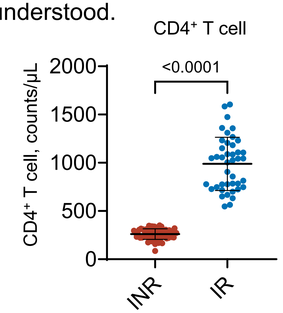
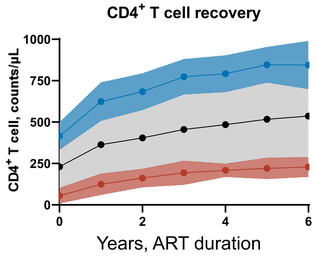
Single-Cell Multi-Omics Uncovers the Immune Heterogeneity in HIV-Infected INRs

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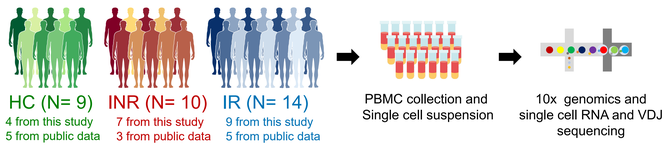
BACKGROUND

Even with sustained viral suppression achieved under ART, 10-40% of people with HIV (PWH) are prone to experiencing a challenging aspect of incomplete immune reconstitution. However, the underlying mechanisms driving CD4+ T cell depletion in immunological non-responders (INRs) remain incompletely understood.



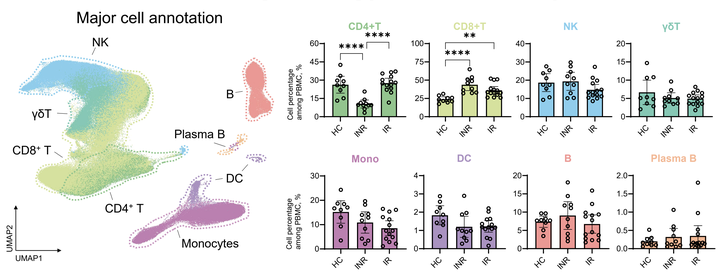


STUDY DESIGN

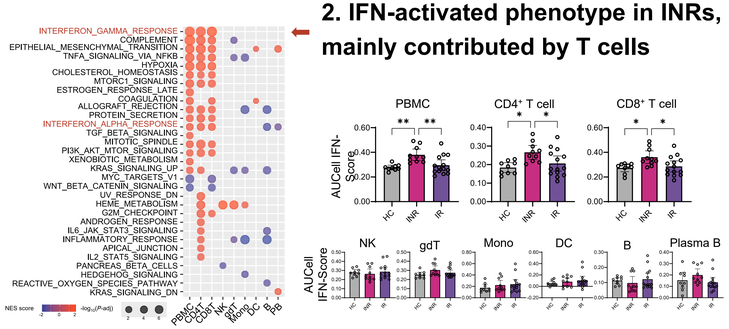


RESULTS

1. Identification of 8 major cell type in scRNA-seq data

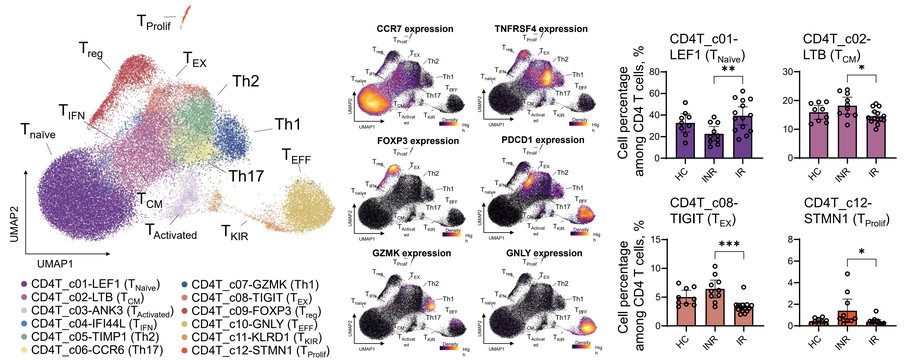


2. IFN-activated phenotype in INRs, mainly contributed by T cells

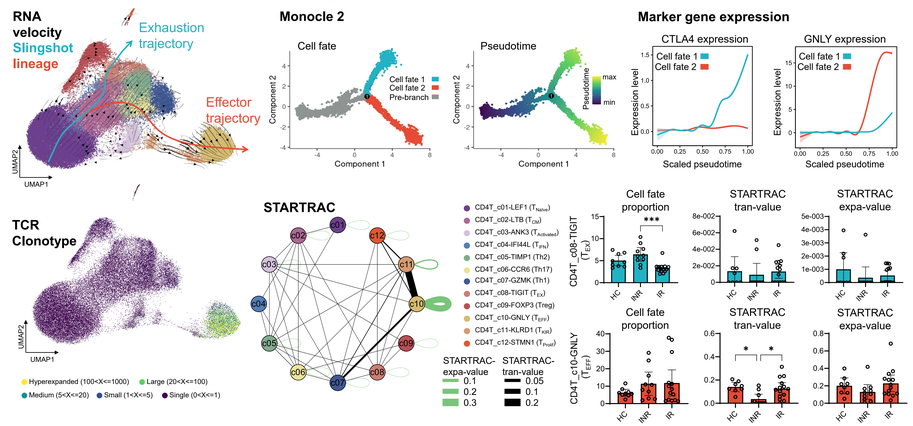


RESULTS

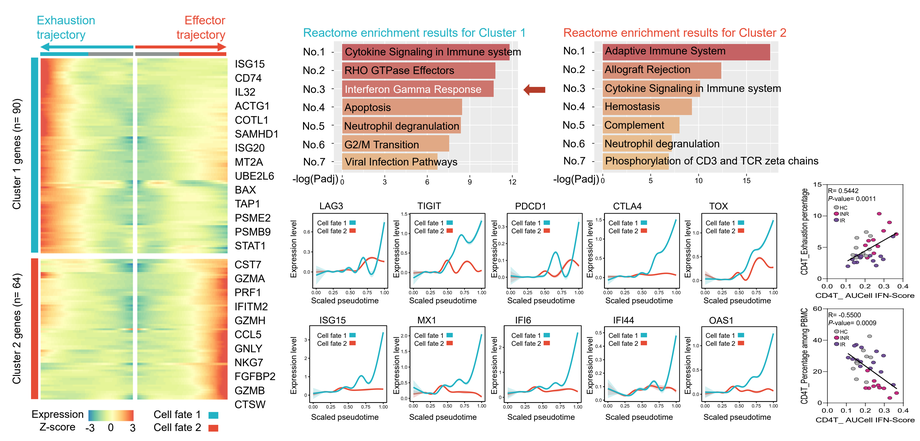
3. Identification of 12 minor cell type in CD4 T cells



4. Identification of two cell trajectory of CD4 T cells



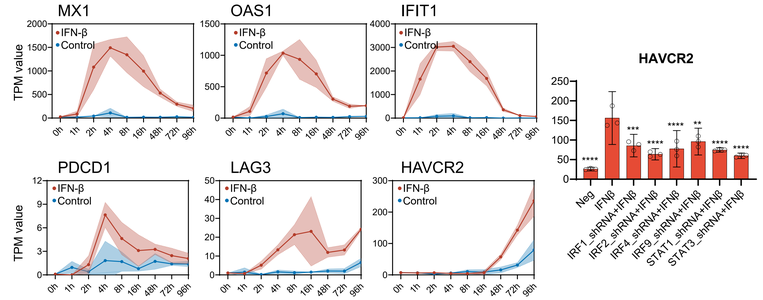
5. Correlation between IFN response and CD4 exhaustion



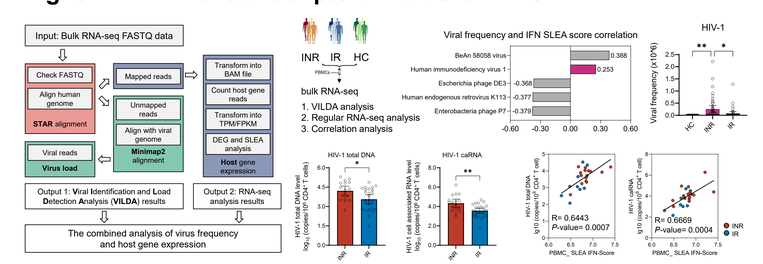
The activated IFN response emerges as a significant immunological feature of INRs, contributing to potential CD4 exhaustion and depletion in INRs undergoing ART.

6. Validation on the IFN response and CD4 exhaustion

Raw data from GSE195542



7. Higher HIV-1 viral transcripts in PBMC of INRs



CONTACT INFORMATION

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VILDA tool is available in https://github.com/rrrrroentsen/VILDA