

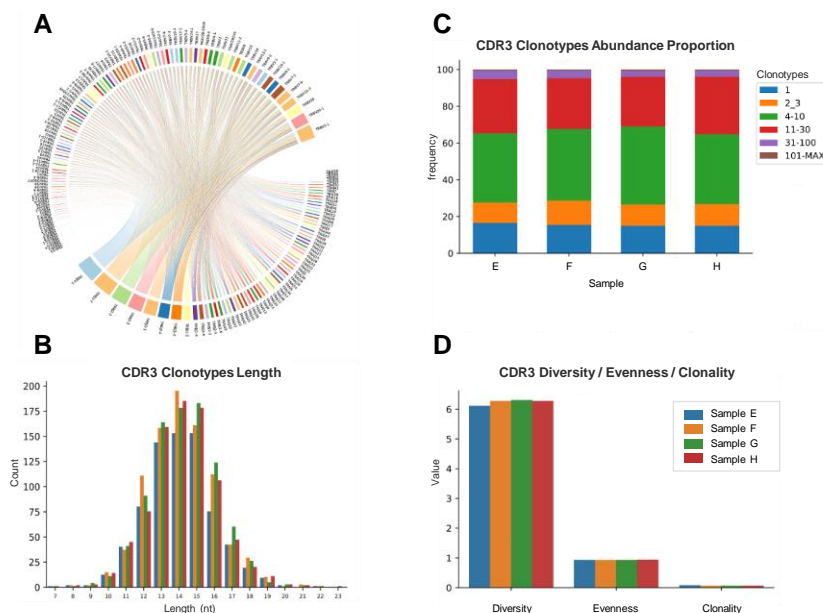
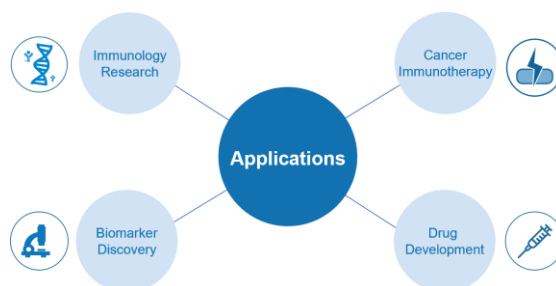
AccuraCode® TCR Library Construction Kit

Accelerate Your TCR Profiling Through Multiplexed TCR Sequencing

The **AccuraCode® TCR Library Construction Kit** (Figure 1) allows researchers and clinicians to explore the diversity of T-cell repertoires with high efficiency, accuracy, and scalability. It enables the simultaneous TCR profiling of multiple samples and facilitates comprehensive analysis of T-cell clonotypes, gene usage, V(D)J recombination patterns, and diversity with compatible bioinformatics pipelines provided.

Applications

- **Immunology Research:** Investigate immune responses, T-cell clonality, and repertoire changes in infections, autoimmunity, and vaccination.
- **Cancer Immunotherapy:** Profile TILs, assess TCR diversity for personalized cancer immunotherapies like adoptive T-cell therapy.
- **Biomarker Discovery:** Identify disease-associated TCR signatures for potential biomarker development.
- **Drug Development:** Study immunomodulatory drug effects on T-cell populations to enhance drug discovery.



Highlights

- **Multiplexed and targeted** TCR library preparation.
- **High-throughput and scalability** for analyzing up to 96 samples in a single tube.
- **Fast and robust** workflow from cells to a final TCR library within 8 hours.

Figure 1. Overview of TCR profiling for human PBMC samples. (A) V-J pairing; (B) Distribution of CDR3 clonotypes along their length (amino acid); (C) CDR3 clonotype abundance; (D) CDR3 diversity / evenness / clonality.

AccuraCode® TCR Library Construction Kit Workflow

A single cell suspension is prepared by cell sorting, tissue dissociation or from PBMCs and loaded into the 96-well plate with pre-loaded AccuraCode® beads and cell lysis buffer. The cell lysis, molecular labeling (barcoding), and mRNA capture take place within the 96-well plate. After multiplexing and cDNA generation, TCRs are enriched in two consecutive steps prior to library construction (Figure 2).

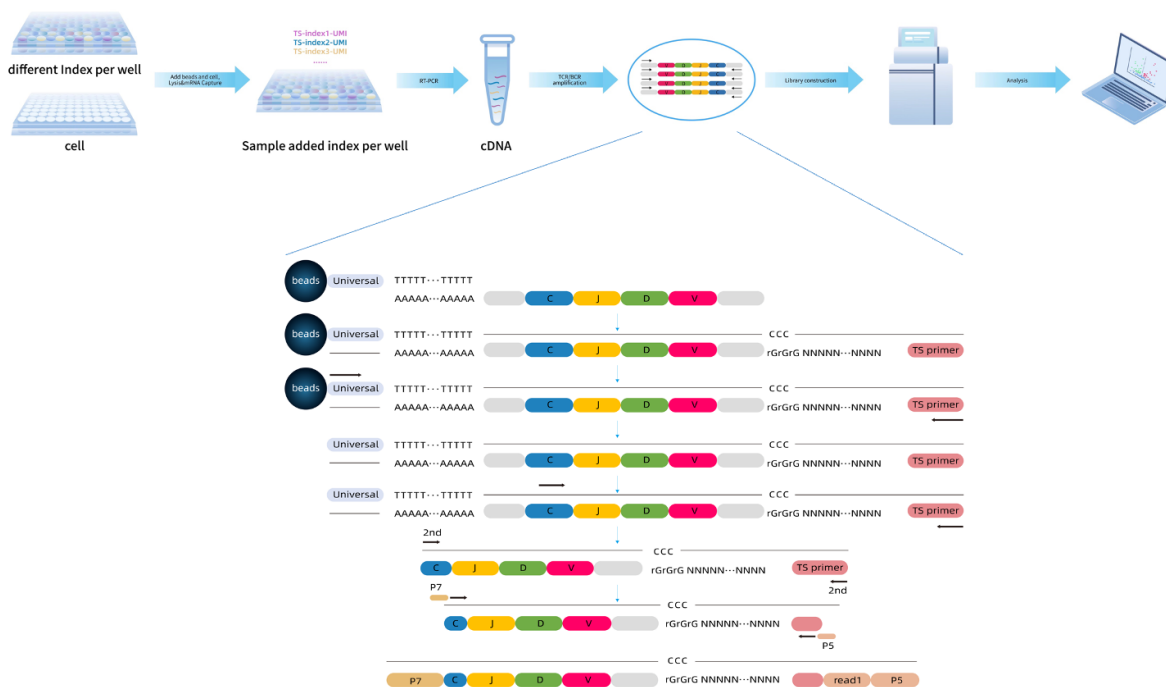


Figure 2. AccuraCode® TCR Library Construction workflow. The complete protocol of cell lysis, barcoding, two consecutive TCR enrichment steps, and multiplexed library construction of up to 96 samples can be finished within 8 hours.

Consistent And High-Quality Results

The AccuraCode® multiplexing technology processes up to 96 different samples in a single library preparation, minimizing sample-to-sample variation and making the comparison of different conditions more reliable. Preparation of 96 multiplexed libraries followed by sequencing at 120 million reads shows high reproducibility. The number of UMIs mapped to TRA and TRB are consistent among all replicates (Figure 3).

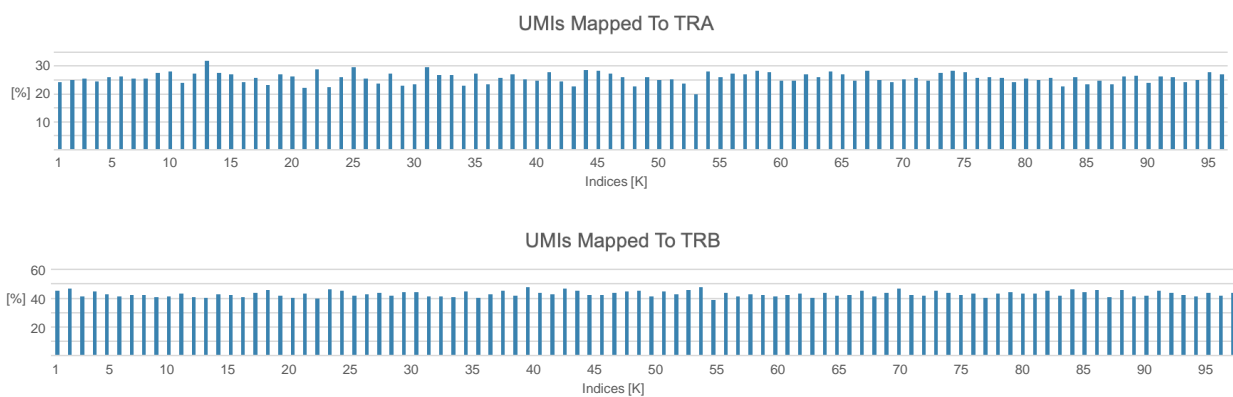


Figure 3. Reproducibility across wells.

Product	Specification	Catalog Number
AccuraCode® TCR Library Construction Kit (human, 96-well)	1 RXN	13630104

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