

Figure S1. Efficacy for the intent-to-treat (IIT) population and exploratory subgroup pCR rates analysis.

(A) Longitudinal change in target-lesion size by treatment cycle; each line represents one patient, colored by best overall response (PR/SD/PD). Dashed lines indicate standard RECIST thresholds.

(B) Waterfall plot of best percentage change from baseline, color-coded by best overall response; PD-L1 status (CPS strata) is annotated beneath each bar.

(C) Exploratory subgroup pCR rate analysis.

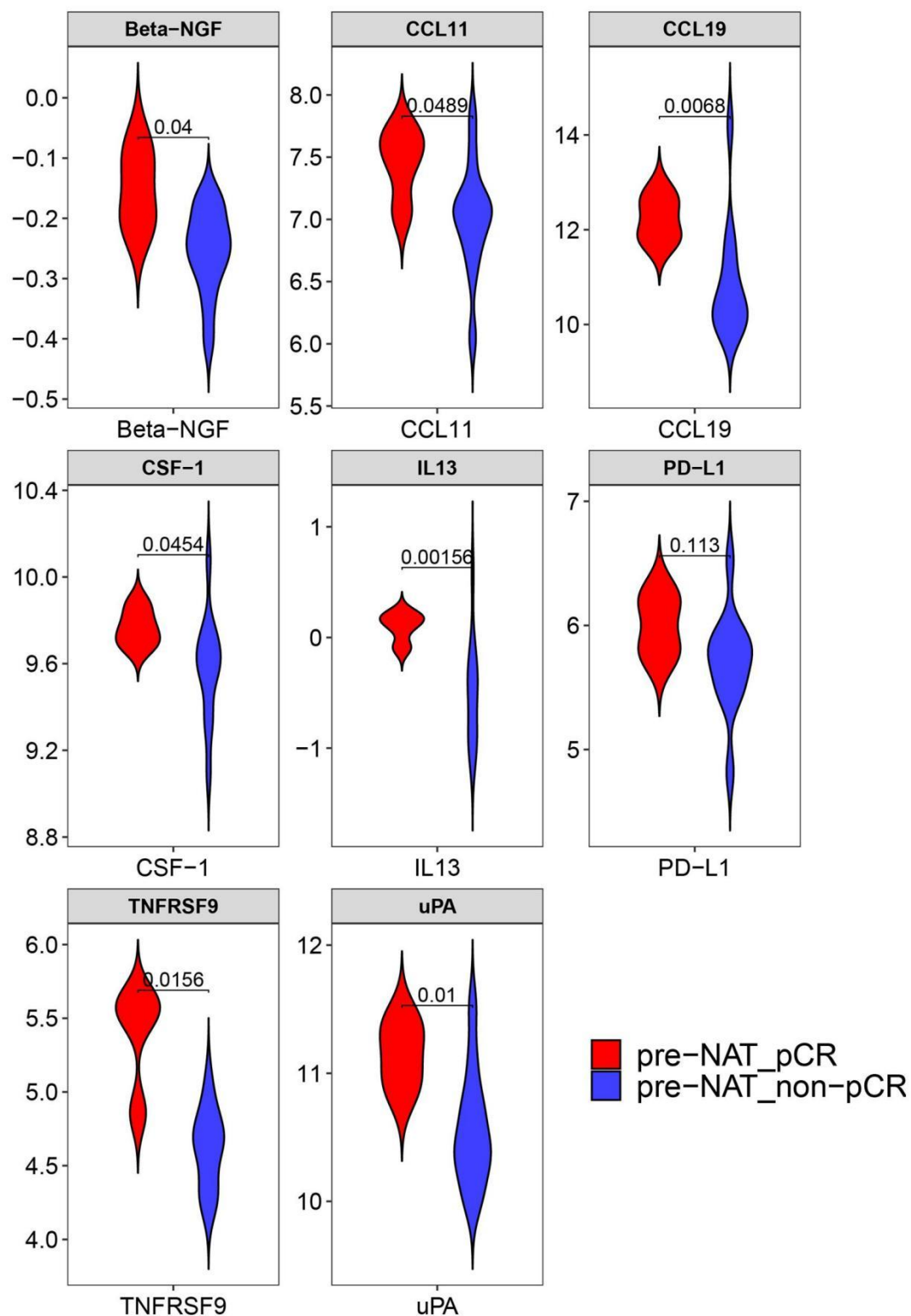


Figure S2. Differential proteins between pCR and non-pCR patients at baseline (pre-NAT). Violin plots show baseline expression of selected proteins in patients who achieved pCR (red) versus those with non-pCR (blue).

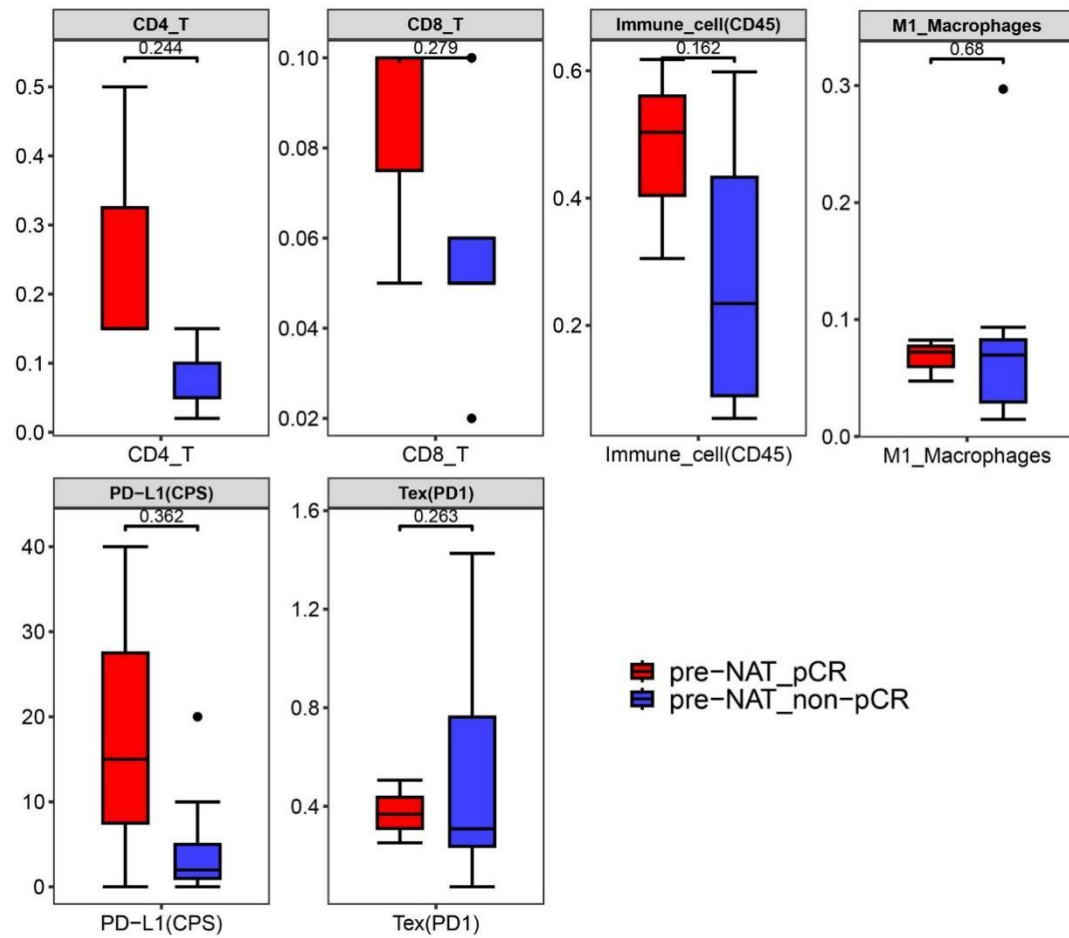


Figure S3. Immune cell profiles at baseline (pre-NAT) in pCR and non-pCR patients. Box plots show selected immune cell populations mIF and IHC in patients who achieved pCR (red) versus non-pCR (blue).

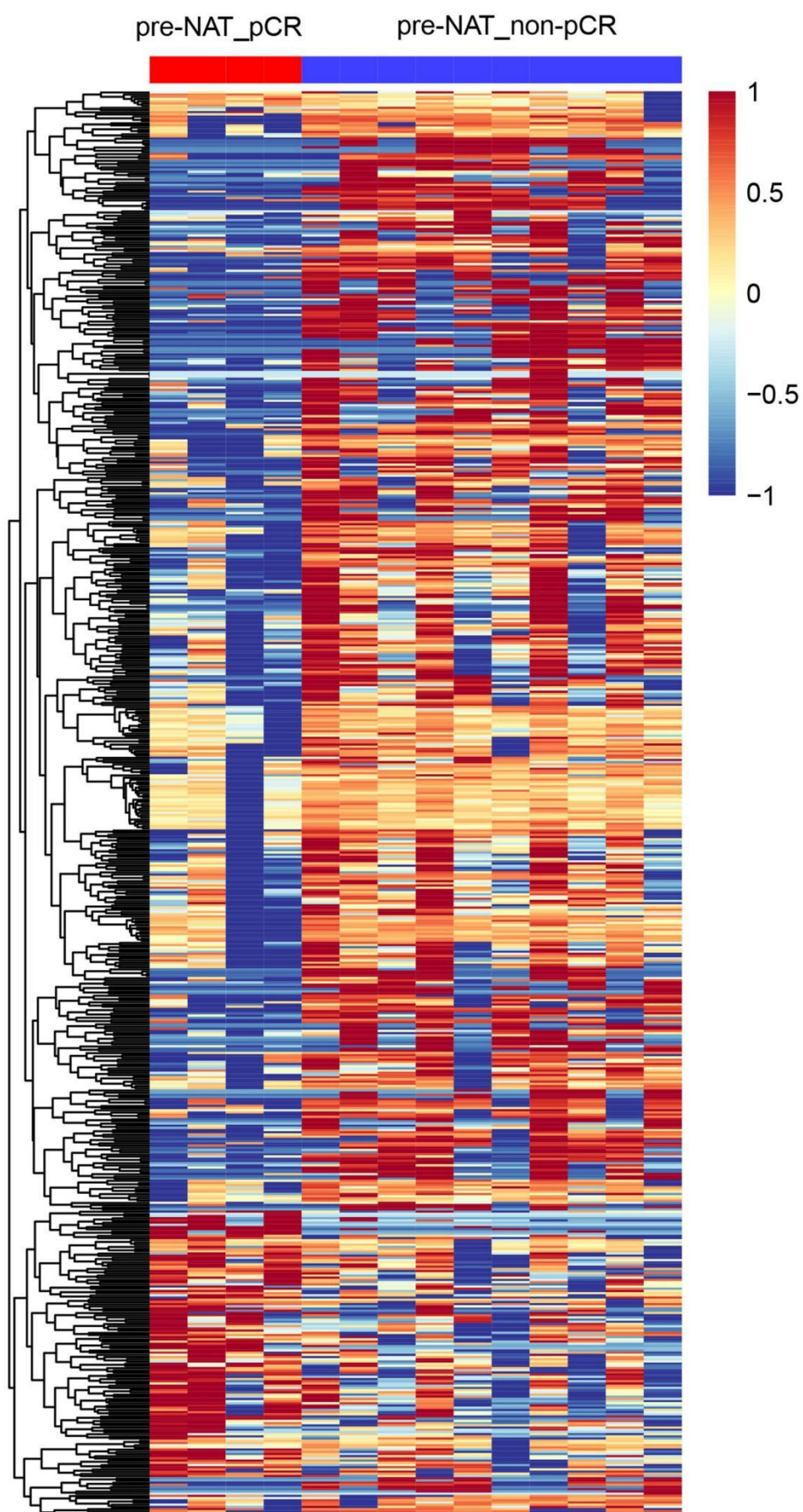


Figure S4. Heat map of RNA comparison between pCR and non-pCR patients at baseline. Unsupervised hierarchical clustering of differentially expressed genes (DEGs) at baseline, comparing patients who achieved pCR (red) versus those with non-pCR (blue).

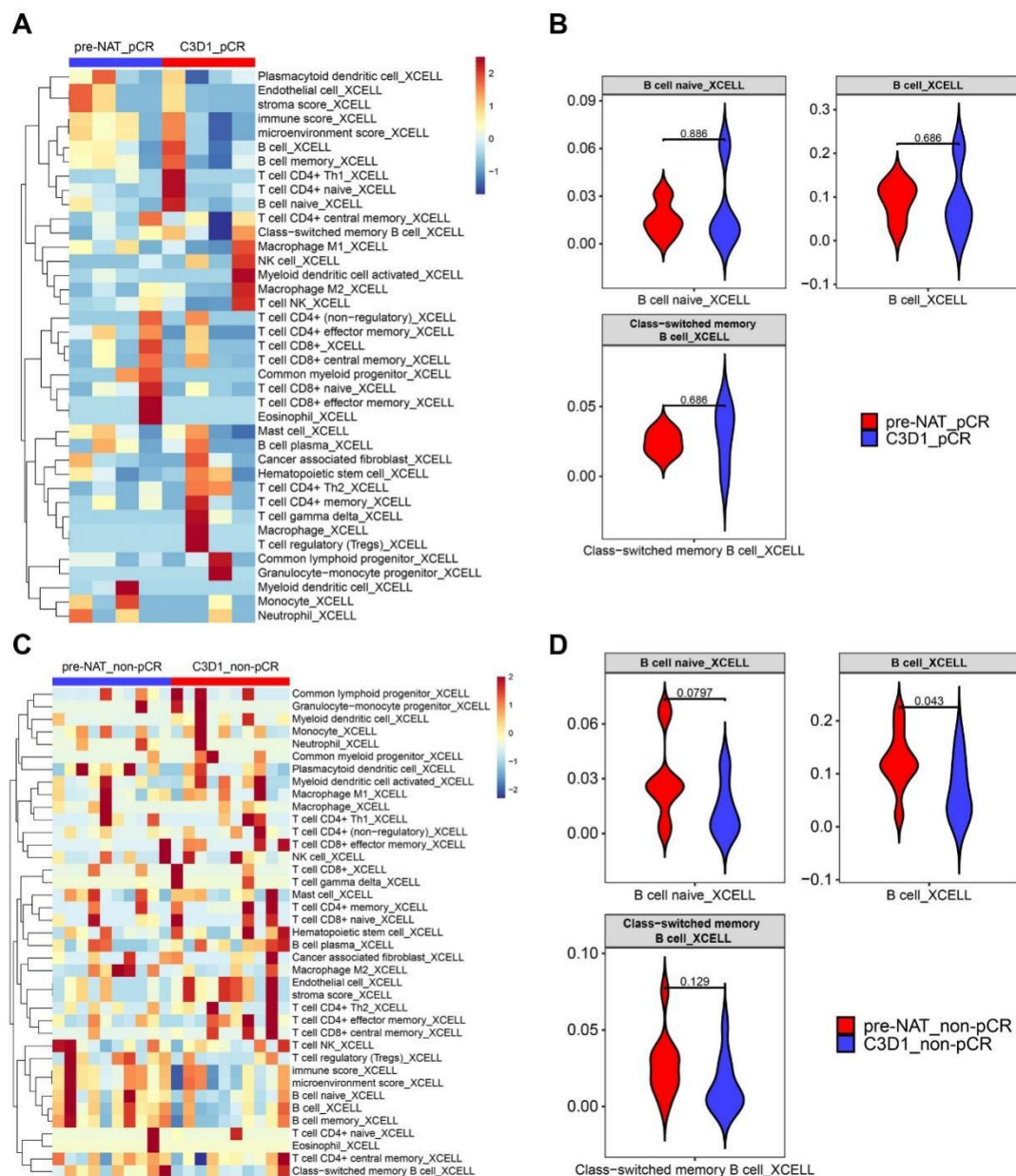


Figure S5. xCell deconvolution results in patients and selected B-cell subsets in patients (C3D1 v.s. pre-NAT).

- (A) Deconvolution results in pCR patients.
- (B) Selected B-cell subsets in pCR patients at C3D1 versus pre-NAT.
- (C) Deconvolution results in non-pCR patients.
- (D) Selected B-cell subsets in non-pCR patients at C3D1 versus pre-NAT.

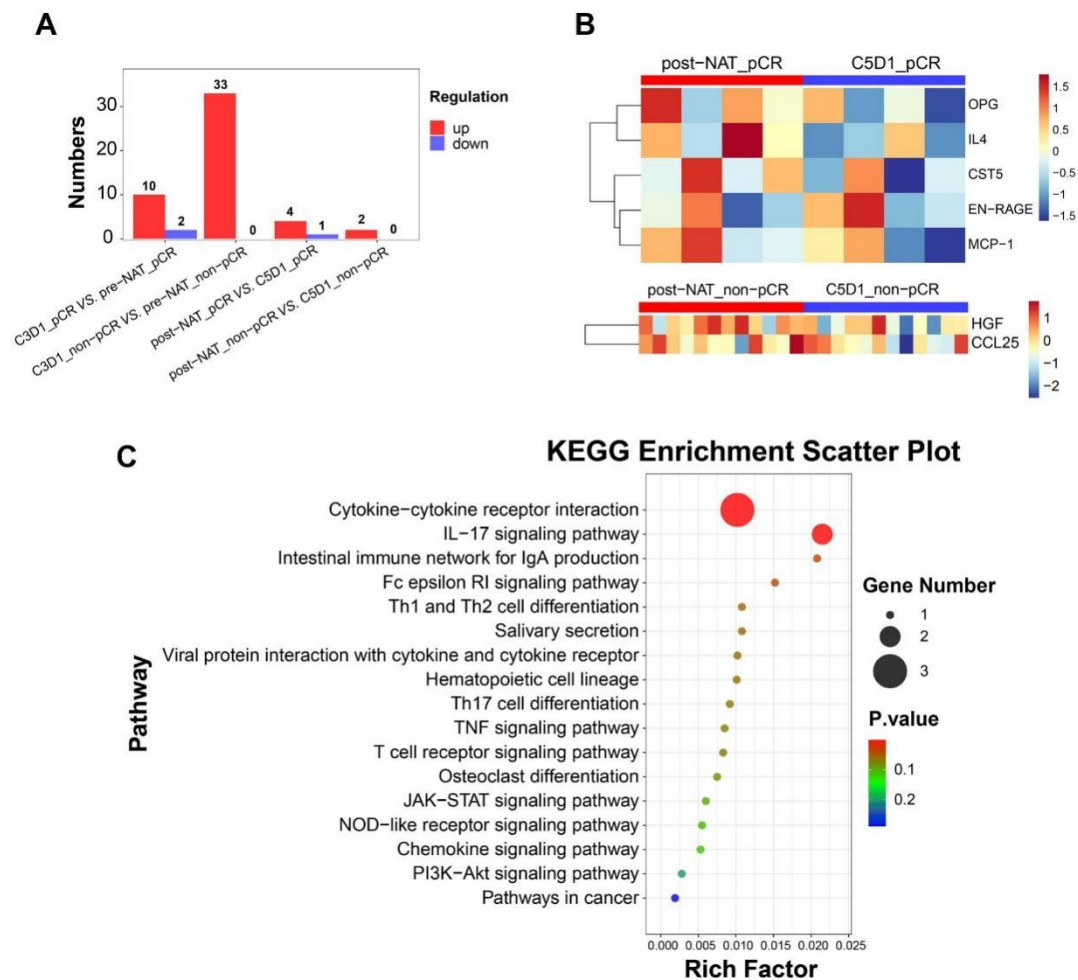


Figure S6 Proteomic dynamics during the rapid response phase (C3D1).

(A) Differential protein statistics of pCR and non-pCR patients in the rapid response stage (pre-C3D1) and late response stage (C5D1-post) respectively.

(B) Differential protein heatmap of pCR and non-pCR patients in the late response stage (C5D1-post) respectively.,

(C) KEGG enrichment of differentially expressed proteins in C5D1-post of pCR patients.

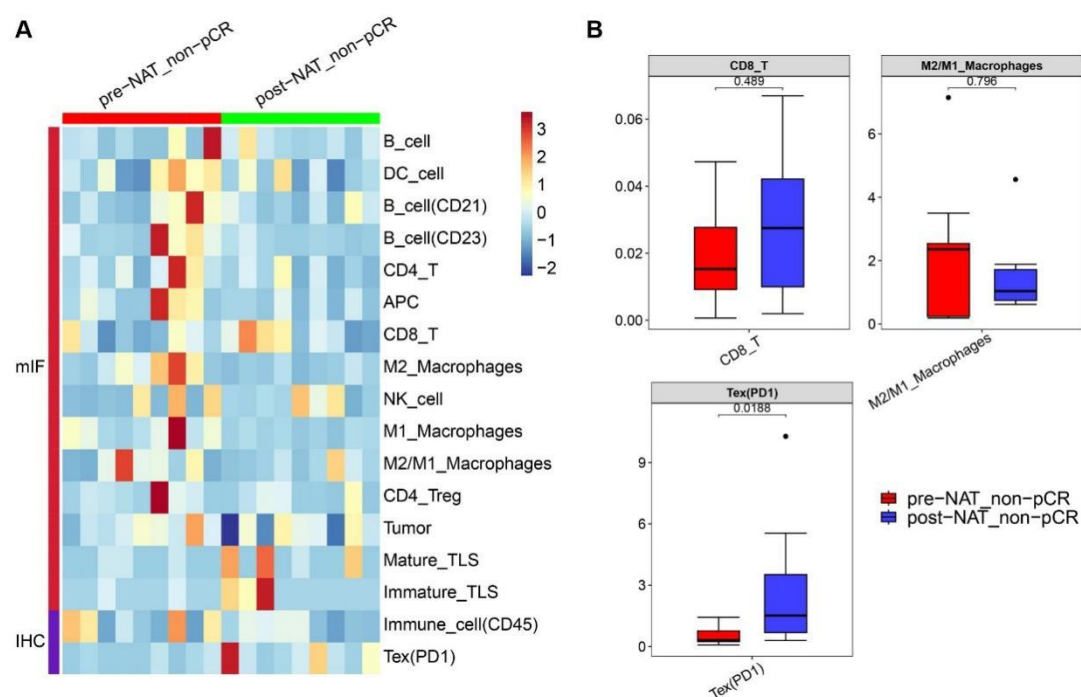


Figure S8 Immune-related cellular changes in non-pcr patients at baseline and after neoadjuvant therapy.

(A) Heatmap of immune-related cells in non-pCR patients at baseline and after neoadjuvant therapy.

(B) Boxplots showing representative immune cell subsets, highlighting an increase in exhausted CD8⁺ T cells (TexPD-1) after treatment.