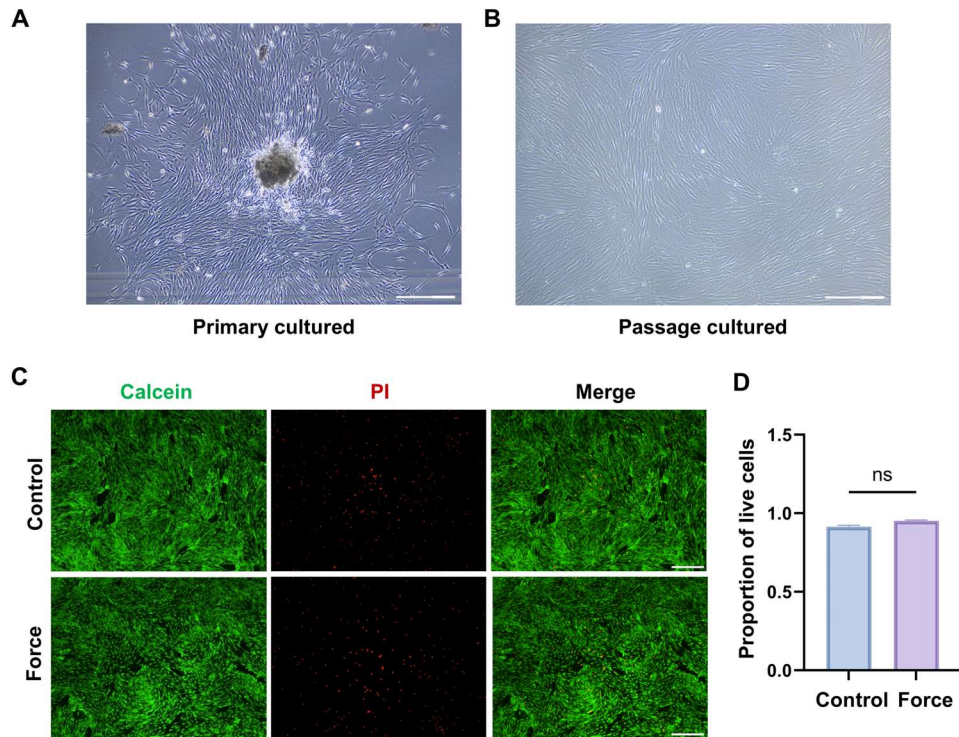
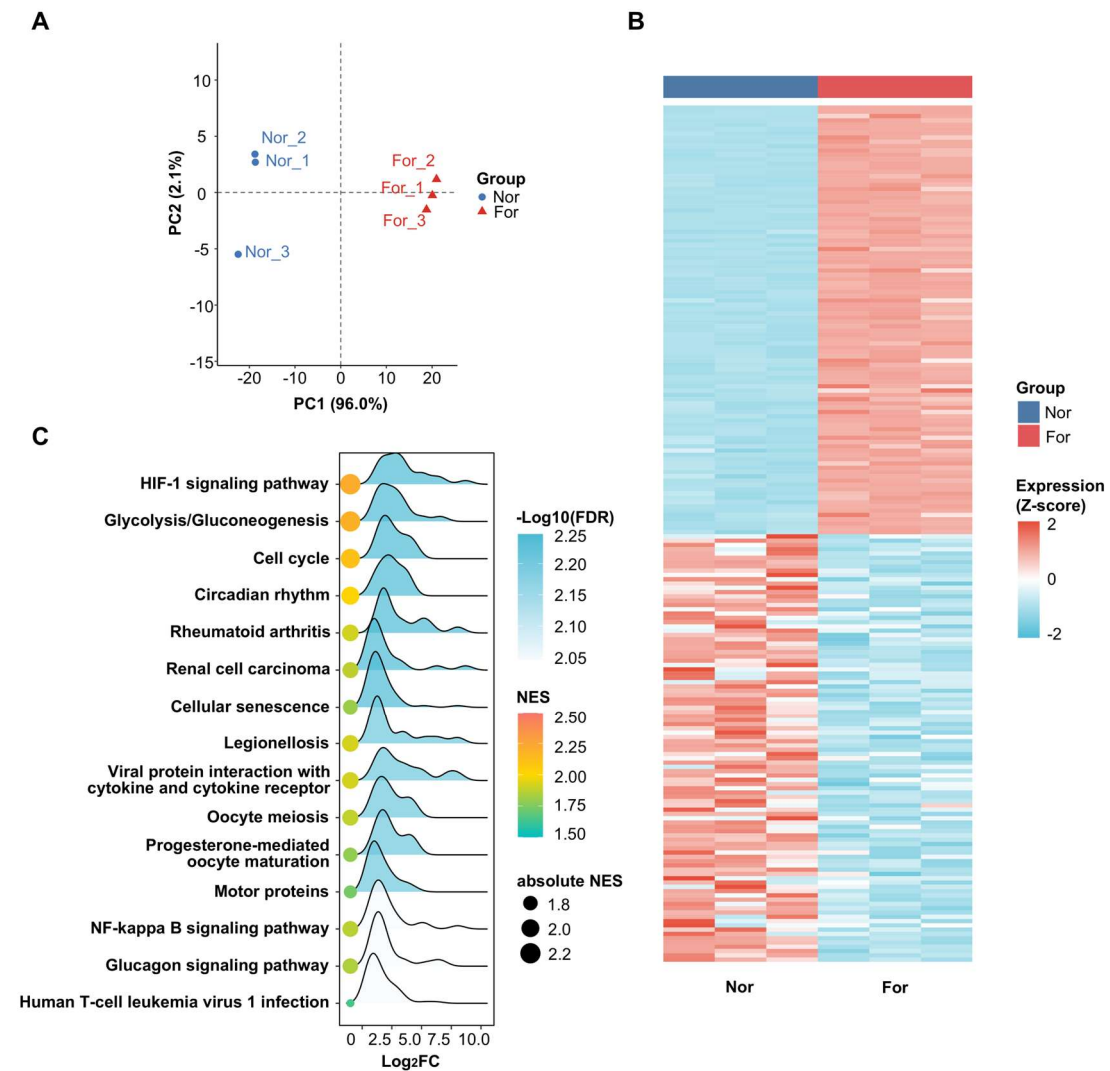




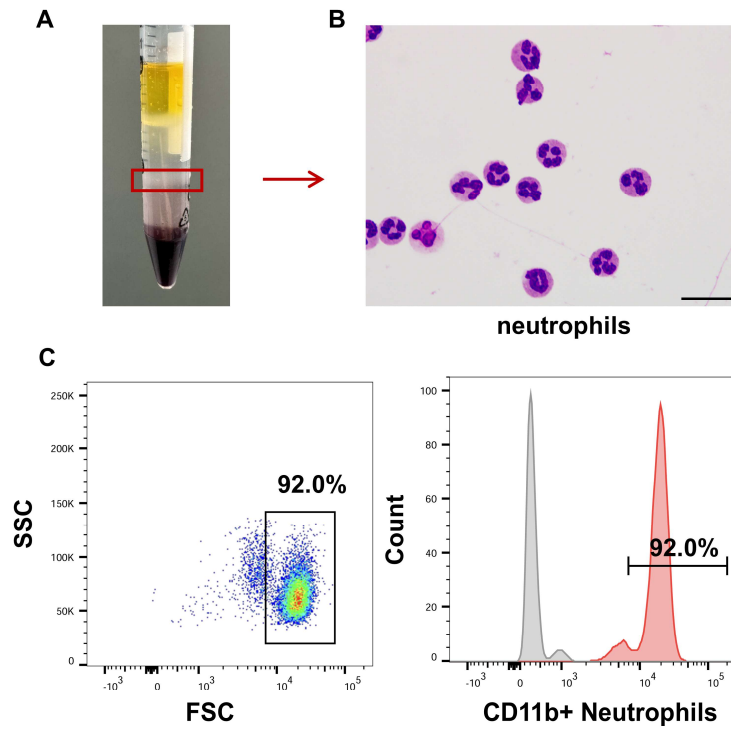
Supplementary Fig. S1 Isolation of hPDLSCs and viability assessment after compressive force loading.

(A) Primary-cultured hPDLSCs. Scale bar = 500 μm . (B) Passage 3 hPDLSCs. Scale bar = 500 μm . (C) Live/dead staining of hPDLSCs under control and compressive force conditions. Scale bar = 500 μm . (D) Quantification of the proportion of live cells showing no obvious decrease in the viability of hPDLSCs after compressive force loading.



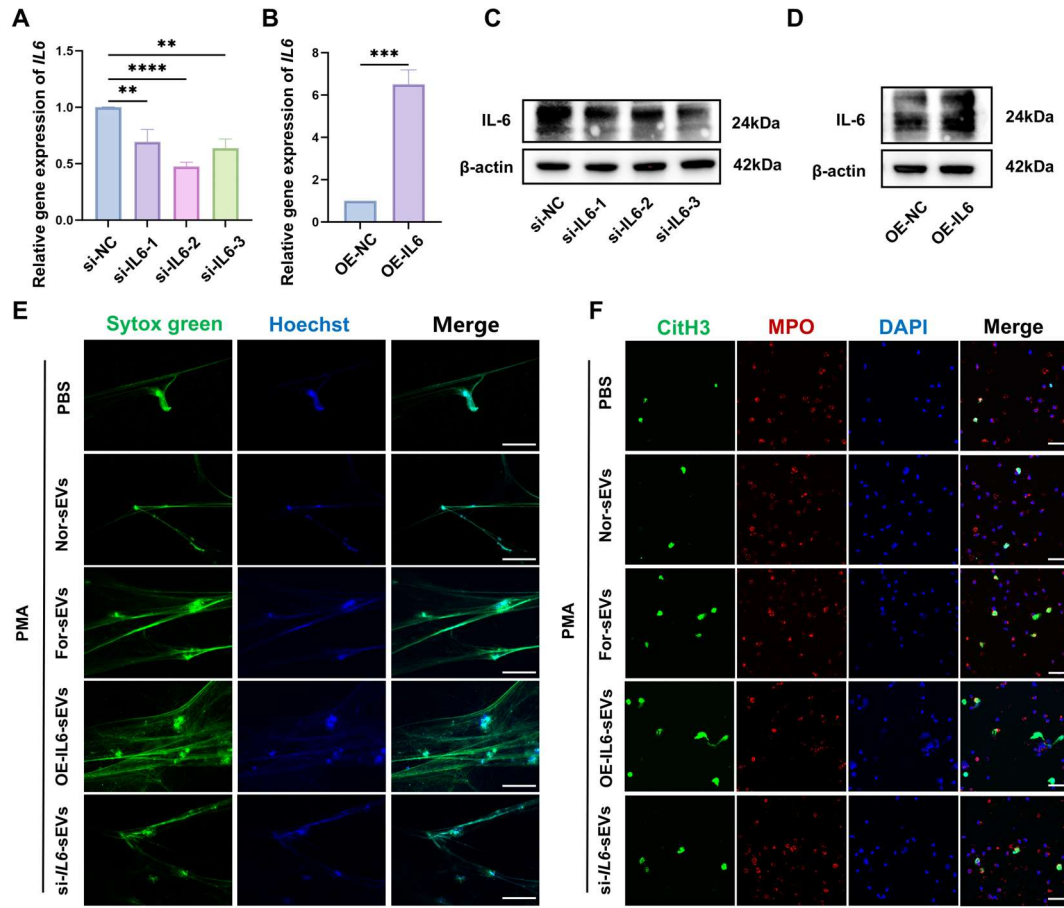
Supplementary Fig. S2 Global transcriptomic analysis of unloaded and compressive force-loaded hPDLSCs.

(A) PCA of transcriptomic profiles from unloaded and compressive force-loaded hPDLSCs, showing clear separation between groups. (B) Heatmap of the top 100 upregulated and top 100 downregulated genes in compressive force-loaded hPDLSCs relative to unloaded controls, ranked by $\log_2FC$. Expression values are shown as Z-scores. (C) Ridge plot of KEGG-based GSEA showing the top 15 enriched pathways in compressive force-loaded hPDLSCs, ranked by FDR. The x-axis represents the distribution of gene-level $\log_2FC$ values within each pathway.



Supplementary Figure. S3 Isolation and identification of human peripheral blood neutrophils.

(A) The neutrophil layer after centrifugation is indicated by the box. (B) Giemsa staining of neutrophils. Scale bar = 20 μm . (C) Identification of neutrophil purity by flow cytometry.



Supplementary Figure. S4 Knockdown and overexpression of *IL6* and fluorescence images of NET formation.

(A-D) RT-qPCR and Western blot analysis of *IL6* mRNA and IL-6 protein expression in hPDLSCs transfected with *IL6*-targeting siRNAs and the *IL6* overexpression plasmid. (E) Representative fluorescence images of extracellular DNA release from PMA-stimulated neutrophils treated with PBS, Nor-sEVs, For-sEVs, OE-IL6-sEVs, or si-IL6-sEVs. Green, Sytox green; blue, Hoechst. Scale bar = 100 μ m. (F) Representative immunofluorescence images of NET formation under different conditions. Green, CitH3; red, MPO; blue, DAPI. Scale bar = 50 μ m. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.