



nCounter® Analysis System



Product Highlights

- **Strong analytical performance** - sensitive, precise, and quantitative
- **Single tube multiplexing** - up to 800 genes or regions
- **Ease-of-use** - fully automated, intuitive user interface
- **Flexible sample requirements** - small samples from a variety of sources, including FFPE
- **Quality assurance** - GMP compliant / ISO 13485 certified

Fully Automated, Multi-application System

The nCounter® Analysis System from NanoString offers a simple, cost-effective way to profile hundreds of mRNAs, microRNAs, or DNA targets simultaneously with high sensitivity and precision. The digital detection of target molecules and high levels of multiplexing eliminate the compromise between data quality and data quantity, producing gold-standard sensitivity and reproducibility for studies of hundreds of targets. The system uses molecular “barcodes” and single molecule imaging to detect and count hundreds of unique transcripts in a single reaction. Unlike other methods, the protocol does not include any amplification steps that might introduce bias to the results.

The nCounter Analysis System is an integrated system comprised of a fully-automated prep station, a digital analyzer, the CodeSet (molecular barcodes) and all of the reagents and consumables needed to perform the analysis. Analysis on the nCounter system consists of in-solution hybridization, post-hybridization processing, digital data acquisition, and normalization in one simple workflow. Easy-to-use touch screens provide simple instructions for each step of the automated process.

nCounter Reagents

CodeSets

Custom or pre-designed sets of barcoded probes pre-mixed with a comprehensive set of system controls.

Master Kit

Consumables and reagents for sample processing – ready-to-load, requiring no additional preparation.

nCounter Software

nSolver Analysis Software

Data analysis software program that offers nCounter users the ability to quickly and easily QC, normalize and analyze their data. Provides seamless integration and compatibility with other software packages designed for more complex analyses and visualizations.

Molecules That Count®

Translational Research • Gene Expression • miRNA Expression • Copy Number Variation

nCounter® Prep Station



The **nCounter Prep Station** is the automated liquid handling component of the nCounter Analysis System. It processes samples post hybridization in preparation for data collection on the nCounter Digital Analyzer. On the deck of the Prep Station, hybridized samples are purified and immobilized in a sample cartridge for data collection.

All consumable components and reagents required for sample processing on the Prep Station are provided in the nCounter Master Kit and are ready to load on the deck of the robot. Reagent preparation or dilutions are not required. The Prep Station can process up to 12 samples per run in less than 2.5 hours.

nCounter® Digital Analyzer



The **nCounter Digital Analyzer** collects data by taking magnified images of the immobilized fluorescent reporters with a CCD camera through a microscope objective lens. Hundreds of images are collected for each sample, yielding hundreds of thousands of target molecule counts per sample. Images are processed internally and the results are exported as a comma separated values (.csv) file that can be directly processed through the nSolver Analysis Software. Data collection takes under 15 minutes per sample enabling a complete cartridge of 12 samples to be processed in under 3 hours. Up to six cartridges can be loaded on the analyzer to process up to 72 samples unattended.

System Specifications

Specifications	Prep Station	Digital Analyzer
Operating temperature	18°C – 28°C	18°C – 28°C
Humidity	20 – 80% (non-condensing)	20 – 80% (non-condensing)
Pollution degree	2	2
Power source	100–240VAC, 50–60 Hz	100–240VAC, 50–60 Hz
Power draw	610VA	610VA
Dimensions	67 x 89 x 63 cm	66 x 66 x 48 cm
Weight	120 kg	57 kg
Warranty	1 year	1 year

System Performance

Description	Specifications
Level of multiplexing	Up to 800 nucleic acid targets per assay
Recommended amount of starting material	100ng of total RNA, or lysate from ~10,000 cells
Sample types supported	Total RNA, cell lysates in GITC, FFPE-derived total RNA, and PAXgene lysed whole blood
Reaction volume	30 µL
Limit of detection	0.5fM spike-in control
Fold change sensitivity	> 1.5 fold (> 5 copies per cell); > 2 fold change (> 1 copy per cell)
Spike correlation	R ² ≥ 0.95
Linear dynamic range	7 x 10 ⁵ total counts
Prep Station throughput	12 samples < 2.5 hours
Digital Analyzer thru-put	12 samples per 2.7 hours
Controls	6 positive and 8 negative in each reaction

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