

Versatile & accessible  
single-cell analysis  
for every lab

Instrument-free barcoded cDNA  
& scRNA-seq data analysis



Asteria™ Benchtop Kit &  
Cytonaut™ Cloud Software

Powered by RevGel-seq™ Technology

# Asteria Benchtop Kit for Single-cell RNA-seq & Cytonaut Cloud Software for Single-cell Data Analysis

## *A truly accessible, instrument-free single-cell solution for everyone*

For the benefit of the entire research and health community, Scipio bioscience is taking on the challenge of democratizing single-cell research that has been, up until now, limited to institutions owning or having access to complex microfluidics instruments. With the introduction of Scipio bioscience's new benchtop kit and data analysis software, single-cell analysis is now a powerful technique that all genomics researchers can easily add to their repertoires.

From the initial cell suspension, the Asteria Single-Cell RNA-seq Kit enables you to do straightforward, instrument-free single-cell cDNA preparation at your workbench. Following 3' sequencing, you can use Cytonaut Cloud Software to perform end-to-end single-cell data analysis — from pre-processing and post-processing to interactive data visualization. Cytonaut software is easily accessible to any biologist, regardless of previous bioinformatic experience.

If you have access to an expert computational biologist or bioinformatician, they can interrogate the data with Cytonaut or export the data for analysis with open source tools. When you have direct access to your single-cell data and can provide biological context to the bioinformatician, a true collaboration can occur in the co-discovery of single-cell insights.

- o **Gain control of your experiments** right now without the need for microfluidics equipment
- o **Save the hassles and expense of a major equipment purchase** and start your single-cell experiment today
- o **Easily expand your skill set and lab's workflow** with our simple kit and intuitive software
- o **Allocate your time to experiments**, not on purchasing microfluidics equipment or waiting for a slot to open in the Core Lab
- o **Gain confidence in your results** with biological and technical replicates of up to 10,000 cells
- o **Get your answers 24/7/365 using our cloud-based software** and bypass the need for your own high performance computing infrastructure
- o **Take control of single-cell data exploration** with intuitive and powerful software tools
- o **Iterate your experiments** to find your answers and publish faster

*Purchase a kit as the need arises, or grab a box from your lab's inventory.*

*Next, perform the simple protocol at your bench and go straight to library prep and sequencing.*

*Then, import the sequencing results in Scipio's user-friendly software and start finding your breakthrough!*

## Advanced Single-cell Analysis in a Straightforward Benchtop Kit

*The biologist's complete & cost-effective solution for scRNA-seq*

Welcome to the single-cell revolution. Now all scientists can explore the biology of individual cells without needing expensive equipment, advanced computing infrastructure, or access to bioinformatician. Start taking control of your single-cell experiments today with the Asteria™ Benchtop Kit.

- Profile up to four samples of 10,000 cells with each kit
- Use the simple, benchtop protocol for direct single-cell barcoding
- Only basic laboratory skills and equipment are needed, no need for microfluidics instruments
- As early as two hours, safely stop and store samples and then restart your experiment later
- Experience high mRNA capture and gene sensitivity with low multiplet rates



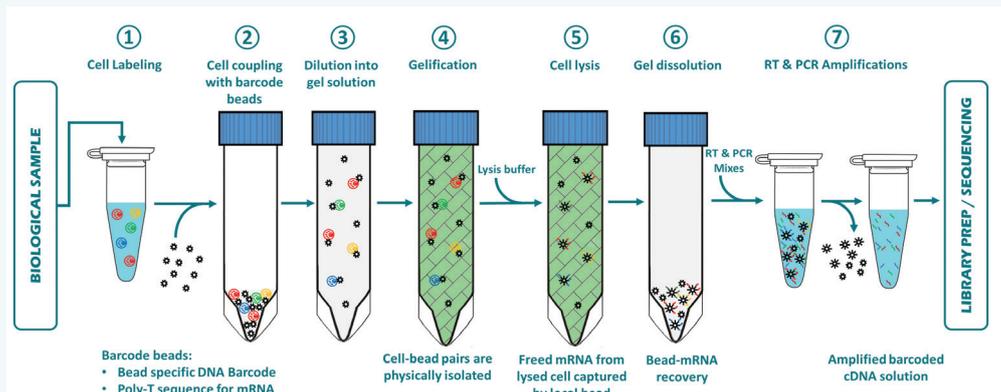
## The Elegance of the Asteria Single-cell RNA-seq Workflow

*Take advantage of the simple benchtop protocol powered by RevGel-seq™ Technology*

With Scipio's novel RevGel-seq technology, you can label your cells individually without the need for microfluidics or nano-wells. And there is no need for cryofreezing or cell fixation while you wait for the availability of microfluidics or cell sorting instruments.

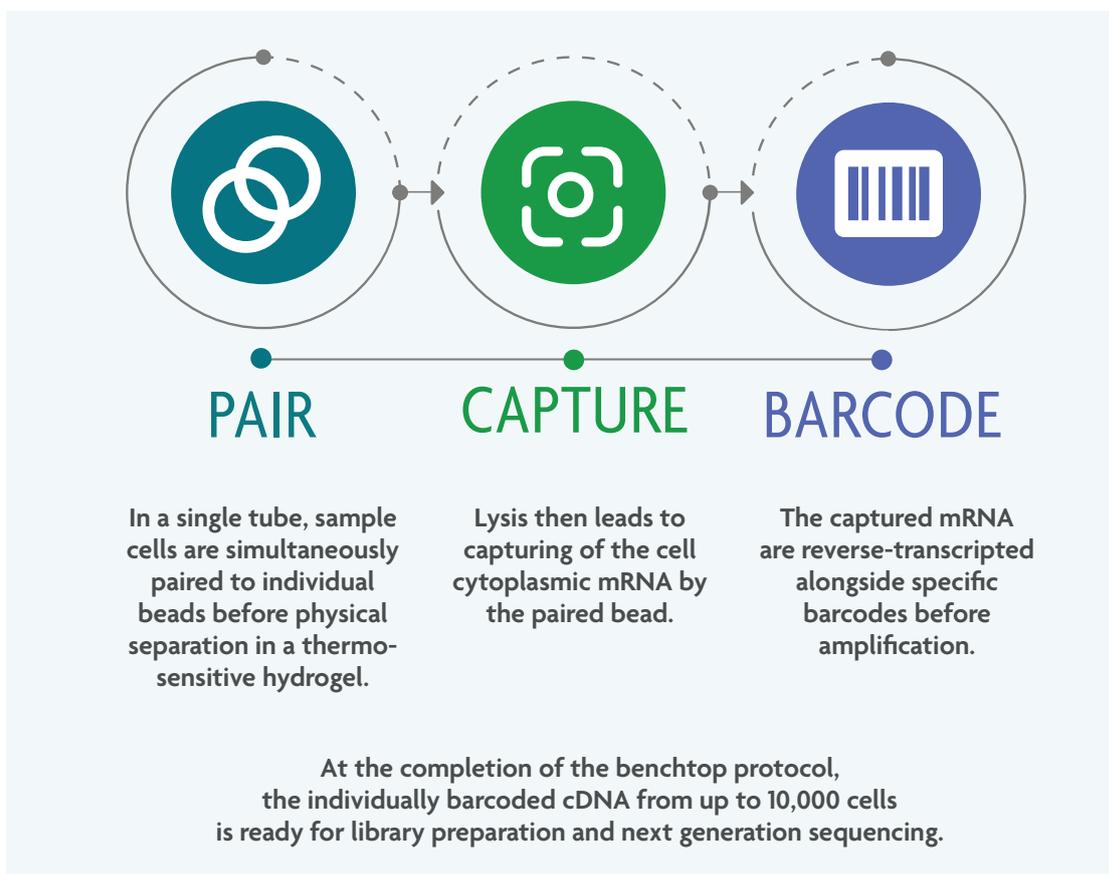
Only basic laboratory skills are needed to examine up to 10,000 cells simultaneously. Capture single-cell transcriptomes in two hours and freeze your samples. Resume the experiment the next day and obtain cDNA that is ready for library preparation by the end of the day. You can pause and store the sample at key intervals to preserve your cells' integrity and run your experiment at a time that works best for you.

*With physical isolation in reversible hydrogels, Scipio's single-cell sample preparation technology achieves direct single-cell barcoding to prepare samples for scRNA-seq on any sequencing platform.*



*The entire workflow can be done on the workbench with basic laboratory equipment.*

## Scipio's Novel Approach to Single-cell cDNA Preparation



*Experience large quantities of mRNA transcripts and high gene diversity with low multiplet rates to reveal high-fidelity cell subtypes quantification.*

## Single-cell Data Insights at your Fingertips with Cytonaut Cloud Software

*Powerful for a bioinformatician & intuitive for a biologist*



Scipio biosciences is the only company that provides a free, cloud-based software solution that supports both the biologist and bioinformatician throughout the single-cell data analysis workflow. Cytonaut Cloud Software performs end-to-end single-cell data analysis — including pre-processing, post-processing, and data visualization.

Determine the robustness of your data by checking dedicated quality indicators related to sample preparation, sequencing, and information retrieval.

Using tunable filtering parameters to get accurate statistical results, confidently identify clusters and sub-clusters of cell subtypes in your sample and analyze differential gene expression. Use our intuitive and interactive tools to easily generate publication-grade single-cell data visualizations. Delve deep with our sophisticated software or use our interoperable data export feature for further analysis with open source tools.

Ask questions and get answers in real-time. Use the power of Cytonaut to facilitate knowledge sharing and collaboration between biologists and bioinformaticians to speed up data synthesis and enable better outcomes. The software also supports public data sharing for collaborations and verification of published data.

The computational power is fully shouldered by our cloud-based infrastructure that is built with data encryption, user authentication, and the highest security standards. So there is no need for you to install software and burden your computational resources. Trust your sequencing data and your analysis to our robust quality control process and checkpoints. Run and analyze anytime with 24-hour online access to our secure software.

- o **Rely on our intuitive software** with the step-by-step guided experience and demo data designed for a fast learning curve for biologists new to single-cell data analysis
- o **Assess the robustness of your data** by checking dedicated quality indicators related to sequencing, sample preparation, and information retrieval
- o **Run and analyze anytime** with 24-hour online access to secure Cloud-based software to identify clusters and sub-clusters of cell subtypes and analyze differential gene expression
- o **Keep your data and results safe** thanks to substantial computing infrastructure engineered on Trusted Cloud Principles
- o **Dive deep into the rich data** with our sophisticated software or use the interoperable data export feature for analysis with open source tools
- o **Easily obtain publication-ready datasets and striking visuals** thanks to a powerful interactive visualization functionality with high parametrization
- o **Identify high-fidelity cell subtypes** and perform accurate transcript quantification

## Superior Science Leads to Superb Results

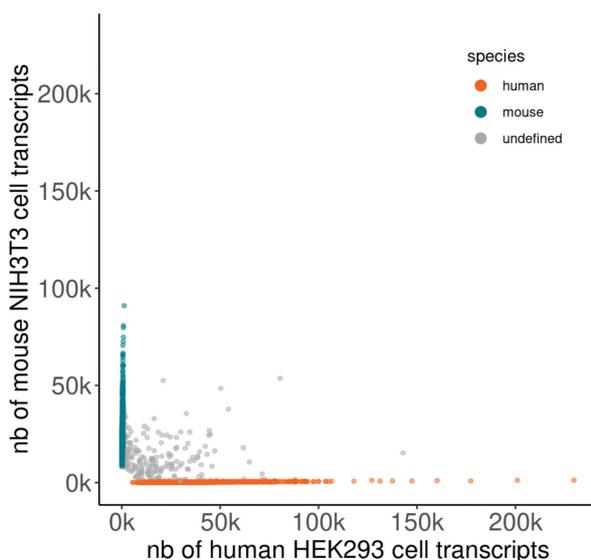
*From the kit to the software, we've engineered a high performance solution for all genomics labs*

### Large Quantities of mRNA Transcripts and High Gene Diversity

The Asteria™ Benchtop Kit delivers high mRNA capture rates and gene sensitivity. From a mixed sample of mouse NIH3T3/ human HEK293 cells profiled with Asteria and at a sequencing depth of 50,000 raw reads per cells, the median number of transcripts per cell is over 16,000 for human species and over 11,000 for mouse species, and the median number of genes per cell is over 5,000 for human species and over 4,000 for mouse species.

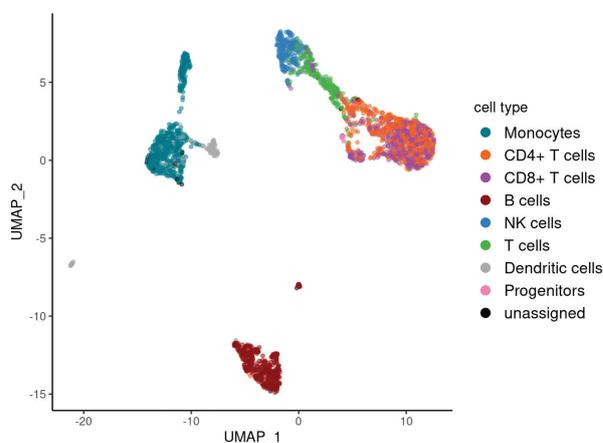
### Low Cell Multiplet Rates

The Asteria Kit generates an heterospecies multiplet rate below 3% on average. This Barnyard plot below displays a random subsampling of analyzed cells from a NIH3T3/HEK293 mix, with a sequencing depth of 50,000 raw reads/cell. Cell multiplets are defined as barcodes harboring less than 67% of transcripts from a single species, indicating that the bead was associated with more than one cell.



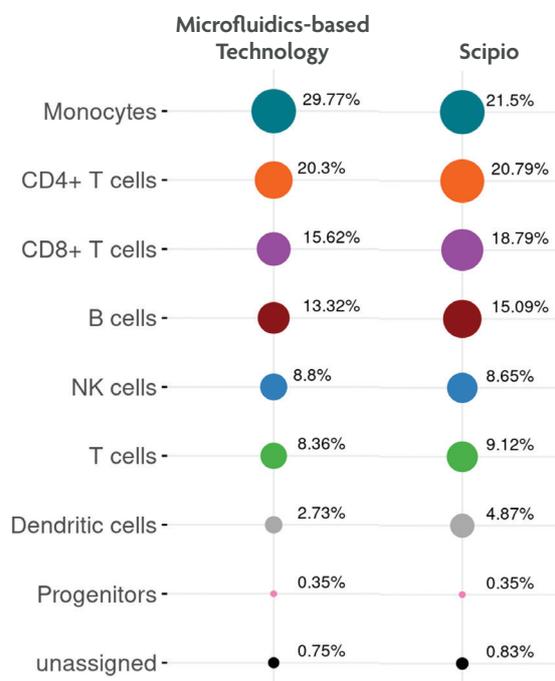
### Robust Cell Subtypes Identification

Cytonaut™ Cloud Software enables powerful clustering of cell (sub)types at high resolution. This UMAP (Uniform Manifold Approximation and Projection) graph below displays the results of the analysis of 10,000 input PBMCs (Peripheral Blood Mononuclear Cells).



### High-fidelity Cell Subtypes Quantification

The Asteria Kit identifies cell populations from human PBMC samples comparable to other single-cell approaches as shown in the chart below.



## Kit Components

- o Includes components to profile four samples of up to 10,000 cells each on your workbench
- o Regular stopping points to adapt to any schedule
- o Produces cDNA ready for library preparation

## Typical Performance

- o 14k unique mRNA transcripts per cell on average\*
- o 4.5k unique genes per cell on average\*
- o Heterospecies multiplet rate (instances of multiple cells on a single bead) < 3%\*

\* Data obtained from three independent duplicates of a mix of 10,000 NIH/HEK input cells.

## Order Now!

*To order catalog number 001-1000, please email us at [sales@scipio.bio](mailto:sales@scipio.bio). Or find our distributors at <https://scipio.bio/single-cell-distributors>*

*For technical support, please email us at [support@scipio.bio](mailto:support@scipio.bio)*

*Find more information on [www.scipio.bio](http://www.scipio.bio)*



### Scipio bioscience

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with single-cell profiling  
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