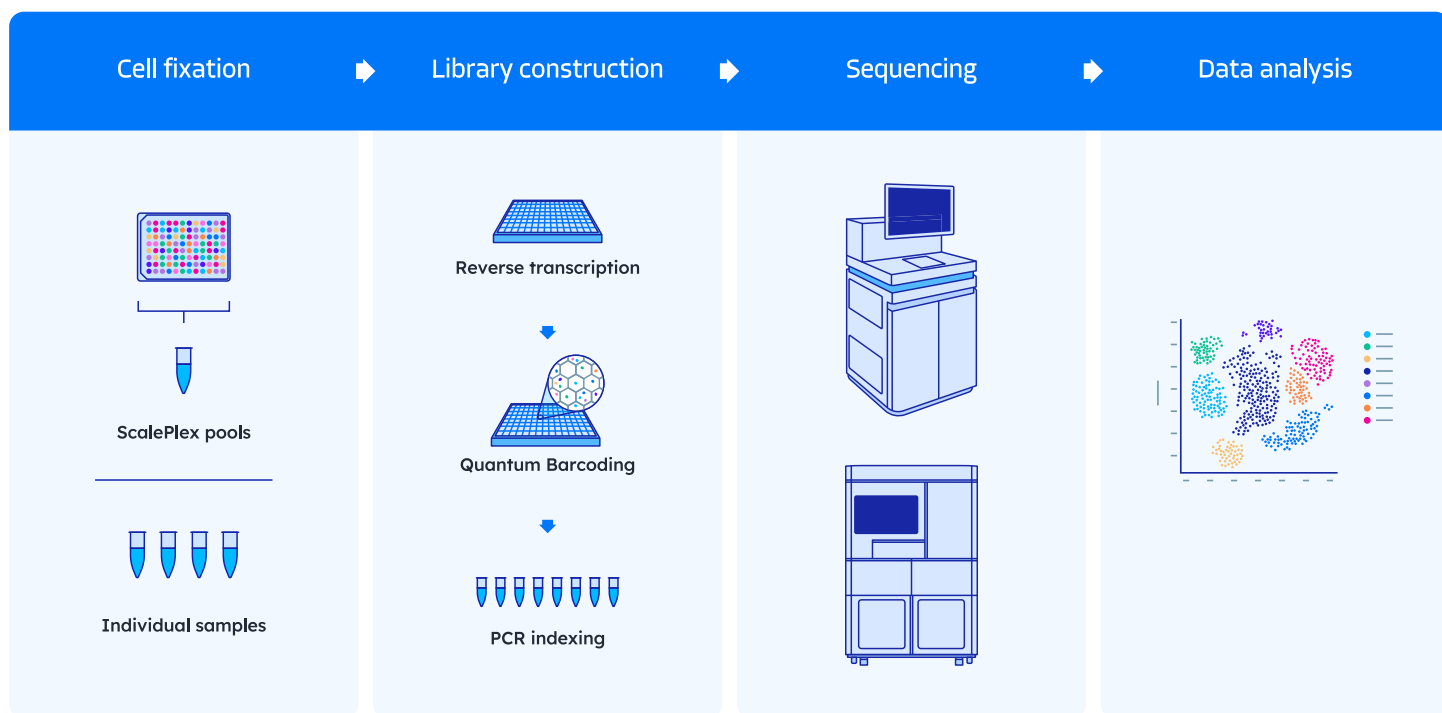


Revolutionizing Single Cell Analysis at Every Scale: Quantum Barcoding Technology

Transform your single cell research with unprecedented flexibility and scale

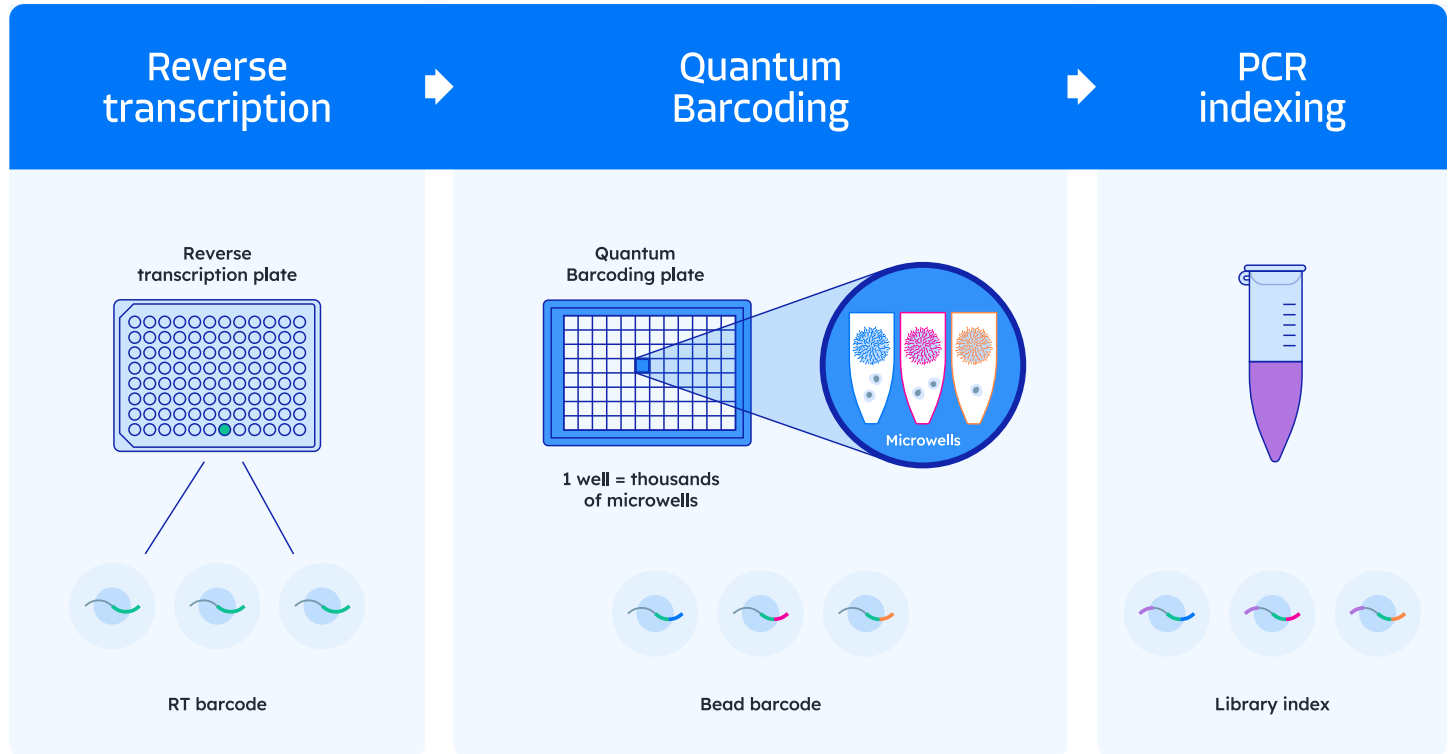
The QuantumScale platform, powered by Quantum Barcoding technology, offers the most flexible single cell solution for projects of any scale. Whether analyzing only a few or thousands of samples, QuantumScale Single Cell RNA enables researchers to go from sample to high-quality single cell data using the same simple and cost-efficient workflow.



QuantumScale Single Cell RNA is an end-to-end solution for single cell profiling, including cell or nucleus fixation through data analysis.

Quantum Barcoding: The breakthrough single cell technology

Our 96-well Quantum Barcoding plate contains thousands of microwells, each loaded with unique barcoded beads. Cells settle into microwells, dramatically condensing the total number of plates needed for cell barcoding into a streamlined operation – no specialized equipment needed.



1. Reverse transcription: Cells or nuclei undergo reverse transcription, adding a RT barcode and molecular barcode to each transcript (not shown)

All wells are pooled and redistributed into Quantum Barcoding Plate

2. Quantum Barcoding: Bead-based barcodes are ligated to cDNA in microwells

All wells are pooled and redistributed into tubes

3. PCR indexing & final library construction: Library indices are added during PCR amplification

Barcode Space

Quantum Barcoding enables a massive scale up of the barcode space compared to other single cell workflows - over 675 million unique barcode combinations when analyzing millions of cells.

QuantumScale
Single Cell RNA

675M
Barcodes

Other
split-pool
methods

113M
Barcodes

Other
probe-based
methods

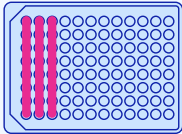
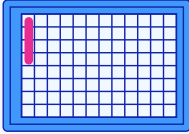

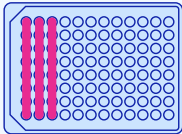
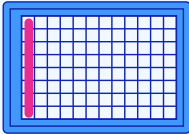

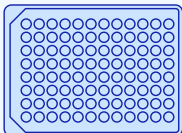
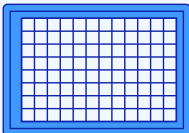

11.8M
Barcodes

Other whole
transcriptome
methods

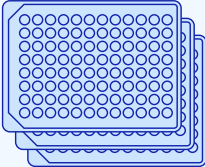
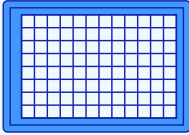

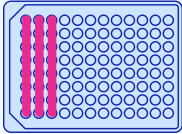
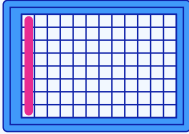

3.6M
Barcodes

Kit configurations

Single project

	RT Plate	Quantum Barcode Plate	Library Index
Small Kit Up to 84k cells 1-24 samples (2,304 with ScalePlex)	 3 columns	 4 macrowells	 1 tube
Medium Kit Up to 168k cells 1-24 samples (2,304 with ScalePlex)	 3 columns	 1 column	 1 tube
Large & Extra Large Kit Up to 2M cells (Large) Up to 4M cells (Extra Large) 1-96 samples (9,216 with ScalePlex)	 1 plate	 1 plate	 8 tubes

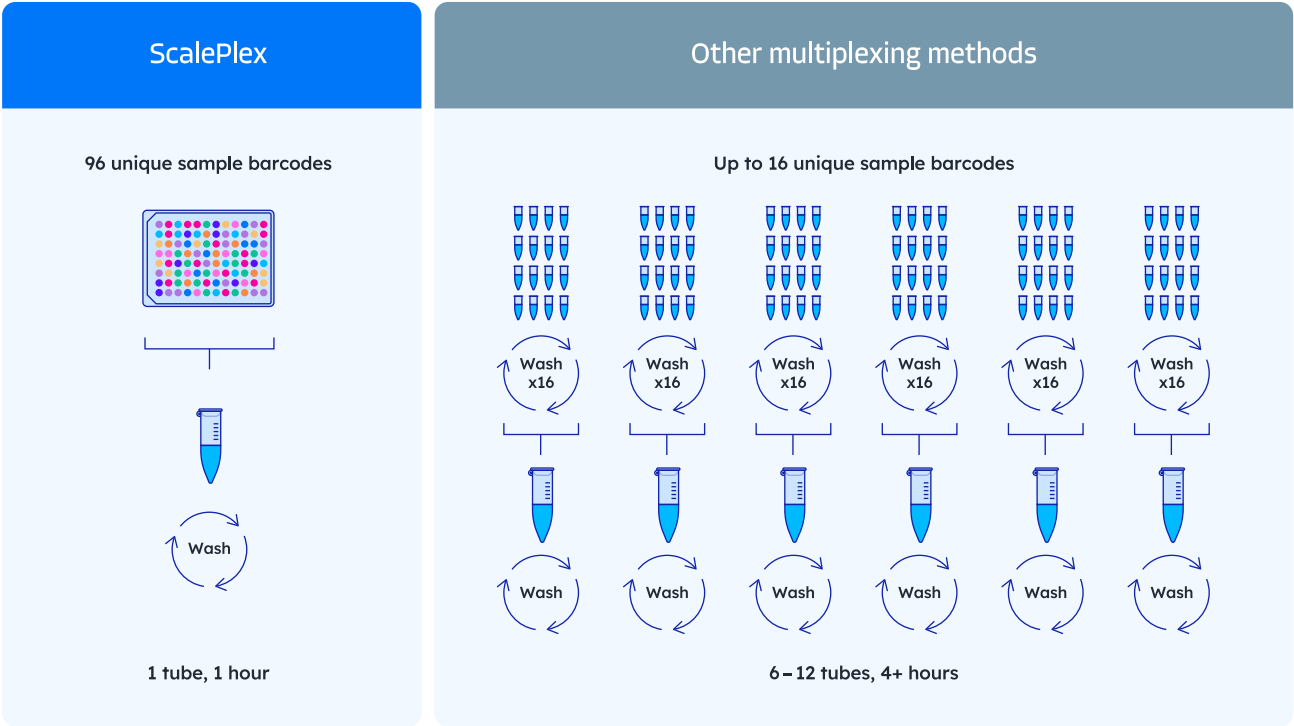
Multi-project

	RT Plate	Quantum Barcode Plate	Library Index
Modular Kit 168k cells x 12 libraries 1-24 samples per library (2,304 with ScalePlex)	 3 plates	 1 plate	 12 tubes
Each library uses (up to 168k cells):	 3 columns	 1 column	 1 tube

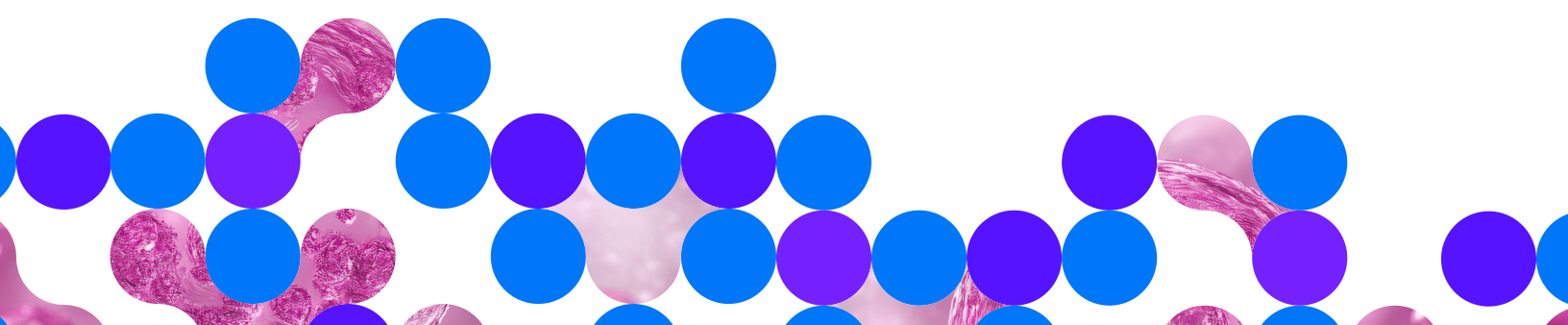
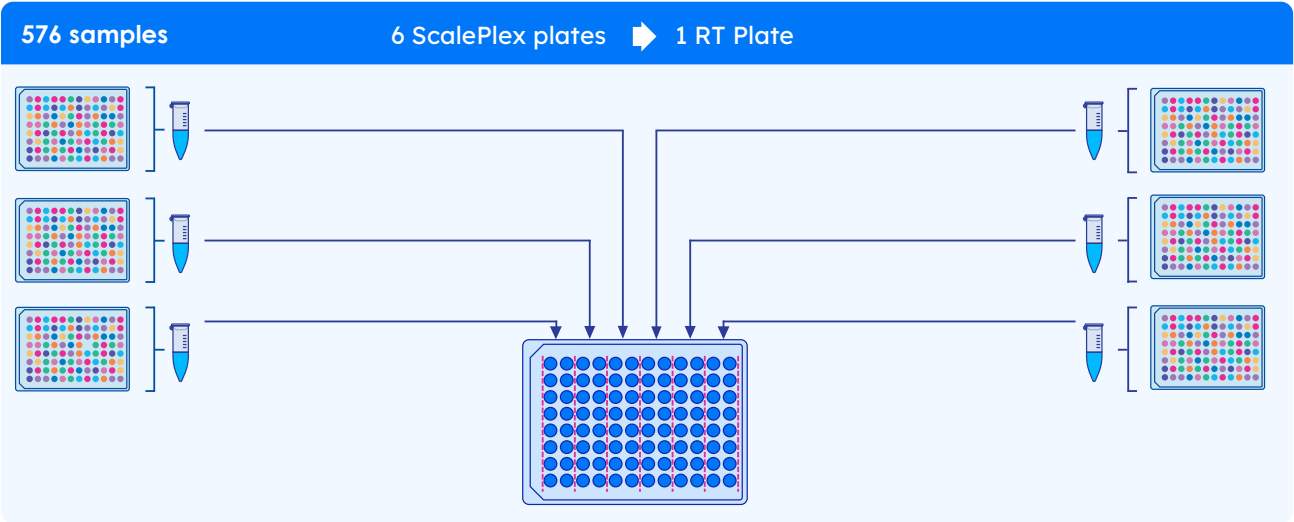
The modular kit can accommodate projects of different sizes by using multiple libraries for a given project. The modular kit reagents can be used all at once, or at different times, until all columns in the Quantum Barcoding plate have been used.

ScalePlex: Multiplexing without the hassle

Sample multiplexing can be a tedious process where cells or nuclei often require multiple rounds of washes, taking up precious time and resulting in sample loss. With ScalePlex, our unique oligo-based barcodes can be added to individual samples during fixation, eliminating wash steps until after pooling. ScalePlex is species- and sample type-agnostic and requires no upfront optimization, making it simple to use right out of the box.



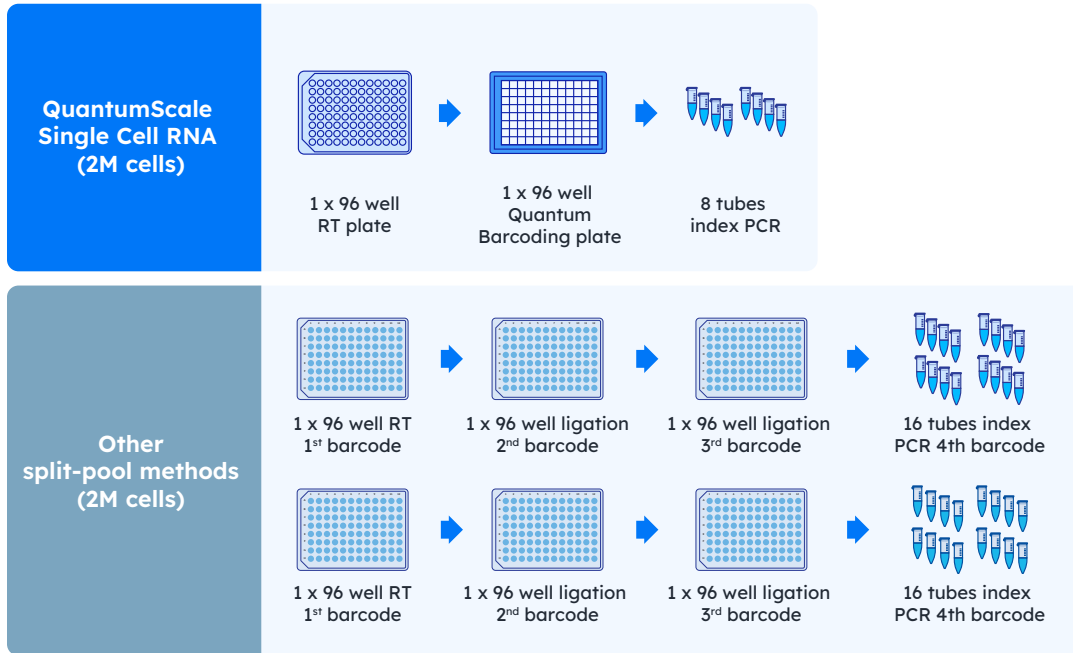
Each ScalePlex plate contains 96 unique sample barcodes. For one experiment, it is possible to use up to 24 ScalePlex plates (for small and medium kits) or 96 ScalePlex plates (for large and extra-large kits), loading one ScalePlex pool per RT well, to run up to 2,304 samples or 9,216 samples, respectively.



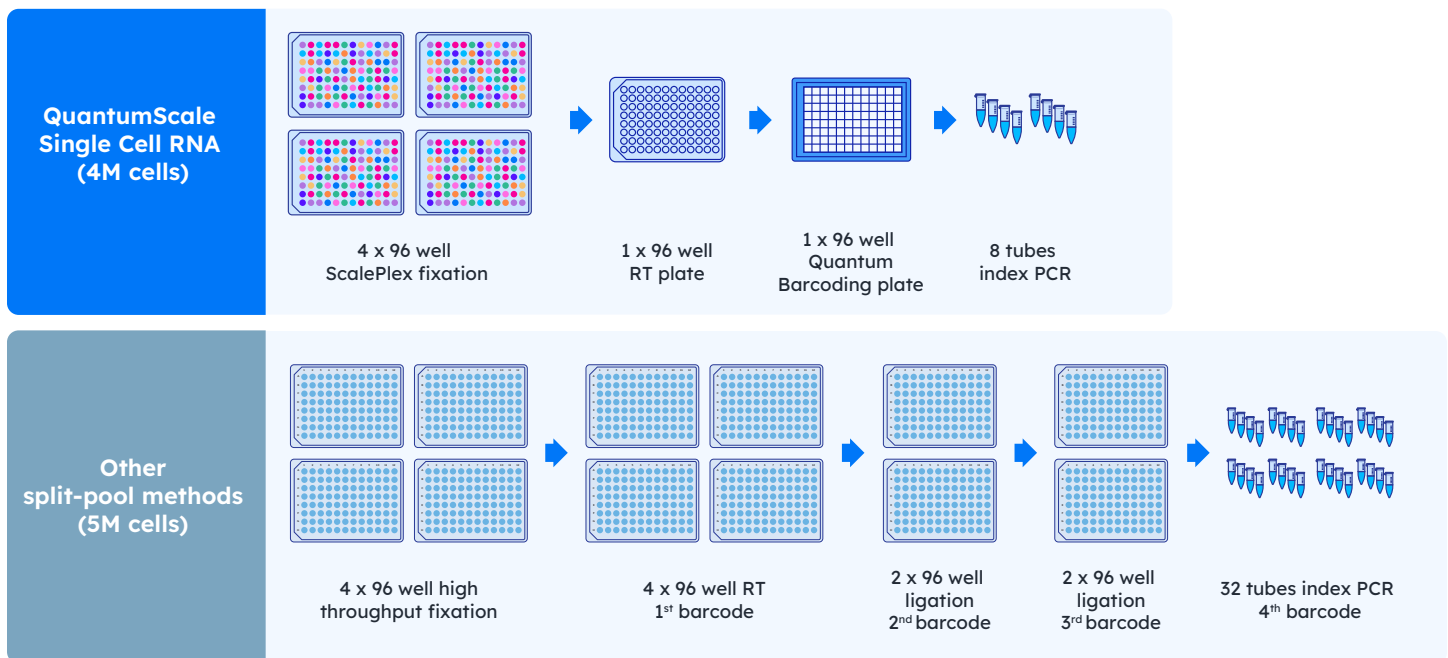
No instrument, no problem

Compared to other single cell methods which utilize sequential rounds of multiple 96-well plates to reach a similar level of cell throughput, the QuantumScale platform only uses two 96-well plates for library preparation while also having much larger barcode space to minimize multiplets.

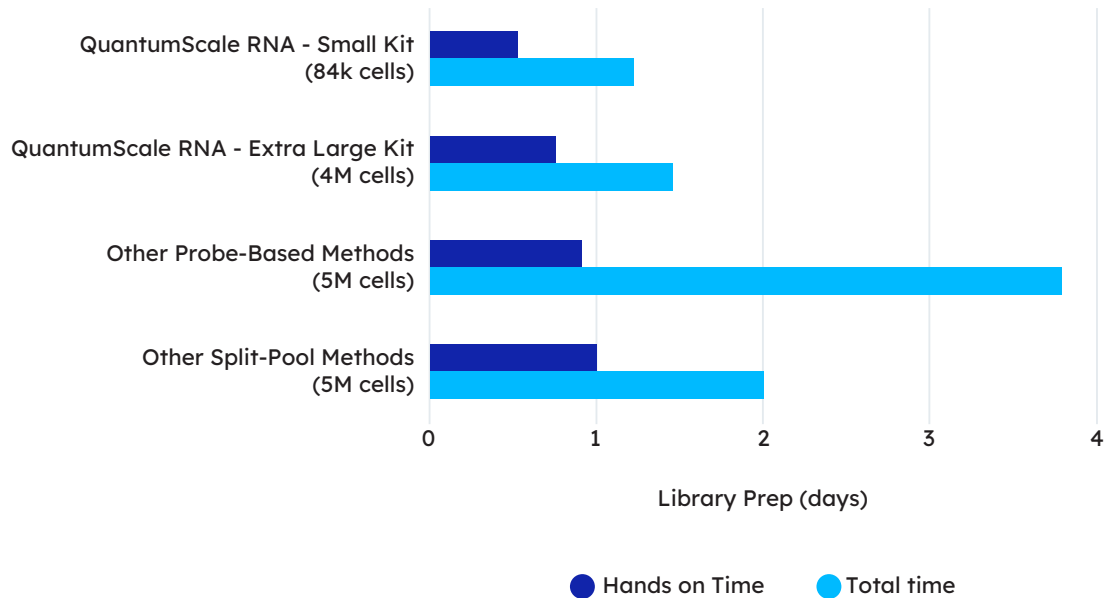
Example: 2M Single Cell Project (96 samples)



Example: 4M Single Cell Project (384 samples with ScalePlex)



Streamline your single cell experiments



The QuantumScale platform offers the most efficient single cell workflow. By streamlining many levels of barcoding with a single Quantum Barcoding plate, it reduces the number of tedious pipetting steps and streamlines your workflow. QuantumScale is also easily automated on liquid handlers for additional laboratory efficiency.

World-class support

Our products and services are backed by our world-class support team who will help make your Scale Bio experiments successful.

- One-on-one support – Our local teams are single cell experts who are ready to help with training and their extensive expertise
- Training videos – Watch our video series to learn how to successfully run your experiment
- Bioinformatics workshops – Engage with thought leaders and discuss data analysis best practices with the community
- Educational webinars – Learn the latest on topics such as sample preparation, designing screening experiments, data analysis and more
- ScaleU – Explore our resources for practical guidance on every step of your single cell journey

Learn more about QuantumScale Single Cell RNA Sequencing at: scale.bio/single-cell-rna-sequencing-kit/



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