

Peer Review File

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Reviewer A

Comment 1: We believe this article is suitable for publication in the journal although some revisions are needed. The main strengths of this paper are that it addresses an interesting and very timely question and provides a clear answer, with some limitations. Certainly, the authors should better highlight the limitations of the current paper.

Answer:

Thank you for this suggestion. We have explained the limitation of this paper: “Nevertheless, our study still has certain limitations. The predictive model still needs additional validation through extensive clinical trials. Furthermore, it is necessary to conduct biological experiments to investigate the underlying mechanisms of immune-related prognostic genes in TNBC.” (see article tracked changes, page 17, lines 341-344)

Comment 2: The background of the changing scenario of medical treatment in breast cancer should be better discussed, and some recent papers regarding this topic should be included (PMID: 35171746; PMID: 34802383; PMID: 35031442; PMID: 34793275).

Answer:

Thank you for this suggestion. We have added relevant citations where appropriate as suggested. (see article tracked changes, page 4, lines 59, 63, 67)

Reviewer B

Comment: Please provide the full names of “AUC” in the abstract and “TCGA” “scRNA-seq” “LASSO” “ROC” “tSNE” in the main text. Please also check through your article to make sure all the abbreviated terms have been defined when they FIRST appear in the Abstract and the main text.

Answer:

Thank you for this suggestion. We have added the full names of “AUC” in the abstract and “TCGA” “scRNA-seq” “LASSO” “ROC” “tSNE” in the main text. (see article tracked changes, page 2, lines 27, 29,33, 34; page 9, lines 162)

Comment: Please unify to use “LASSO” and “Lasso” in the text and in Figure 1.

↓ Lasso regression analysis

Answer:

Thank you for this suggestion.

Comment: Please double check the following abbreviated terms and the full names in the main text.

2008 differentially expressed genes (DEGs) between inflammatory breast cancer (IM) deficiency in prostate cancer (PCa) is linked to unfavorable distant relapse-free survival (DFS) outcomes[36]. Pancreatic cancer, along with other types of cancer, has been

Answer: Thank you for this suggestion. We have revised them.

Comment: All abbreviations in figures and legends should be explained. “FUSCC” “TNBC” “IM” “TCGA” “Lasso” “ROC” in Figure 1, and “AUC” “ROC” “FUSCC” “TNBC” “TCGA” in Figure S1 for example. Please check all abbreviations and provide the full names in the corresponding figure legend.

Answer: Thank you for this suggestion. We have explained all abbreviations in figures and legends. (see article tracked changes, page 21, lines 391-393; page 22, lines 404-405; page 23, lines 423-424; page 24, lines 432-434; page 25, lines 442-443; page 26, lines 447; page 27, lines 453-454; page 28, lines 459-461; page 29, lines 475)

Comment: Please provide an **editable** version of Figure 1 as a stand-alone **WORD/PPT** file, so that the editor can slightly and properly adjust the lines and structures, and text during the editing.

Answer:

Thank you for this suggestion. We have provided a stand-alone PPT file in the attachment.

Comment: It is suggested to unify the full name of “DEGs” in Figure 1 and the text.

2008 differentially expressed genes (DEGs) †

2008 different expression genes (DEGs)

Answer: We are very sorry for our negligence. We have corrected these mistakes: “we incorporated 360 individuals with TNBC from the FUSCC TNBC group and discovered

2008 different expression genes (DEGs) between IM and the remaining subtypes”. (see article tracked changes, page 15, lines 280)

Comment: Please recheck the highlighted content in the following sentence since it is inconsistent with **Figure 1**.

“We identified a total of 2008 distinct genes with differential expression ($P < 0.05$, $|\log(FC)| \geq 0.58$) between the immunomodulatory (IM) subtype and the remaining subtypes (**Fig. 1; Fig. 2A**).”

$(|\text{Log}_2 \text{FC}| > 0.58 \text{ and } P < 0.05)$

Answer: We are very sorry for our negligence. We have corrected these mistakes: “Genes that satisfied the filtering conditions of adjust $P < 0.05$ and $|\text{Log}_2\text{FC}| > 0.58$ were categorized as genes exhibiting differential expression.”. (see article tracked changes, page 15, lines 123)

Comment: Please double check the data in the following sentence of the main text and Figure 2B legend. There are 33 genes in Figure 2B.

“Univariate Cox analysis was conducted to detect survival-associated IRGs, resulting in the identification of 32 genes as survival-related genes (**Fig. 2B**).”

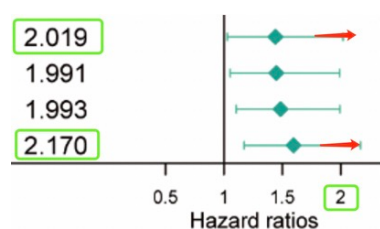
“**B**. An analysis of univariate regression revealed 32 genes that were linked to prognosis ($P < 0.05$).”

Answer: We are very sorry for our negligence. We have corrected these mistakes.

Comment: Please revise “pvalue” to “P value” in Figure 2B.

Answer: We are very sorry for our negligence. We have corrected these mistakes. (see article tracked changes, page 22, lines 398)

Comment: Figure 2B: To standardize the results, the part that exceeds the horizontal coordinates should be indicated by **arrows**.



Answer: We are very sorry for our negligence. We have corrected these mistakes.

Comment: It is suggested to unify to use “HLA-C” and “HLAC” in Figure 3E, 3F and the text.

Answer: We are very sorry for our negligence. We have corrected these mistakes. (see article tracked changes, page 23, lines 407)

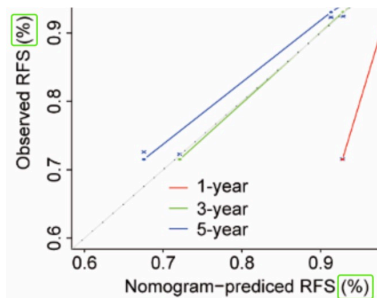
Comment: It is suggested to report the exact P value.

“The analysis of survival indicated that participants classified as high-risk experienced a lower rate of recurrence-free survival than those classified as low-risk ($P < 0.05$) (Fig. 3H).”

Answer:

Thank you for this suggestion. We have reported the exact P value: “The analysis of survival indicated that participants classified as high-risk experienced a lower rate of recurrence-free survival than those classified as low-risk (FUSCC TNBC cohort, $P = 0.001$; TCGA TNBC cohort, $P = 0.005$) (Fig. 3H).” (see article tracked changes, page 11, lines 209-210)

Comment: Please check if the unit “%” is correct or not in the x/y-axes of Figure 4C.



Answer: Thank you for this suggestion. We have corrected them as percentage coordinates.

Comment: Please revise the label to “E” in Figure 5.

Answer: We are very sorry for our negligence. We have corrected these mistakes.

Comment: Please recheck the citation in this sentence, whether it should be **Figure 6**. Conversely, *OPLAH* was overexpressed in non-pCR patients (Fig. 6A). The utilization

Answer: We are very sorry for our negligence. We have corrected these mistakes: “Conversely, *OPLAH* was overexpressed in non-pCR patients (Fig. 6).” (see article tracked changes, page 13, lines 258)

Comment: It is suggested to unify to use “*C19orf33*” and “*C19orf33*” in Figure 7, its legend and the text.

Answer: We are very sorry for our negligence. We have corrected these mistakes. (see article tracked changes, page 27, lines 448)

Comment: Please revise “p” to “P” in Figure 5, 6 and Figure S3 legends.
p < 0.001,

Answer: We are very sorry for our negligence. We have corrected these mistakes: “Significant results were observed at P < 0.001, P < 0.01, and P < 0.05, denoted as ***, **, and *, respectively.” (see article tracked changes, page 25, lines 441-442; page 26, lines 446-447; page 30, lines 485)