

Review Form 3

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| Journal Name: | Journal of Pharmaceutical Research International |
| Manuscript Number: | Ms_JPRI_124664 |
| Title of the Manuscript: | Modulation of Tumor Suppressor Genes by Histone Deacetylase Inhibitors in Cancer Therapy |
| Type of the Article | |

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

| Compulsory REVISION comments | Reviewer's comment | Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
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| Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part. | This manuscript provides insightful information about the function of histone deacetylase (HDAC) inhibitors in cancer treatment, specifically with regard to how they affect tumor suppressor genes. The review enhances our comprehension of epigenetic control in cancer biology. Additionally, the focus on combining HDAC inhibitors with other forms of treatment draws attention to a crucial area of investigation that may enhance the clinical outcomes of cancer patients. I appreciate the clear focus on the interplay between HDAC inhibitors and tumor suppressor genes, which underscores the potential for targeted therapies that can enhance existing treatment strategies. | |
| Is the title of the article suitable? (If not please suggest an alternative title) | Suitable | |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The review is effectively summarized in the well-written abstract. You could discuss recent clinical studies or applications that use HDAC inhibitors to treat particular cancer types. The abstract would be more fair if it highlighted the drawbacks of HDAC inhibitors, such as drug resistance, off-target effects, or patient response variability. This offers a more comprehensive view and recognizes areas of continuing study. | |
| Are subsections and structure of the manuscript appropriate? | Appropriate | |
| Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part. | This work exhibits scientific robustness and technical soundness due to its extensive assessment of the most recent literature and recognized mechanisms pertaining to tumor suppressor genes and HDAC inhibitors. The conversation is based on credible research, and the statements made are appropriately cited to demonstrate their legitimacy. The material provided is relevant and dependable, since the publication provides an accurate description of the function of histone acetylation in gene regulation as well as the particular effects of HDAC inhibitors on a variety of tumor suppressor genes, including p53, BRCA1, and PTEN. Furthermore, the focus on preclinical and clinical research highlights the usefulness of the results, offering a thorough summary of the therapeutic potential of HDAC inhibitors in cancer treatment. Overall, the manuscript reflects a careful synthesis of current knowledge, making it a credible and valuable resource for the scientific community. | |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | Add more 10 latest References. | |

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| <p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p> | <p>Yes, Requires minor revision</p> | |
| <p>Optional/General comments</p> | <p>Reviewer's Comments</p> <p>1. The structure and content of the introduction section in your review are well-composed, providing a clear and comprehensive foundation for the subsequent sections. It covers key aspects of HDAC inhibitors, their effects on chromatin structure and gene expression, as well as their potential in cancer therapy. Here are a few suggestions to improve clarity, flow, and depth:</p> <p>(a) Including a short background on how HDAC inhibitors were discovered and their initial applications in cancer therapy could add context to their importance and current relevance. This can provide readers a more comprehensive understanding of why they are significant in the modern therapeutic landscape.</p> <p>Example Addition: "HDAC inhibitors first gained attention in the early 2000s for their ability to alter gene expression in cancer cells, leading to the development of drugs like vorinostat and romidepsin, which have since been approved for certain cancer treatments [Reference: Eckschlager T, Plch J, Stiborova M, Hrabeta J. Histone deacetylase inhibitors as anticancer drugs. International journal of molecular sciences. 2017 Jul 1;18(7):1414.].</p> <p>(b) Clarify HDAC Classes with Brief Examples: You can define HDAC inhibitors target different classes (Class I, II, and IV). Including specific examples of drugs that target each class might also provide useful context. "Class I HDACs are mainly found in the nucleus and are involved in the regulation of cell proliferation, while Class II HDACs can shuttle between the nucleus and cytoplasm, playing a role in tissue-specific gene regulation [Marks PA, Xu WS. Histone deacetylase inhibitors: Potential in cancer therapy. Journal of cellular biochemistry. 2009 Jul 1;107(4):600-8.] For example, vorinostat primarily inhibits Class I and II HDACs, while romidepsin targets Class I.</p> <p>2. The flow from preclinical studies to clinical applications is logical and coherent. The discussion of preclinical and clinical studies (4.1) provides a solid overview of the efficacy of HDAC inhibitors in various cancers. However, it would be beneficial to include specific statistics or results from key clinical trials to strengthen the argument and provide quantitative data supporting the claims.</p> <p>3. Conclusion is well-structured and effectively summarizes the key points from your work. However, here are a few suggestions to enhance it further:</p> <p>(a) You could include a statement about the broader implications of HDAC inhibitors in cancer therapy, such as their potential to improve survival rates or quality of life for patients.</p> <p>(b) You could mention specific future research areas that are particularly promising, delivery methods for HDAC inhibitors or exploration of their effects in specific cancer types.</p> | |

PART 2:

| | Reviewer's comment | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
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| <p>Are there ethical issues in this manuscript?</p> | <p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p> | |

Reviewer Details:

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