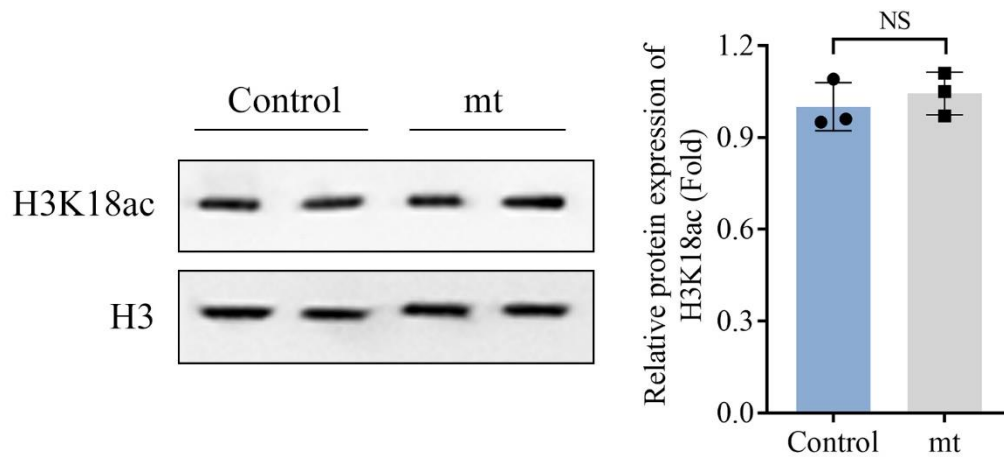
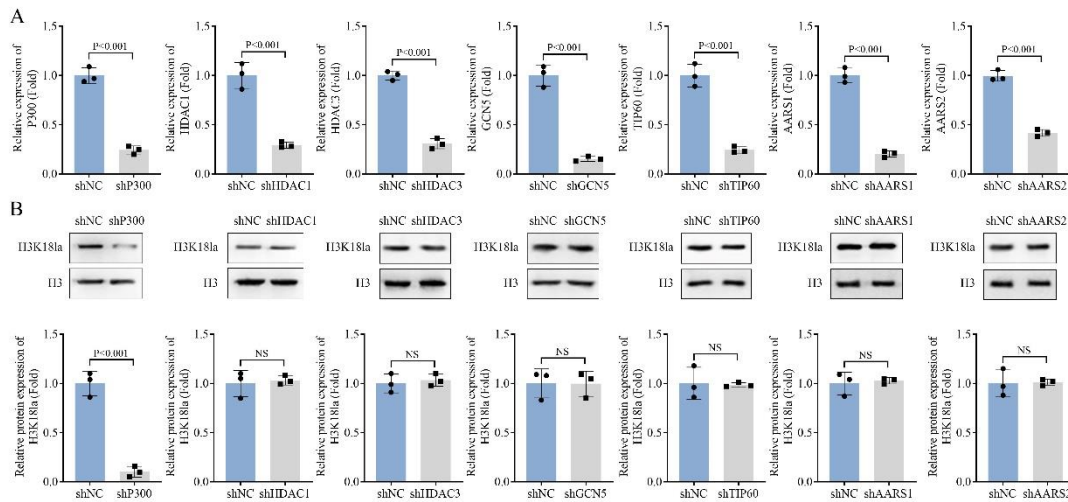
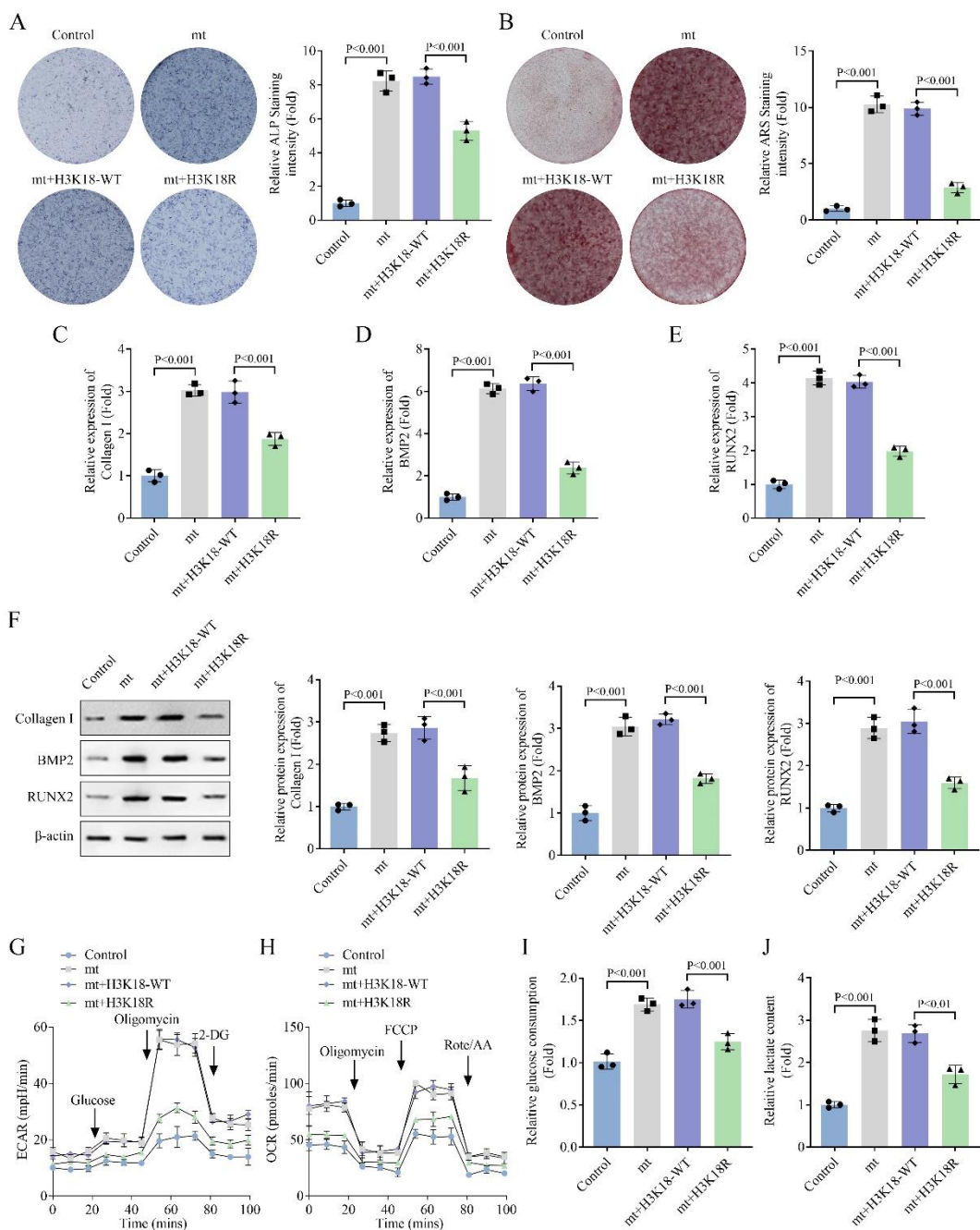




Supplementary Figure 1 Western blot was performed to detect the acetylation of H3K18 after mitochondria treatment. $n = 3$. Data were analyzed by Student's t-test and are presented as mean $\pm$ SD. NS: No significance.



Supplementary Figure 2 P300 mainly contribute to the lactylation modification of H3K18. A: qPCR was used to detect the RNA expression of each genes; B: Western blot was performed to detect H3K18la levels after mitochondria treatment. $n = 3$. Data were analyzed by Student's t-test and are presented as mean $\pm$ SD. NS: No significance.



Supplementary Figure 3 Platelets facilitate metabolic reprogramming and osteogenic differentiation via H3K18 lactylation. A-J: ASCs were transfected with WT H3K18 or H3K18R and then treated with mitochondria. Osteogenic differentiation was evaluated using A: ALP and B: ARS staining. The expression of C: collagen I, D: BMP2, and E: RUNX2 was measured using qPCR. F: Protein levels of collagen I, BMP2, and RUNX2

were measured using western blotting. G: ECAR and H: OCR were measured using Seahorse experiments. I: Glucose consumption and J: lactate content were detected using their corresponding commercial kits. $n = 3$. Data were analyzed by one-way ANOVA followed by Tukey's post hoc test and are presented as mean $\pm$ SD.