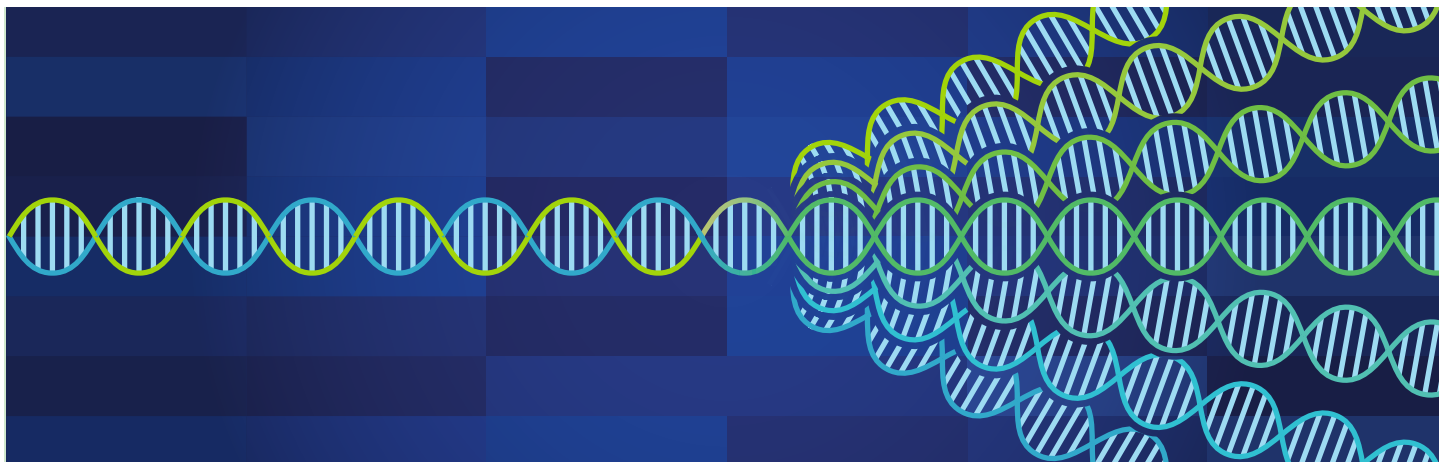




nCounter® Low RNA Input Kit



Discover More from Less Sample

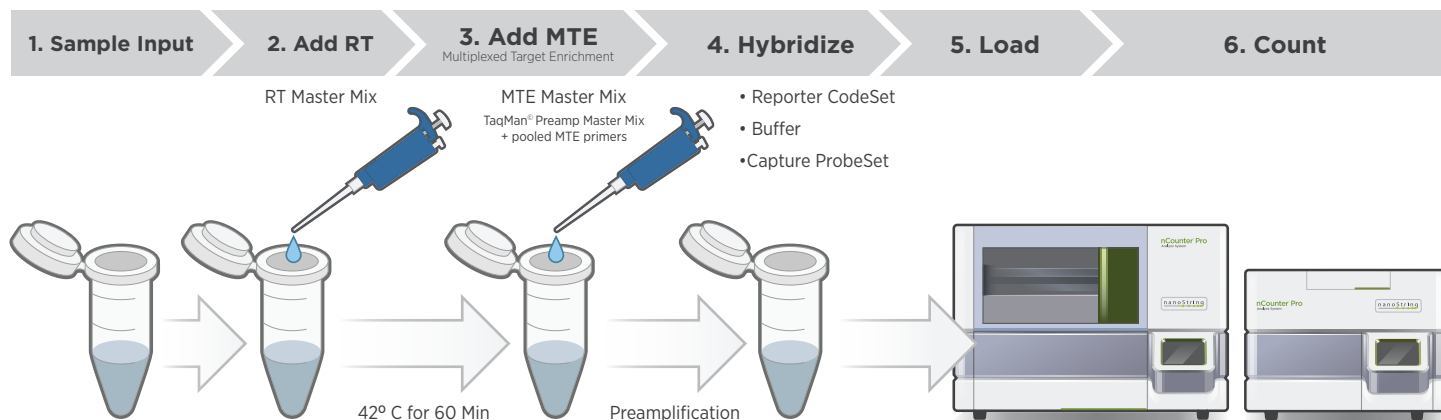
The nCounter Low RNA Input Kit enables high quality gene expression profiling of up to 800 gene targets from as little as 1 ng of sample. The kit is optimized for use with RNA from Formalin Fixed Paraffin Embedded (FFPE) tissue as well as crude cell lysates. Additionally, the kit can be utilized in the study of low expressing genes. The streamlined, user friendly workflow and reliable results enable gene expression studies of small samples or low expressing genes to be completed quickly and efficiently.

Product Highlights

- Perform gene expression analysis on up to 800-genes from as little as 1 ng of RNA
- Analyze FFPE & other degraded samples from as little as 1 ng of RNA
- Only 30 minutes of hands-on time
- The nCounter Low RNA Input kit increases nCounter sensitivity & enables detection of low expressing genes
- Primer pools are available for all nCounter Gene Expression Panels; Custom designs are available

Feature	Specifications
Minimum Input Material	1 ng Purified RNA (Fresh/Frozen), 1 ng (~100 cells) Cell Lysate, 10 ng Purified FFPE
Number of Samples	48 Reactions
Hands-on Time	30 minutes
Assay Time	2.5 Hours
Compatible Products	Pre-configured NanoString Gene Expression Panels with Custom Panel support

nCounter Low RNA Input Workflow



Streamlined Workflow

The Low RNA Input Kit enables researchers and laboratories with limited or low expressing samples to generate the same high-quality gene expression data of a typical NanoString assay using a fraction of the sample input. The Low RNA Input Kit provides an ultra-sensitive, reproducible method that utilizes single-tube, limited cycle PCR amplification to perform multiplexed target enrichment (MTE) of samples prior to nCounter hybridization. The workflow for 12 samples requires less than 30 minutes of hands-on time and can be completed in a few hours.

High Sensitivity with Linear Response

A Multiplexed Target Enrichment (MTE) step allows mRNA sample transcripts to be linearly amplified following a reverse transcription step.

A Multiplexed Target Enrichment (MTE) was performed with 800 primer pairs using 1 ng of either Human Reference or Brain Reference total RNA as sample input. Fold changes were calculated for all probes exhibiting significant detection and plotted against the fold changes observed in unamplified samples (100 ng) for the same genes after hybridization with nCounter GX probes. The data in Figure 2 shows the high level of correlation in fold changes between assays, demonstrating the simultaneous, unbiased amplification of hundreds of target transcripts and preservation of fold change information that the Low RNA Input Kit offers nCounter users.

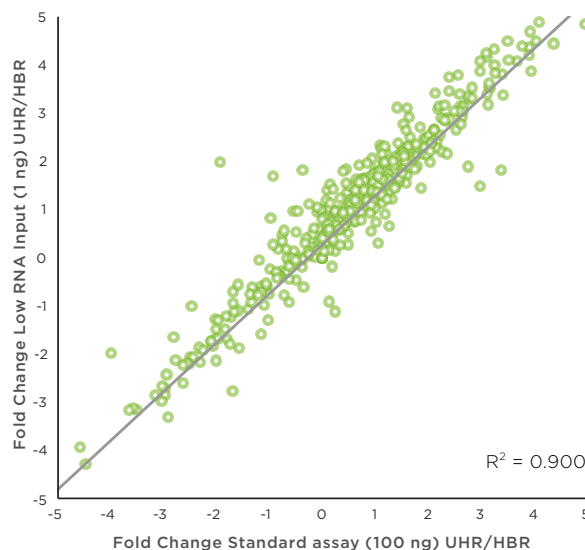
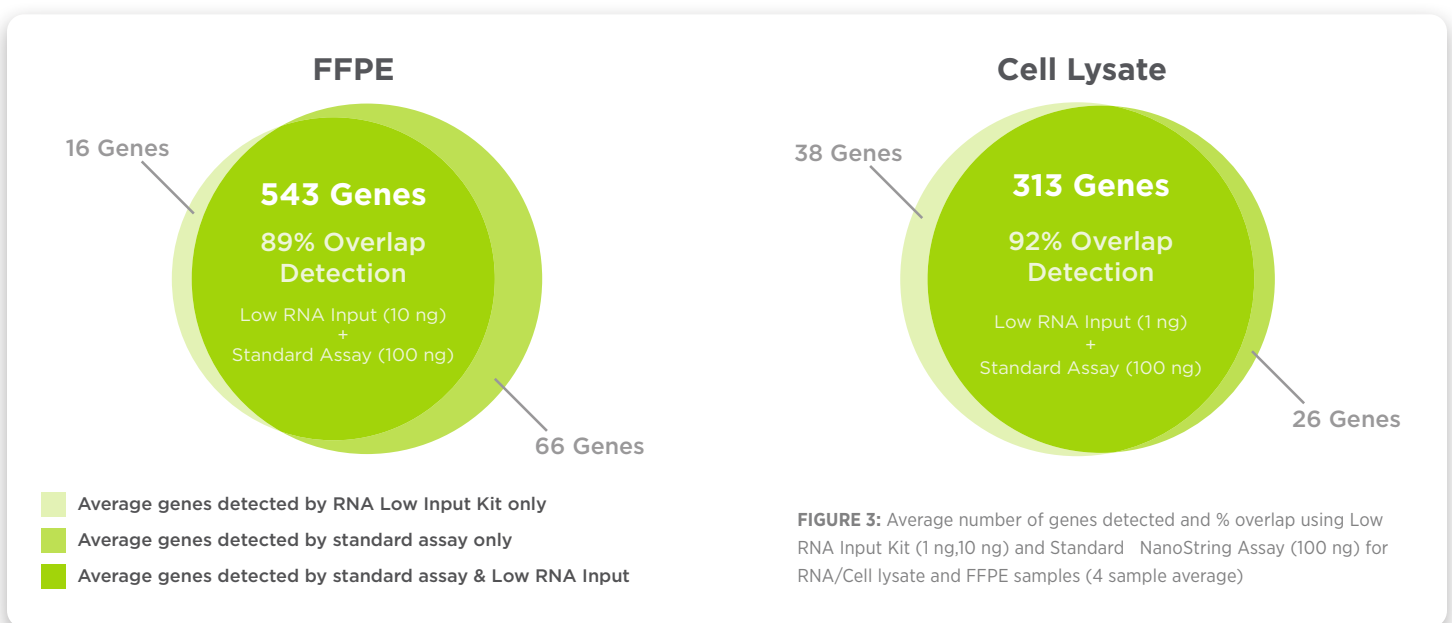


FIGURE 2: Gene Expression Fold Change of Low RNA Input Kit (1 ng with Pre-Amplification) vs. Standard NanoString Assay Input (100 ng, without pre-amplification)

Reliable Results from FFPE and Cell Lysates

The Low RNA Input Kit has been optimized to generate reliable results from challenging sample types including Formalin Fixed Paraffin Embedded (FFPE) tissue and crude cell lysates. The Low RNA Input Kit enables nCounter users to generate the high-quality data of a standard NanoString assay from less sample. To validate that the Low RNA Input Kit enables equivalent results at lower sample input amounts while increasing the ability to capture low expressing genes, 4 FFPE samples and 4 Cell Lysates were processed according to both the standard NanoString assay (100 ng cell lysate, 100 ng FFPE) and Low RNA Input Kit (1 ng cell lysate, 10 ng FFPE) protocols. The genes detected using 100 ng without pre-amplification were compared to the results using the Low RNA Input Kit and analyzed for concordance. Figure 3 demonstrates significant overlap in the genes detected in both the reduced sample inputs utilizing MTE and standard nCounter assay for both FFPE and lysates. Furthermore, the increased sensitivity to detect certain low expressing genes that without an MTE step may fall beneath the lower limit of detection using 100 ng and no pre-amplification is represented in the leftmost, light green portion of the Venn diagram.



Ordering Information

Type	Product Name	Product Description	Units	Catalog #
Low RNA Input Reagent Kit	Low RNA Input Kit	48 reactions kit for profiling from low sample input amounts	48 Reactions	LOW-RNA-48
Instrument Consumables for Use with Low RNA Input Kit	nCounter Analysis System Master Kit	Reagents, cartridges, and consumables necessary for sample processing on the nCounter Analysis System.	12 Reactions	NAA-AKIT-012
	nCounter SPRINT Cartridge	Sample Cartridge for nCounter SPRINT System	12 Reactions	SPRINT-CAR-1.0
	nCounter SPRINT Reagent Pack	nCounter SPRINT Reagent Pack containing Reagents A,B,C & Hybridization Buffer	192 Reactions	SPRINT-REAG-KIT

For more information, please visit nanosttring.com

NanoString Technologies, Inc.

530 Fairview Avenue North
Seattle, Washington 98109

T (888) 358-6266
F (206) 378-6288

nanosttring.com
info@nanosttring.com

Sales Contacts

United States us.sales@nanosttring.com
EMEA: europe.sales@nanosttring.com

Asia Pacific & Japan apac.sales@nanosttring.com
Other Regions info@nanosttring.com

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