the original figure documents.**

5. Page 6, line 161. "according to the instruction of Mitochondrial Permeability Transition Pore Assay Kit": briefly give some explanations about this method.

**Response: We added the description of the mPTP experimental method.**

6. Page 7, line 167. "according to the instruction of whole cell lysis assay": same, briefly give some explanations about this method.

**Response: We added the description of the protein extraction.**

7. Page 8, line 176: I did not find the table 1.

**Response: I'm sorry. It was an oversight on our part. We have added Tables 1 and 2 to the manuscript.**

8. Page 11, line 292: write "we" (without a capital letter).

**Response: We made changes.**

9. Page 20, figure 2. This figure needs a more explanatory legend: each image needs to be explained. For A, B, C, D: what is indicated on the abscissa, on the ordinate? For E, F, G,

H: add a scale bar on the images, specify the coloring in the legend, what is expressed in abscissa and ordinate? Page 21, figure 3, page 22, figure 4, page 23, figure 5: same comment as for figure 2;

**Response: We have modified the figure legends and scales of Figure 2, 3, 4, and 5.**

10. add scale bars to micrographs.

**Response: We added the scale bars of the micrographs in all the figures.**

## **EDITORIAL OFFICE'S COMMENTS**

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

### ***(1) Science editor:***

The manuscript has been peer-reviewed, and it is ready for the first decision.

### ***(2) Company editor-in-chief:***

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Gastrointestinal Oncology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before its final acceptance, please provide and upload the following important documents:

1. Biostatistics Review Certificate, a statement affirming that the statistical review of the study was performed by a biomedical statistician;

**Response: Biostatistics Review Certificate has been uploaded.**

2. Institutional Review Board Approval Form or Document, the primary version (PDF) of the Institutional Review Board's official approval, prepared in the official language of the authors' country.

**Response: Institutional Review Board Approval Document has been uploaded.**

3. The quality of the English language of the manuscript does not meet the requirements of the journal. Before final acceptance, it is recommended that the authors provide the English Language Certificate issued by a professional English language editing company. Please visit the following website for the

professional English language editing companies we recommend:

<https://www.wjgnet.com/bpg/gerinfo/240>.

**Response: The manuscript language has been polished by AJE company. The English Language Certificate has been uploaded.**

4. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, "Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...".

**Response: We have uniformed presentation of all Figures.**

5. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.

**Response: The original figure.pptx has been uploaded.**

6. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2023.

**Response: We have added the copyright information in PowerPoint.**

7. Please upload the approved grant application form(s) or funding agency copy of any approval document(s).

**Response: The approval document of funding agency have been uploaded.**