

Technical Information

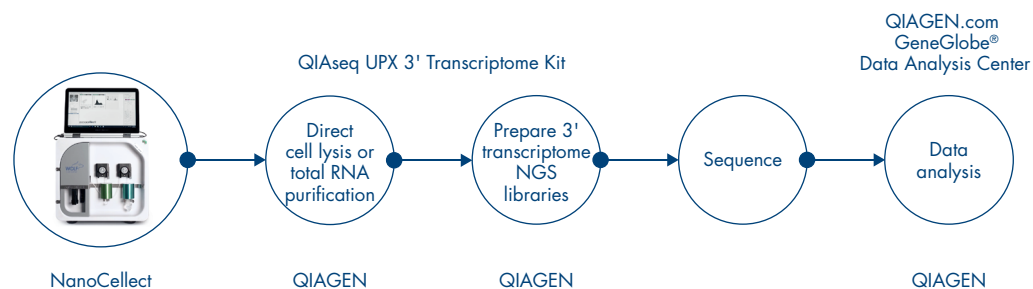
Single-cell transcriptomics: combining FACS with plate-based UPX RNA-seq

Single-cell analysis is often used to identify the number of different populations that exist within a bulk sample. Researchers may want to further identify sub-populations of specific cell types, or ask questions about a rare type of cell which must be enriched from a heterogeneous sample. Combining the power of FACS with RNA-seq allows researchers to link a particular type of cell to the underlying transcriptional state. A critical part in this experimental workflow is isolating single cells for downstream analysis using methods that do not affect biological processes or damage the cell, and thus alter gene expression analysis.

By combining the power of NanoCollect's WOLF® Cell Sorter with QIAGEN's QIAseq® UPX 3' Transcriptome Kit, you get a high-tech, synergistic Sample to Insight® workflow solution.

Innovative, optimized workflow to meet your daily NGS challenges

Starting with a suspended mixture of cells, the sample is loaded onto the WOLF Cell Sorter. Target cells are selected (based on 5 optical flow cytometry parameters) and then dispensed into 96-well QIAseq plates, which are pre-loaded with cell lysis buffer. Single cell RNAs are first reverse-transcribed and each RNA molecule is given a Unique Molecular Index (UMI) and assigned well-specific Cell IDs (up to 384 wells). Following reverse transcription with integrated template switching, all cDNAs are combined, enabling simplified, single-tube library construction. Together, the WOLF and the QIAseq UPX 3' Transcriptome Kit enable high-throughput next-generation sequencing (NGS) of polyadenylated RNAs from single cells on Illumina® sequencers.

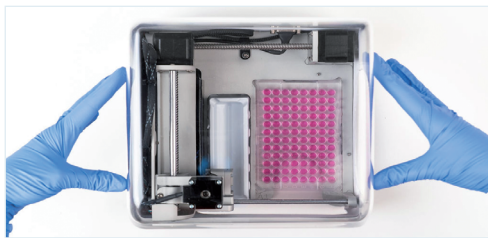




NanoCollect Wolf Cell Sorter.

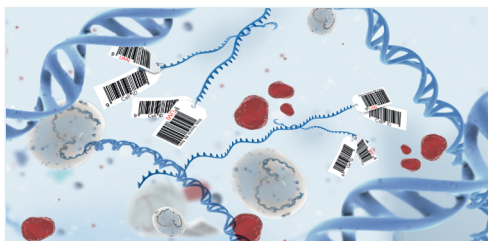
The WOLF Cell Sorter and N1 Single-Cell dispenser is an easy to use, aerosol-free, sterile and disposable system for selection and sorting of cells in bulk, or directly, into 96- or 384-well plates. The WOLF enables you to leverage the power of flow cytometry analysis to identify, gate and gently sort the desired cells into wells for downstream RNA-seq analysis.

- Healthy cells – at <2 psi, gentler than any conventional cell sorter, allowing for higher populations of healthy, sorted cells
- Contaminant and biohazard-free – disposable, microfluidic cartridges, and no dangerous aerosol exposure
- Easy to use – intuitive software, fixed optics, no fluidics cart, less than one minute clean-up time
- Flexible – at under 2 cubic feet, allows every lab the flexibility to do analysis and bulk or single-cell sorting



NanoCollect Wolf N1 Single Cell Dispenser (96-well plate).

- High viability – gentle sorting mechanism results in improved viability of cells
- Sterile microfluidics – no sample-to-sample contamination
- Single-cell efficiency – higher rates of singlet detection compared to cell printers or limiting dilution
- Small footprint – robust, portable, sterile and safe system for use in any lab



QIAGEN QIAseq UPX 3' Transcriptome single-cell technology.

The QIAseq UPX 3' Transcriptome Kit enables high-throughput 3' transcriptome NGS from ultralow amounts of RNA. The combination of cell IDs and sample IDs enables up to 18,432 libraries to be sequenced together, providing you with an innovative solution to your NGS challenges.

- Start with 1–1000 cells or 10 pg to 10 ng of isolated RNA
- LNA-enhanced chemistry for increased accuracy, specificity and sensitivity
- UMIs eliminate library amplification bias for accurate gene expression
- Includes cloud-based read alignment and single-cell or low-input analysis

Ordering Information



Product	Contents	Cat. no.
QIAseq UPX 3' Transcriptome Kit (96)	For 3' transcriptome library prep of 96 cells, cell pellets or ultralow input RNA samples	333088
QIAseq UPX 3' Transcriptome Kit (96-M)	For 3' transcriptome library prep of 4 x 96 cells, cell pellets or ultralow input RNA samples	333089
QIAseq UPX 3' Transcriptome Kit (384)	For 3' transcriptome library prep of 384 cells, cell pellets or ultralow input RNA samples	333090
QIAseq UPX 3' Trans. 12-Index (48)	For indexing up to 12 samples per sequencing lane on Illumina NGS instruments; multiple 96- or 384-well plates can be combined as one sample allowing for 12 x 96-well plates (1152 cells/wells) or 12 x 384-well plates (4608 cells/wells) per lane	333074

The QIAseq UPX 3' Transcriptome Kit is intended for molecular biology applications. This product is not intended for the diagnosis, prevention or treatment of a disease.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.



Product	Contents	Cat. no.
WOLF Cell Sorter	WOLF Cell Sorter, WOLFViewer software, configured PC, accessories, installation, training and 12 month warranty	517301-03
N1 Single Cell Dispenser	N1 Single Cell 96- and 384-well dispenser, installation, training and 12 month warranty	4510
Single Cell Cartridges	Single-Cell Dispensing, 20 pack, sterile	15035

NanoCelect's WOLF Cell Sorter is intended for molecular biology applications. This product is not intended for the diagnosis, prevention or treatment of a disease.

Product Information www.nanocelllect.com/wolf-cell-sorter | Website www.nanocelllect.com

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