

Gene Transfer Analysis at Single-cell Resolution

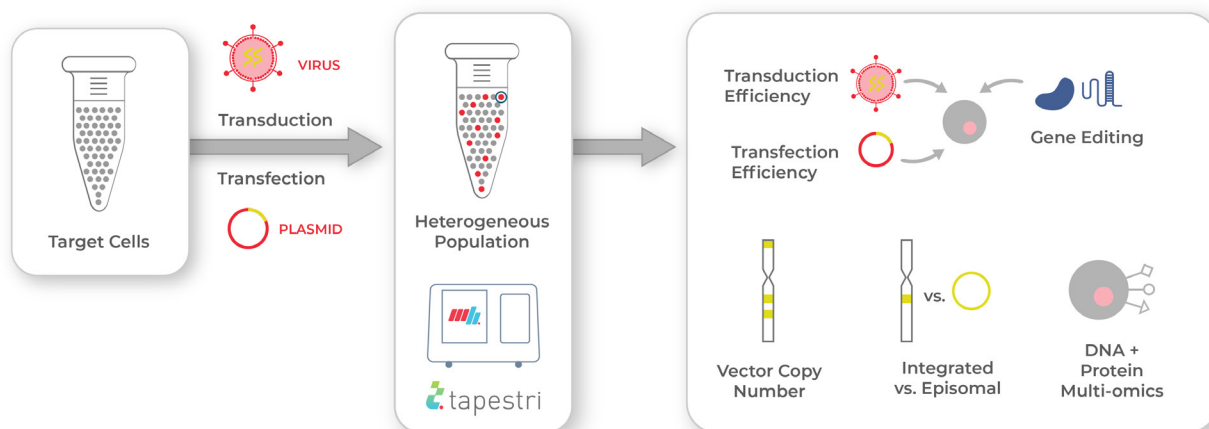


TAPESTRI® SINGLE-CELL MULTI-OMICS PLATFORM

Measure Multiple Attributes in 1000s of Single Cells

Many cell and gene therapies introduce transgenes into target cells utilizing viral and nonviral vectors. The accurate assessment of transduction/ transfection efficiency and the number of vector copies are critical aspects of therapy characterization.

The Tapestri Platform enables multiple genotypic and phenotypic attributes to be co-measured across 1000s of individual cells. This high-throughput platform collapses multiple assays into one workflow, accelerating CMC programs from preclinical analysis to product characterization, and can be adapted for lot release testing.



Introducing genes into cells using viral or nonviral vectors yields heterogeneous populations. Tapestri can measure cell-to-cell variation in transduction/ transfection, gene editing, and vector copy number. Additionally, Tapestri assays can evaluate integrated vs. episomal transgenes and even co-measure cell-surface proteins along with DNA.

Project Inputs

- **Vector sequences**
- **Vector Maps**
 - Integrated vs non-integrated sequence
- **Attribute(s) to measure:**
 - Transduction efficiency (1+ vectors)
 - Transfection efficiency (1+ vectors)
 - Vector copy number
 - Integrated vs episomal genome
 - DNA + protein multi-omics
 - Gene editing*

Project Outputs

- **Raw Data Files**
 - FASTQ files from ILMN
 - h5 files from Tapestri Pipeline
- **Final Project Report**
 - QC analytics: sequencing and amplicon panel performance metrics for experimental and sample QC
 - Project data

*See Gene Editing flyer for more information

CONTACT US TO LEARN MORE

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Increase the Resolution of Your Characterization Assays

Conventional PCR assays like qPCR and ddPCR measure population averages of transduction/ transfection, and thus fail to report cell-to-cell variability in these attributes. Tapestri can assess transduction/ transfection and vector copy number in a single assay. Moreover, Tapestri’s multi-omics assays can simultaneously evaluate genotype and immunophenotype.

Single-cell Analysis Provides Information that PCR Cannot

	PCR Assays	Tapestri Analysis
Level of measurement	Population	Individual cells
Vector copy number distribution	×	✓
>1 vector in the individual cells	×	✓
Multi-omics in 1 assay	×	✓

End-to-End Service with Pharma Assay Development

Mission Bio offers custom single-cell assay development for cell and gene therapies. Our Pharma Assay Development (PAD) team provides a full suite of services — from experimental design and sample processing to data analysis and interpretation. For each project, we will provide a comprehensive report with your assay results. We can work with you to transfer your assay to your institution or a qualified CRO/ CDMO and support IND filing. Enquire today!

STREAMLINED PAD WORKFLOW

