NanoString nCounter Assays

Perfect for Characterization of Functional Genomic Landscape

nCOUNTER® ASSAYS

nCounter technology is ideal for a wide range of discovery and translational research applications, including gene expression analysis, tumor profiling, immune-oncology profiling, gene fusion analysis, single-cell gene expression analysis, miRNA expression analysis, copy number variation (CNV) analysis, lncRNA expression analysis, and ChIP-String expression analysis.

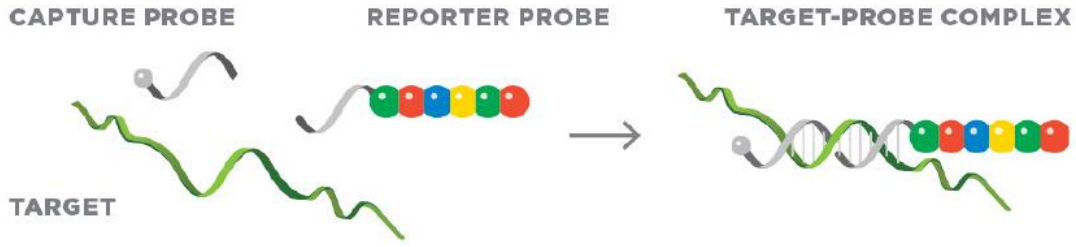
Multiple analytes can be profiled within a single experiment, allowing for maximum flexibility on projects where simultaneous digital detection of RNA, DNA, and protein is paramount.

nCounter assays make sample analysis a simple process by limiting experimental variables. This results in very precise and accurate measurements of gene expression, enabling to rapid data acquisition of targets of interest.

HOW IT WORKS

nCounter® technology is based on digital detection and direct molecular barcoding of individual target molecules using a unique probe pair for each target of interest.

Digital images are processed within a nCounter instrument and the Reporter Probe counts are tabulated in a CSV file for convenient data analysis with free nSolver™ Analysis Software or the application of choice.



CodeSet chemistry: capture and reporter probes bind to the target.

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Min Sample, Max Insight™

nCOUNTER ASSAY BENEFITS

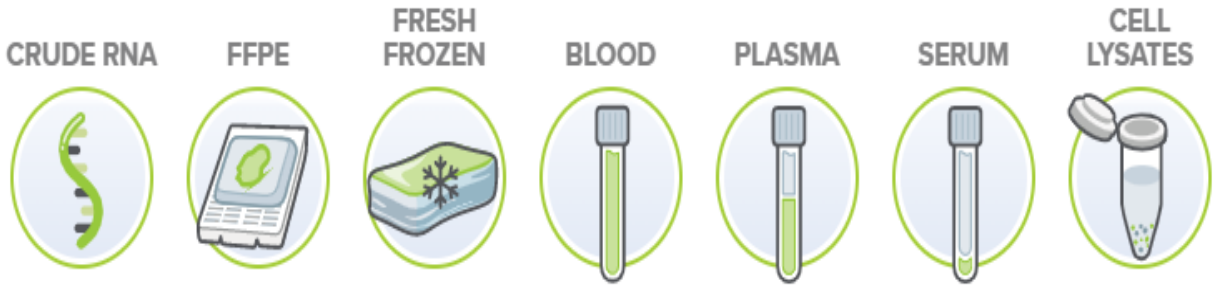
- ✓ Cost-effective automated solution for multiplex analysis of up to 800 targets (gene and protein)
- ✓ Ready-to-use expertly curated gene expression panels. Each multiplex panel contains up to 770 genes and can be customized by adding up to 55 additional unique targets.
- ✓ Flexibility: panels can be customized by adding extra targets
- ✓ Highly reproducible data requiring no amplification, cDNA conversion, library prep or technical replicates
- ✓ Fast sample prep: assays can be performed directly on cell lysates or tissue homogenates. RNA purification is optional
- ✓ Simple workflow with limited number of steps, improving the reliability of results
- ✓ Highly precise and accurate measurements of gene expression (miRNA, RNA, CNV)
- ✓ Streamlined data analysis with results in < 24 hours

BROAD SAMPLE COMPATIBILITY

- ✓ nCounter is compatible with most sample types, including even decades-old FFPE.
- ✓ It produces high quality data that would otherwise be difficult to produce with technologies that rely on high sample input.
- ✓ Consistent results can even be generated for longitudinal studies with a high degree of confidence on clinical-grade (often degraded) samples.

SAMPLE REQUIREMENTS

- ✓ Compatible with total RNA, FFPE, cell lysate, PBMC, plasma, serum, and more
- ✓ Low input material required: as little as 25 ng or 5000 cells
- ✓ Primer pools available for use with multi-target enrichment for low input material.



nCounter assay is compatible with most sample types

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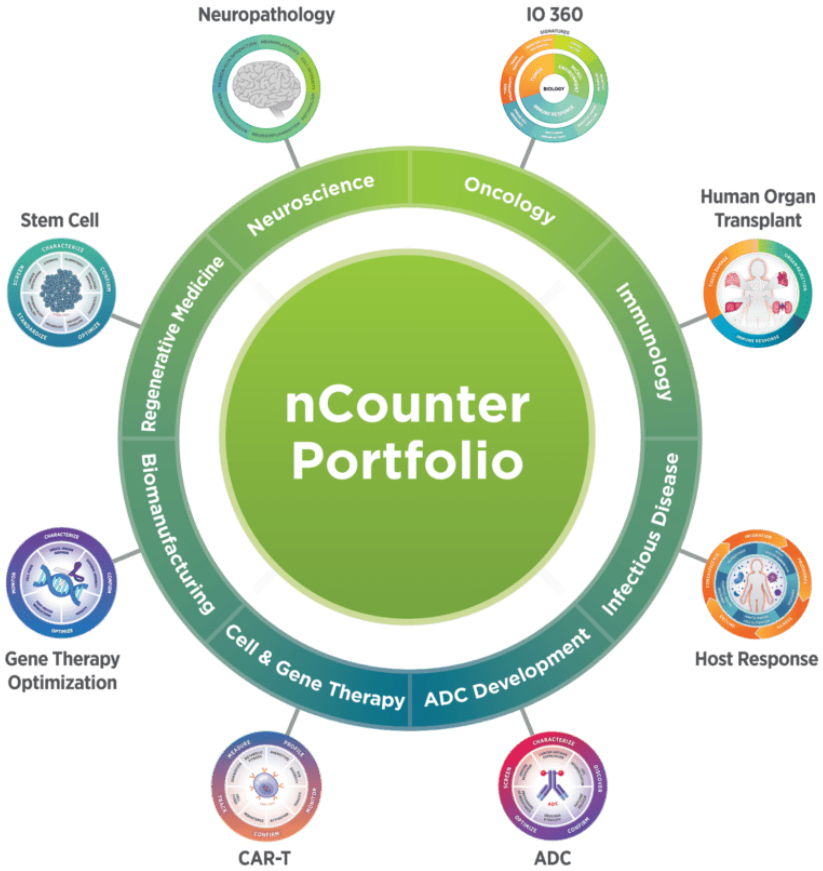
GENE EXPRESSION PROFILING WE CAN COUNT ON

READY-TO-USE GENE PANELS

Off-the-shelf gene expression panels cover a wide variety of biological pathways and research areas such as oncology, immunology and neurology, and are created with input from experts in the field and updated regularly.



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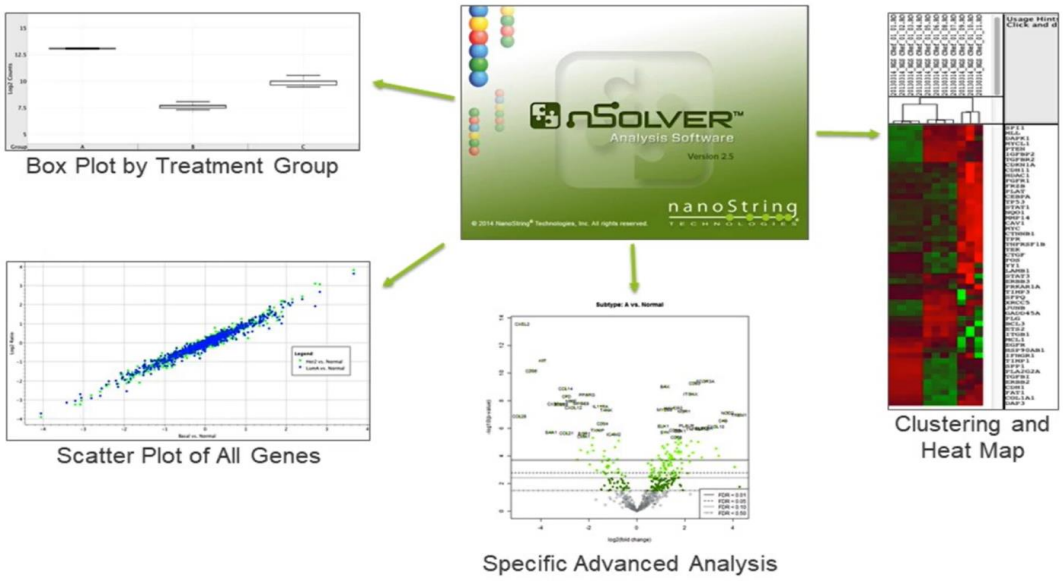
SIMPLE DATA PROCESSING

Digital Data Output: Simple Visualizations with nSolver



nCOUNTER PlexSet ASSAYS: Detection of up to 96 genes in 96 samples

- ✓ Accelerate cell line screening and high-throughput applications with nCounter PlexSet for Gene Expression Analysis. Generate 9,216 data points across 96 samples per run.
- ✓ Reduce hands-on time by eliminating the need for cDNA conversion, replicate utilization, or RNA purification
- ✓ This technology has widespread applications, such as cell screening, biomarker validation, drug screening, RNAi and CRISPR hit validation, and phenotypic functional testing
- ✓ Enables multiplexed gene expression assays to be performed more efficiently and cost-effectively for projects with up to 96 RNA targets
- ✓ Simple and robust method for multiplexing targets without the need to optimize probes or amplification conditions
- ✓ Expertly curated panels covering ~400 biological pathways and fields of interest for human, mouse, and rat samples
- ✓ All necessary controls and reference genes are included in each panel
- ✓ Provides excellent precision and reproducibility across a wide dynamic range
- ✓ Flexible PlexSet Design: customize by adding or omitting genes of interest
- ✓ Save resources with an efficient workflow: cheaper, does not require validation, and shorter turnaround time (~1/6th of qPCR)

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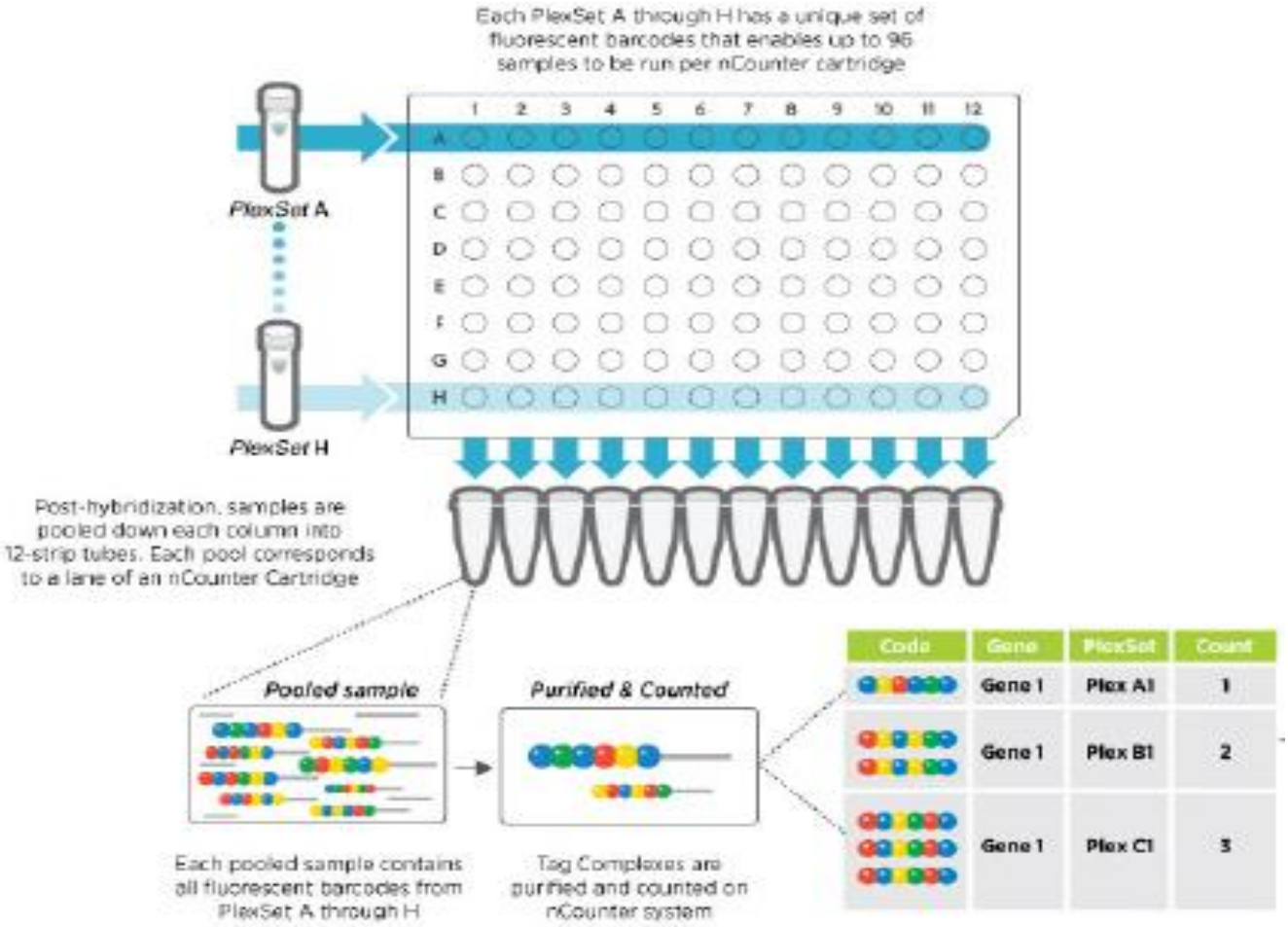

OUR NANOSTRING nCOUTNER SERVICE FEATURES

- ✓ State-of-art platforms: NanoString nCounter Prep Station and Analysis System, NanoString GeoMx DSP for spatial proteogenomics
- ✓ Large inventory of expertly curated ready-to-use gene expression panels: > 20,000 genes can be mixed to create pathway- and disease-themed panels; custom probes can be designed to any sequence
- ✓ Timely data delivery: 2-4 weeks or sooner- dependent upon receiving test samples
- ✓ 50+ years of accumulated experience: expert data analysis and interpretation, high quality scientific and technical support
- ✓ Optional tests on other exceptional platforms such as Luminex 200 and FlexMAP 3D, ABI QuantStudio, CytoFlex S, Simple Western, etc. for further confirmation

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- ✓ Sample processing available: protein and RNA extraction, RNA integrity and quality (IQ assay) assessment
- ✓ qPCR or QuantiGene array offered for validation of any gene of interest
- ✓ Library of > 4000 validated antibodies to examine samples at protein levels using quantitative automatic WB
- ✓ ~200 human cancer cell lines and many types of primary cells for testing drugs and biologicals for specific projects
- ✓ High throughput assays (96 and 384 -well formats) and highly reproducible data
- ✓ Flexible: we can quantify any gene / protein of interest; the assay layouts are custom designed so we can deliver data from as few or as many samples/replicates as needed

FEATURE	SPECIFICATION
Level of multiplexing	800+ targets
Recommended amount of starting material (dependent on assay and sample type)	RNA: 1ng-100ng DNA: 5ng-300ng
Sample types supported	Total RNA, cell lysates in GTIC, FFPE-derived total RNA and PAXgene-lysed whole blood
Reaction volume	Up to 30 µL
Limit of detection 0.5 fM spike-in control	15 zeptomole spike-in control in 15µL hybridization
Fold change sensitivity	> 1.5-fold (if > 5 copies per cell) >2-fold (if > 1 copy per cell) $R^2 > 0.95$
Spike in correlation	R^2 >0.95
Linearity	Linear regression correlation coefficient $R^2 > 0.95$
Linear dynamic range	6×10^5 total counts
Prep Station throughput	12 lanes per 2.5 hours*
Digital Analyzer throughput	12 samples per 2.7 hours
Controls	Assay dependent

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