For research article

Response to Reviewer one Comments

1. Summary		
Thank you very much for taking the time to thoroughly review this manuscript and for providing your valuable suggestions! Your comments are greatly instructive in improving the quality of the paper. We have carefully reviewed them point by point and implemented the corresponding revisions. The modifications based on your suggestions are now highlighted in red font. Our specific responses are provided below.		
2. Questions for General Evaluation	**Reviewer's Evaluation**	**Response and Revisions**
Does the introduction provide sufficient background and include all relevant references?	Yes	We thank the reviewer for the positive assessment of the introduction. We have maintained its quality and incorporated additional key references as suggested in specific comments to further strengthen the background.
Is the research design appropriate?	Yes	We appreciate the reviewer's agreement on the appropriateness of our research design. The core methodology remains robust and unchanged.
Are the methods adequately described?	Yes	We are grateful for the reviewer's confirmation. We have further polished the methodological descriptions (e.g., by adding the r^2 formula as per Comment 2) to enhance clarity and completeness.
Are the results clearly presented?	Must be improved	We fully agree with this comment. To significantly improve clarity, we have undertaken a comprehensive revision: 1. Reorganized the results narrative to ensure a logical flow and added clearer signposting between sections. 2. Corrected all figure and table citations (Comment 5) to ensure every item is properly referenced in the text.

		3. Thoroughly revised Figures 2, 3, and 4 (Comments 6, 7, 8) by enlarging them, optimizing layouts, separating panels, and improving legends to make the data interpretation intuitive and straightforward.
Are the conclusions supported by the results?	Yes	We thank the reviewer for this affirmation. Our conclusions are drawn directly from the analyzed data. We have reviewed them to ensure they accurately and conservatively reflect the findings without overstatement.
Are all figures and tables clear and well-presented?	Must be improved	We sincerely thank the reviewer for this critical feedback. This has been a major focus of our revision: 1. Figures: All figures (2, 3, 4) have been redesigned for size, clarity, and professional presentation as detailed in Responses 6, 7, and 8. 2. Tables: Table 1 and Table 2 have been updated with precise terminology and explanatory footnotes (Responses 3 & 4). 3. We have performed a global check to ensure consistency and high quality across all visual elements.

3. Point-by-point response to Comments and Suggestions for Authors

Comments 1: Abstract: the abbreviations of genes must be written in italic. Check throughout the text.

Response 1: Dear Reviewer,

We appreciate your careful review and suggestion. Thank you for pointing this out. We agree with this comment. Therefore, We have conducted a thorough check and have revised all gene abbreviations in the text to be italicized, as per standard academic formatting.

Your suggestions have been marked in red, and the location of this change in the revised document is lines 29-30.

Comments 2: Material and Methods:I suggest explaining r^2 (r. 183, add simple equation).

Response 2: Dear Reviewer,

Thank you for your comprehensive and helpful reminder. As suggested, we have added the core definition and a simple calculation formula for r^2 (the linkage disequilibrium coefficient) on line 219, highlighted in red.

The added text reads: "r^2 is the linkage disequilibrium coefficient, which is used to measure the association between alleles at two SNP loci. Its simplified calculation formula is: $r^2=D^2/(p_1p_2q_1q_2)$, Where D is the absolute linkage disequilibrium between two loci; $p_1$and p_2 are the frequencies of the major alleles, and q_1 and q_2 are the frequencies of the minor

alleles, with q_1=1−p_1 and q_2=1−p_2.This addition is intended to make the concept more accessible to readers.
Comments 3: Results: table 1, height in withers?
Response 3: Dear Reviewer, Thank you for your question. The metric indeed refers to the withers height of the yak. We have updated the corresponding item in Table 1 to “Withers height/cm”. This revision aligns with standard international academic terminology and clearly defines the metric, thereby facilitating reader comprehension. Your suggestions have been marked in red, and the location of this change in the revised document is lines 274-275. (table 1)
Comments 4: Results: Table 2, explain ts, tv.
Response 4: Dear Reviewer, Thank you for your valuable suggestion. We have added an explanation for the terms ts and tv to the footnote of Table 2. The added text reads: "ts (transition) refers to substitutions between bases of the same type (purine → purine [A↔G] or pyrimidine → pyrimidine [C↔T]); tv (transversion) refers to substitutions between bases of different types (purine ↔ pyrimidine [A↔C, A↔T, G↔C, G↔T])." This clarification ensures that the abbreviations are clearly defined and unambiguous for readers. Your suggestions have been marked in red, and the location of this change in the revised document is lines 283-285.
Comments 5: There is no reference for Figure 2 in the text, section 3.3. Any Table and Figure must be referenced in the text, check throughout the text.
Response 5: Dear Reviewer, thank you for your reminder! We have added the citation for Figure 2 in Section 3.3 (Population Genetic Structure Analysis of the Yak Core Population) and have thoroughly reviewed all figures and tables throughout the manuscript to ensure that each one is properly referenced in the text to avoid any omissions.
Comments 6: Arrange better Fig 2, it is difficult to read.
Response 6: Dear Reviewer, Thank you very much for your valuable suggestions regarding the layout of Figure 2. We have comprehensively optimized the figure according to your advice: adopting a "left-main, right-sub" column layout, enlarging the main body of the figure, and increasing the spacing between subfigures to enhance clarity. A high-definition version has been re-uploaded. If the current layout still does not meet the requirements, please do not hesitate to point it out, and we will make further adjustments immediately. Thank you very much for your patient guidance!
Comments 7: Similarly, Fig 3 seems to be too small. Moreover, the pictures, legend and text are mixed! In Fig 3 D there is QQ plot.
Response 7: Dear Reviewer, Thank you very much for your detailed suggestions regarding Figure 3. We have carefully completed the optimization according to your advice: the overall size of the figure has been enlarged, and a "top and bottom panel" layout has been adopted-with the Manhattan plot

displayed separately in the top panel and the QQ plots clearly presented side-by-side in the bottom panel. At the same time, we have adjusted the position of the legend to avoid obscuring data, enlarged the axis labels and text, and corrected overlapping elements, striving to make the chart information more intuitive and easier to interpret.
Comments 8: Again, Fig 4 is too small.
Response 8: Dear Reviewer, Thank you very much for your kind reminder. As per your suggestion, we have specifically optimized Figure 4: the overall size has been enlarged, and the haplotype block and linkage disequilibrium plot are now presented separately in two distinct subfigures. This ensures that all chart information is displayed clearly and accurately.
Comments 9: Abstract, twice the keywords.
Response 9: Dear Reviewer, Thank you sincerely for your detailed checking and corrections. We have re-reviewed and summarized the keywords in the abstract section, condensing the original list (yak; horned; polled; whole-genome resequencing; genome-wide association Study) to the standardized form (yak; horned; polled; GWAS). This revision ensures compliance with the journal's keyword formatting requirements, avoids repetition, and strives for accuracy.
Comments 10: Rr. 103, 215, 231, 234, 239, and others, check the text.
Response 10: Dear Reviewer, Thank you sincerely for your rigorous feedback regarding the linguistic details of the manuscript. In accordance with your suggestions, we have conducted a line-by-line verification and systematic revision of the areas you mentioned—specifically lines 103, 215, 231, 234, and 239, as well as other sections throughout the text. The key points of this refinement include: correcting nonstandard citations, optimizing logical flow in multiple expressions, and eliminating redundancy and semantic discontinuities, thereby enhancing the overall coherence and rigor of the writing. We have ensured that the language throughout the manuscript conforms to the norms of English academic writing, striving for clarity and precision. Should you have any further observations during your re-review, please do not hesitate to point them out. We will promptly make any additional improvements as needed.
Comments 11: Rr. 336, 338, we not We; r. 358 they.
Response 11: Dear Reviewer, Thank you very much for your careful correction regarding the referencing issue in the text! We have sincerely adopted your suggestion and revised the ambiguous reference of "they" in line 358. The modified version now uses "These key non-coding regulators" to clearly refer back to the lincRNAs mentioned earlier, while also highlighting their crucial role in regulation. This adjustment makes the expression clearer and more consistent with academic writing standards.
4. Response to Comments on the Quality of English Language
Point 1:
Response 1: We sincerely thank the reviewer for the positive feedback on the English expression. In accordance with the overall review comments, we have further polished and

refined the language and presentation throughout the manuscript.
5. Additional clarifications
We would like to once again express our sincere gratitude for your rigorous review. Should there be any further findings during your continued evaluation, we will promptly address and refine them accordingly. We deeply appreciate the careful guidance and valuable suggestions provided. All requested revisions have been completed, and we have strived to enhance the manuscript in terms of academic standards, content accuracy, and readability. We kindly invite you to further review the revised manuscript. Wishing you a successful and productive year 2026, with all the best in your work and endeavors.