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MALAT1 molecular mechanisms in gastric cancer progression

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Author contributions: Batista DMO wrote the paper and designed the figures;

Silva JMC wrote the piece; Smith MAC, Gigek CO, and Assumpção PP critically

revised this paper; Calcagno DQ designed the article and wrote the present

review.

ANSWERING REVIWERS

Reviewer #1:

Scientific Quality: Grade D (Fair)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: This manuscript by Daniel et. al. entitled "MALAT1 molecular mechanisms in gastric cancer progression" aims to summarize the present awareness of MALAT1 in GC. Generally, I think this may be a reference for investigators to study novel biomarkers of gastric cancer. However, some issues I strongly suggest the author may consider to revise. There are some concerns should be addressed. 1. In the paragraph of MALAT1 (page 4), no miRNA-related information has been mentioned in the previous paragraph, so the mechanism of miRNA needs to be introduced first to provide a better reading experience. 2. In the paragraph of angiogenesis (page 8), the mechanism of three pathways is too concise and there is no mention of whether there is a primary or secondary relationship between the three signaling pathways. The authors should discuss a bit of crosstalk between MALAT1 and vasculogenic mimicry. How could these crosstalk contributes to angiogenesis? 3. Add more conjunction words in each section to improve the logic. 4. There should be more explanations and conclusive sentence, instead of simply listing previous works. 5. The line number should be added. 6. There is less content about LncRNAs in the Introduction. Following article might help the authors and should be included. λ He, X., Liu, X., Zuo, F., Shi, H., & Jing, J. (2023). Artificial intelligence-based multi-omics analysis fuels cancer precision medicine. Seminars in cancer biology, 88, 187-200. https://doi.org/10.1016/j.semcancer.2022.12.009 λ Amodio N, Raimondi L, Juli G, et al. MALAT1: a druggable long non-coding RNA for targeted anticancer approaches. J Hematol Oncol. 2018;11(1):63. Published 2018 May 8. doi:10.1186/s13045-018-0606-4 λ Yin X, Yang J, Wang H, et al. Non-coding genome in small cell lung cancer between theoretical view and clinical applications. Semin Cancer Biol. 2022;86(Pt 3):237-250. doi:10.1016/j.semcancer.2022.03.024

ANSWERS:

- 1 We followed this instruction and added a paragraph about miRNAs and its mechanisms in the Introduction to provide a better reading experience.
- 2 The mentioned work did not investigate the molecular mechanisms that caused VE-cadherin downregulation and how MALAT1 affect the activity of ERK/MMP and FAK/paxilin, to this date no other article that elucidates this mechanism in vasculogenic mimicry and gastric cancer has been published.
- 3 This instruction was followed and more conjunction words were added.
- 4 This instruction was followed and more conclusive sentences, explanations were added.
- 5 The line number was added, but it was lost when submitting the platform as an auto edited file, the following manuscript will be added with them.

6 – More information and content about miRNAs and lncRNAs were added in the Introduction, the mentioned articles were included and referred in the text.

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: In this manuscript the authors summarized all current knowledge on the association between MALAT1 expression and gastric cancer. Scientific literature is exploring the role of MALAT1 in many pathological processes including cancer and many papers are highlighting its involvement for example in breast, ovarian, prostate cancer. However, research studies on MALAT1 pathways in esophagogastric malignancies are ongoing and there are not many works in the literature, so the authors' analysis is concise but quite comprehensive. In this regard, the authors could add a sentence in the conclusions about the need to increase studies especially on the molecular mechanisms of MALAT1 in the GC to identify targeted therapies. Furthermore, the authors should satisfy these minor points: 1. Pag. 4 in the sentence "As shown in the image above, MALAT1 can modulate endogenous pre-mRNA AS etc." the authors should specify the image as Figure 1. 2. Page 6: The small introductory paragraph on miR-22-3p in the chapter MOLECULAR MECHANISMS OF MALAT1 is quite detached from the rest of the chapter. It should be incorporated in the paragraph on chemoresistance where it is discussed extensively. As a more general introduction the authors could recall which are the mechanisms of action of MALAT1 reported in the literature and which have been demonstrated more specifically in GC.

ANSWERS:

- 1 This instruction was followed and the text was changed to specify the Figure.
- This instruction was followed and the introductory paragraph on miR-22-3p was added to the CHEMORRESISTANCE section.