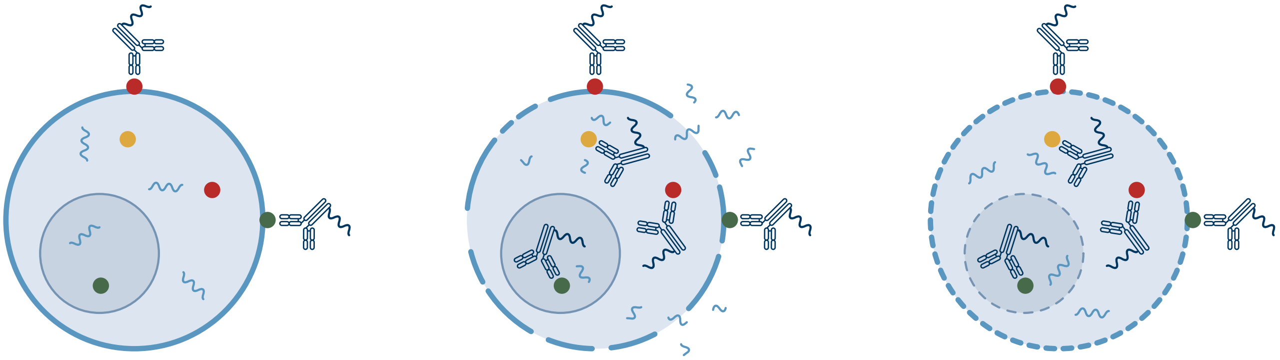
# Seq What You've Been Missing—with InTraSeq™ Single Cell Analysis

## Simultaneously Detect RNA, Intracellular, and Surface Proteins for Thousands of Cells at a Single-Cell Level

**In**tracellular Protein and **Tra**nscriptomic **Seq**uencing (InTraSeq) is a novel technology that identifies signaling pathways and reveals molecular mechanisms in disease development in a single experiment. It enables simultaneous detection of RNA as well as both intracellular and surface proteins in thousands of cells, allowing researchers to investigate signaling pathways along with the transcriptome—all at a single-cell resolution. Developed and validated by CST, InTraSeq 3' technology uses the 10x Genomics Chromium Single Cell 3' Reagent Kits with Feature Barcoding technology.

## What makes InTraSeq unique?



**A)** Most single-cell analysis techniques currently available detect RNA and use barcoded antibodies to measure surface proteins for phenotyping purposes.

**B)** Many have tried developing methods to detect intracellular proteins, but these methods typically suffer from significant RNA loss and degradation.

**C)** InTraSeq™ Single Cell Analysis detects RNA alongside intracellular and surface proteins while preserving RNA.

## InTraSeq Benefits

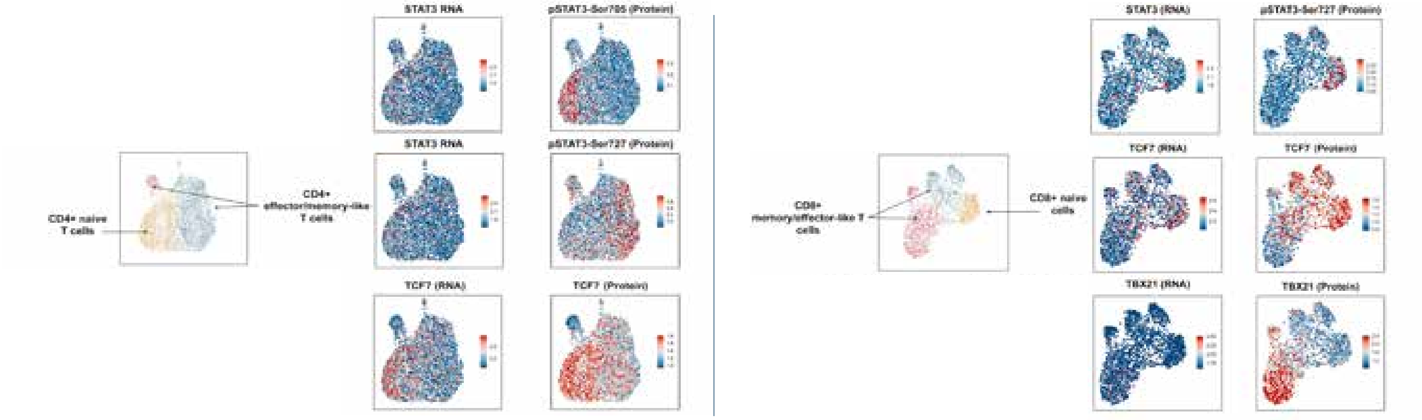
- **Reduce hands-on time with a streamlined workflow.** A straightforward, four-step protocol with multiple stopping points increases workflow flexibility and shortens hands-on benchwork to approximately one hour.
- **Investigate intracellular signaling while guaranteeing robust RNA signal.** InTraSeq reagents let antibodies enter the cell and bind to targets while maintaining RNA levels for accurate quantitation of both RNA and protein expression.
- **Identify hard-to-detect cells with unbiased depth of coverage.** Detect and quantify intracellular and surface proteins in conjunction with single-cell gene expression to differentiate heterogeneous cell populations.
- **Explore multiple molecular mechanisms in one experiment.** Simultaneous measurements of transcriptomics changes and protein expression, including post-translational modifications, generate more comprehensive data sets.

Learn more at
cst-science.com/intraseq-poster-video

Cell Signaling Technology®

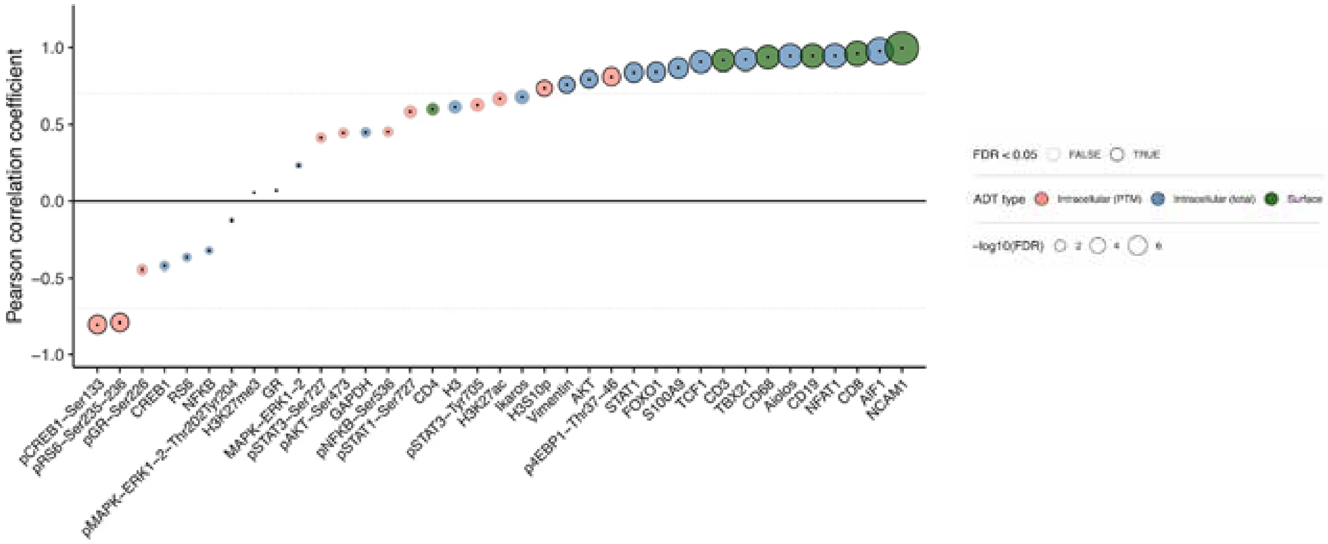
# Get Your Cell’s Whole Story

## Identify Cell States within CD4+ and CD8+ Cells Using Single-Cell Intracellular Protein Readout



Analysis of isolated CD4+ and CD8+ cells using InTraSeq intracellular and signaling pathway antibodies to identify cellular states that would be difficult to study using RNA alone. The InTraSeq assay offers additional insights into cellular subpopulations, by measuring PTMs and intracellular protein levels in single cells which can enable a deeper understanding of disease development mechanisms.

## Identify Your Actual Protein Levels—Not Just RNA



Co-quantitation of mRNA and cellular proteins with InTraSeq Single Cell Analysis reveals differential expression levels of mRNA and protein where the two values often do not correlate. Measuring RNA, protein, and post-translational modification simultaneously facilitates a thorough understanding of complex physiologic interactions that RNA expression alone cannot elucidate.

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