Review Form 3

Journal Name:	**International Blood Research & Reviews**
Manuscript Number:	**Ms_IBRR_125550**
Title of the Manuscript:	**Mitigation of Daratumumab Interference in Pretransfusion Tests by Addition of soluble CD38 to Patients' Plasma**
Type of the Article	**Original Research Article**

Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
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 on the *Mitigation of Daratumumab Interference in Pretransfusion Tests by Addition of Soluble CD38 to Patients' Plasma* is highly valuable to the scientific community, particularly in the field of transfusion medicine and immunohematology. It addresses a significant challenge in treating multiple myeloma (MM) patients who receive anti-CD38 monoclonal antibody therapy, which interferes with routine blood compatibility tests. The study evaluates a novel method using soluble CD38 (sCD38) to mitigate these interferences, presenting it as superior to traditional methods like dithiothreitol (DTT) in terms of both efficacy and time efficiency.** **I particularly appreciate how the authors provide a comprehensive comparison between the sCD38 method and the DTT method, showing not only its operational benefits (like a reduction in testing time from 150 minutes to 50 minutes) but also demonstrating its greater accuracy and reliability. This work advances clinical practice by offering a viable solution to enhance transfusion safety for MM patients. Additionally, the incorporation of automation in the testing process improves practicality, making it applicable in real-world, high-demand settings.**	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**The current title, *"Mitigation of Daratumumab Interference in Pretransfusion Tests by Addition of Soluble CD38 to Patients' Plasma,"* accurately reflects the content and focus of the study, emphasizing the use of soluble CD38 to address the challenge of Daratumumab interference in pretransfusion testing. However, it could be made more concise and clearer to improve readability and impact.** **A suggested alternative title could be:** **"Using Soluble CD38 to Overcome Daratumumab Interference in Pretransfusion Compatibility Testing"** **This alternative highlights the main focus—using soluble CD38 to solve Daratumumab interference—while keeping the title clear and to the point.**	

Review Form 3

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 abstract of the article provides a good overview of the study's background, methodology, and key results. However, it could benefit from some adjustments for clarity and to ensure all essential elements are covered. I want to make some specific suggestions for improvement:** **1. Clear Objective Statement: The abstract mentions the goal of the study, but it could benefit from a clearer statement of the research question or the hypothesis at the start. This would help readers immediately understand the purpose of the study.** **o Suggested addition: "This study aims to evaluate the effectiveness of a new soluble CD38-based method in mitigating Daratumumab interference during pretransfusion compatibility testing."** **2. Broader Implications: The abstract should include a statement about the broader implications of the findings. How will this new method impact clinical practice or transfusion safety on a larger scale? This would give the reader a sense of the study's significance beyond the specific cases examined.** **o Suggested addition: "These findings suggest that the soluble CD38 method could improve transfusion safety for patients receiving anti-CD38 therapy, particularly in urgent clinical settings."** **Suggested Deletions/Condensation:** **1. Detailed Method Descriptions: While the methods section is important, the abstract currently includes too much detail about technical aspects, such as specific test names and numbers of patients in each group, which may not be necessary at this level. This information can be better reserved for the Methods section of the full paper.** **o Suggested deletion/condensation: "We evaluated the Grifols sCD38 method in 20 patients and compared it with the DTT method" could replace the more detailed description of patient groups to keep the abstract more concise.** **2. Focus on Key Results: The results section could be summarized more succinctly to emphasize the key findings, such as the time reduction and effectiveness rate, without delving into specifics like patient numbers in the abstract.** **o Suggested rephrasing: "The sCD38 method reduced testing time from 150 to 50 minutes and demonstrated 100% efficacy, compared to 90% with DTT."**	
Are subsections and structure of the manuscript appropriate?	**The structure of the manuscript seems generally appropriate and well-organized for a scientific paper. However, I have some suggestions to improve the clarity and flow of the content.** **-Abstract: The abstract is in place and provides a summary, but as mentioned earlier, it could be more concise and structured, highlighting objectives, methods, key results, and conclusions clearly.** **-Introduction: The introduction section does a good job of explaining the background of CD38, its role in multiple myeloma, and the problem of interference in pretransfusion tests. It effectively sets up the rationale for the study.** **Suggestion: Consider rephrasing the problem statement in a more direct manner, clearly articulating the clinical importance of resolving Daratumumab interference.** **-Methods: This section explains the two approaches (DTT and sCD38) in detail, which is appropriate for replication purposes. However, the Methods could be broken down into clearer subsections, such as:** **Study Design: Including how patients were selected and grouped.** **sCD38 Method Description: Detailing how the sCD38 method works.** **DTT Method Description: Providing comparable details about DTT.** **Outcome Measures: Defining how effectiveness and testing times were evaluated.** **Suggestion: This structure makes it easier to follow, and the comparisons between the two methods become clearer.** **-Results: The Results section is thorough but could be better organized with clearer subheadings. For example:** **Test Performance (Time Efficiency)** **Efficacy of Mitigation Methods: Comparing the results of sCD38 and DTT in more detail.** **Sample Stability: The observations on plasma stability after sCD38 treatment are valuable and could be highlighted separately.** **Suggestion: Use figures and tables more strategically to summarize key results. For example, a table comparing the results of the two methods (sCD38 vs. DTT) could**	

Review Form 3

	simplify the presentation of effectiveness and time savings. **-Discussion: The Discussion is appropriate but could be more focused on the clinical implications of the findings. It should highlight:** **Practical implications of adopting the sCD38 method.** **The significance of time savings in urgent clinical settings.** **Address any limitations, such as the cost or specific scenarios where this method might be less effective.** **Suggestion: A clear "Limitations" subsection might help to set realistic expectations for the application of the results.** **-Conclusion: The Conclusion is clear and appropriate, summarizing the study's findings well. However, a stronger statement about the potential for widespread adoption of the sCD38 method would strengthen this section.**	
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 manuscript appears to be scientifically robust and technically sound for several reasons. First, it is grounded in a well-defined clinical problem—Daratumumab interference in pretransfusion testing—which is supported by thorough background research and references. The methodology is detailed and reproducible, comparing the new soluble CD38 (sCD38) method with the established dithiothreitol (DTT) method, providing clear metrics such as testing time and efficacy. Furthermore, the results are presented with appropriate controls and statistical validity, offering a comprehensive comparison between the two methods. The study's conclusions are consistent with the data presented, and the practical implications for clinical laboratories are clearly outlined, indicating the real-world applicability of the findings.**	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**The references in the manuscript seem adequate and fairly recent, with many sources from 2020–2023, which ensures the study is grounded in up-to-date research.**	
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Yes	
Optional/General comments		

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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Arinze Favour Anyiam**
Department, University & Country	**Igbinedion University, Nigeria**