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OPEN PEER REVIEW

Selective Toxicity of Iron, Manganese Oxide Nanostructure and Laser Wave on Colorectal and Breast Cancer Cell

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

3 comments · 20 Nov 2024 – 29 Nov 2024

Referee 1 Reviewer

MINOR REVISION 20 Nov 2024

1. The title is long; please change it.
2. Please provide the full names of the lab devices in the methods section.
3. Please indicate the cell exposure time in the abstract.
4. Clarity of the objectives/hypotheses? (Are the objectives clearly stated?) Please edit the introduction section.

Referee 2 Reviewer

MAJOR REVISION 28 Nov 2024

Please note and ensure that the provided comments are carefully considered and that any necessary corrections are made to the relevant sections of the manuscript.
Background
The background section should provide a comprehensive overview of the topic, incorporating relevant studies and identifying any existing knowledge gaps. This approach will emphasize the significance and originality of the research, particularly in the concluding paragraph, where the importance and novelty of the findings should be underscored.

Methods
- Interventions: The treatment methods utilizing MnO and Fe2O3 nanoparticles, followed by infrared radiation, are outlined; however, additional details concerning specific protocols are absent. It is recommended that relevant scientific references be incorporated to enhance the comprehensiveness of this section.
- Statistical Methods: Appropriate statistical analyses must be employed to evaluate the efficacy of the interventions. These may include descriptive statistics for summarizing data characteristics and inferential statistics, such as t-tests or ANOVA, to determine the significance of the observed effects.

Discussion
To enhance the discussion section, it is advisable to incorporate relevant literature for comparative analysis, clarify the implications of the study's findings, address potential limitations, and propose future research directions. Additionally, the writing within the discussion section needs to improve in terms of clarity and coherence. It is important to acknowledge the limitations of the study while avoiding a repetition of the results in this section.

Conclusion
The conclusion should be concise yet impactful, summarizing the significant outcomes of the study and highlighting the relevance and potential applications of the research findings for the scientific community. It is essential not to repeat the results in this section. The conclusions drawn indicate the potential for effective cancer treatment, but there is a lack of discussion regarding the limitations and implications for future research.

**Other Considerations
• Line 98, which states "please add the size and concentration of the NPs solution that you used," should be removed.

- Line 154 needs correction to reflect 1×106 cells/ml.
- Additionally, please correct the repetition of the word “however” in line 295.

Associate Editor

MAJOR REVISION 29 Nov 2024

Dear authors,
Please see below the comments made by 2 expert reviewers. Based on the comments, my decision for this submitted manuscript is major revision.
Please carefully read the comments, provide thoughtful answers to the reviewers' questions, and revise and improve your manuscript accordingly.

With kind regards,
Associate editor

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Review for 157301

EIC:

The Figure 6 is not available. The figure should be uploaded.

Answer: we respectfully to EIC, we corrected figure and we highlighted by yellow band on data part. Page 26 and line 530.

Reviewer 1:

The title is long, please change it.

Answer: we respectfully to reviewer, we corrected tittle and marked by green highlight on title page part. In page 1 and line 1.

Please provide the full name of the lab devices in the method part.

Answer: we respectfully to reviewer, we added full name of the spectrophotometry devices in the method part and marked by green highlight in pages 5, 6and lines 149, 164,170,178.

Please indicate cell time exposure in the abstract part.

Answer: we respectfully to reviewer, we added exposure time in the abstract part and marked by green highlight in page 1 and line 15.

Clarity of the objectives/hypotheses? (Are the objectives clearly stated?). Please edit introduction part.

Reviewer 2:

Please note and ensure that the provided comments are carefully considered and that any necessary corrections are made to the relevant sections of the manuscript.

Background

The background section should provide a comprehensive overview of the topic, incorporating relevant studies and identifying any existing knowledge gaps. This approach will emphasize the significance and originality of the research, particularly in the concluding paragraph, where the importance and novelty of the findings should be underscored.

Answer: we respectfully to reviewer, we checked knowledge gaps at background section and corrected text and marked by yellow highlighted in pages 1 and lines 9-12 and 21-22.

Methods

- Interventions: The treatment methods utilizing MnO and Fe2O3 nanoparticles, followed by infrared radiation, are outlined; however, additional details concerning specific protocols are absent. It is recommended to incorporate relevant scientific references to enhance the comprehensiveness of this section.

Answer: we respectfully to reviewer, we checked Methods section, corrected and added references. We marked by yellow highlighted in page 4 and lines 101-104.

Statistical Methods: Appropriate statistical analyses must be employed to evaluate the efficacy of the interventions. These may include descriptive statistics for summarizing data characteristics and inferential statistics, such as t-tests or ANOVA, to determine the significance of the observed effects.

Answer: we respectfully to reviewer, we checked manuscript and added statistics part. We marked by yellow highlighted in page 6 and lines 180-184.

Discussion

To enhance the discussion section, it is advisable to incorporate relevant literature for comparative analysis, clarify the implications of the study's findings, address potential limitations, and propose future research directions. Additionally, the writing within the discussion section needs to improve in terms of clarity and coherence. It is important to acknowledge the limitations of the study while avoiding a repetition of the results in this section.

Answer: we respectfully to reviewer, we checked discussion and added new information in text. We marked by yellow highlighted in pages 8, 9,10,11,12 and lines 224-362.

Conclusion

The conclusion should be concise yet impactful, summarizing the significant outcomes of the study and highlighting the relevance and potential applications of the research findings for the scientific community. It is essential not to repeat the results in this section. The

conclusions drawn indicate the potential for effective cancer treatment, but there is a lack of discussion regarding the limitations and implications for future research.

Answer: we respectfully to reviewer, we checked conclusion and corrected text. We marked by yellow highlighted in page 12 and lines 365-372.

Other Considerations

• Line 98, which states "please add the size and concentration of the NPs solution that you used," should be removed.

Answer: we respectfully to reviewer, we checked methods part and removed sentence. We marked by yellow highlighted in page 4 and line 102.

• Line 154 needs correction to reflect 1×106 cells/ml.

Answer: we respectfully to reviewer, we checked methods part and corrected cell count to 1×10^6 cells/ml. We marked by yellow highlighted in page 6.

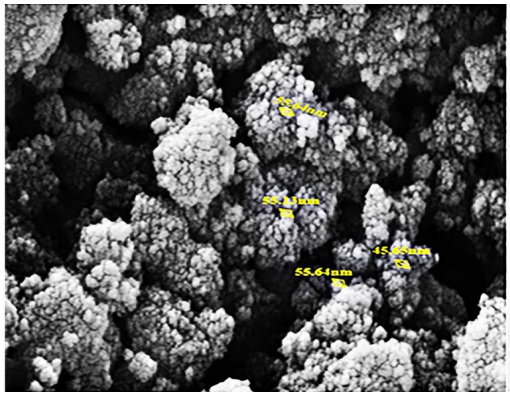
• Additionally, please correct the repetition of the word "however" in line 295.

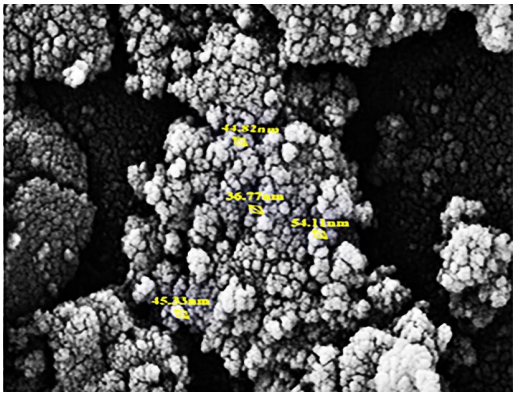
Answer: we respectfully to reviewer, we checked manuscript and corrected text. We marked by yellow highlighted in page 5.

Reviewer:

The quality of Figures 1 & 2 is not in line with the standards declared by the publisher. The quality of figures should NOT be less than 300 dpi and/or 3*4 inches.

Answer**:** I changed quality of Figures 1 & 2 that the quality of figures were 900 dpi and I highlighted by yellow band in figures part (results figures part) in pages 18,19 and line 581,598.





2 Revision 1

1 comment · 13 Apr 2025

Associate Editor

ACCEPT 13 Apr 2025

Final reviewer:
All comments were answered accurately. I appreciate your consideration.
Decision:
Accept