

nCounter Vantage 3D RNA Panels

Vantage 3D RNA Panels are a collection of focused gene expression panels addressing specific topics of interest in the field of cancer research. Vantage 3D RNA Panels are designed for use with Vantage 3D Protein and SNV assays and include 192 genes per panel with the ability to add an additional 24 custom targets.

Panels include Adaptive Immunity, Cancer Metabolism, Heme, and more. For our complete list of TagSet RNA panels, visit [our Vantage 3D RNA Panels page](#).

nCounter Assay Overview

NanoString's 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 the nCounter instrument, and the Reporter Probe counts are tabulated in a comma separated value (CSV) format for convenient data analysis with NanoString's free nSolver™ Analysis Software or the application of your choice. nCounter technology makes lab work and sample analysis a simple process by limiting the variables in experiments. The result is very precise and accurate measurements of gene expression, enabling you to gather data on your targets of interest rapidly with minimal intervention.

nCounter TagSet Chemistry

NanoString's nCounter TagSet chemistry consists of target-specific oligonucleotide probe pairs, fluorescently-labeled specific Reporter Tags, and a biotinylated universal Capture Tag, collectively called a TagSet ([Figure 1](#)). nCounter TagSet Reporter Tags each have a unique pattern of six spots of color, creating fluorescent barcodes that can be individually resolved and counted during data collection.

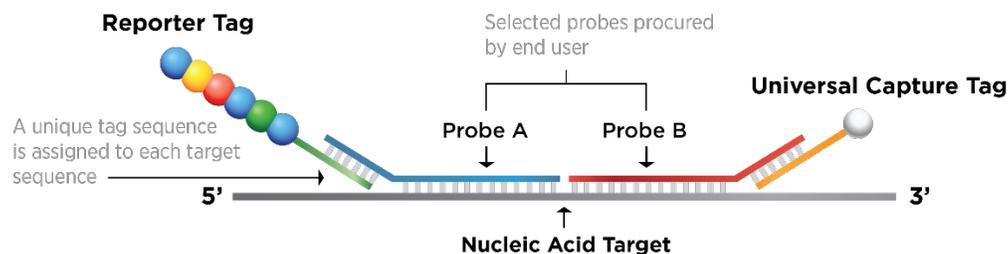


Figure 1. Oligonucleotide probes hybridize with Reporter and Capture Tags and the target nucleic acid to create a Tag Complex.

With TagSet chemistry, the specific Reporter Tags and universal Capture Tag hybridize to a pair of target-specific oligonucleotide probes, which in turn hybridize directly to the single-stranded RNA target. Probe A hybridizes to a specific Reporter Tag and the 5' region of the target nucleic acid sequence. Probe B hybridizes to the universal Capture Tag and the 3' region of the target nucleic acid sequence. Each complete structure—containing the target RNA, two oligonucleotide probes, and the Reporter and Capture Tags—is referred to as a Tag Complex.

Product Workflow

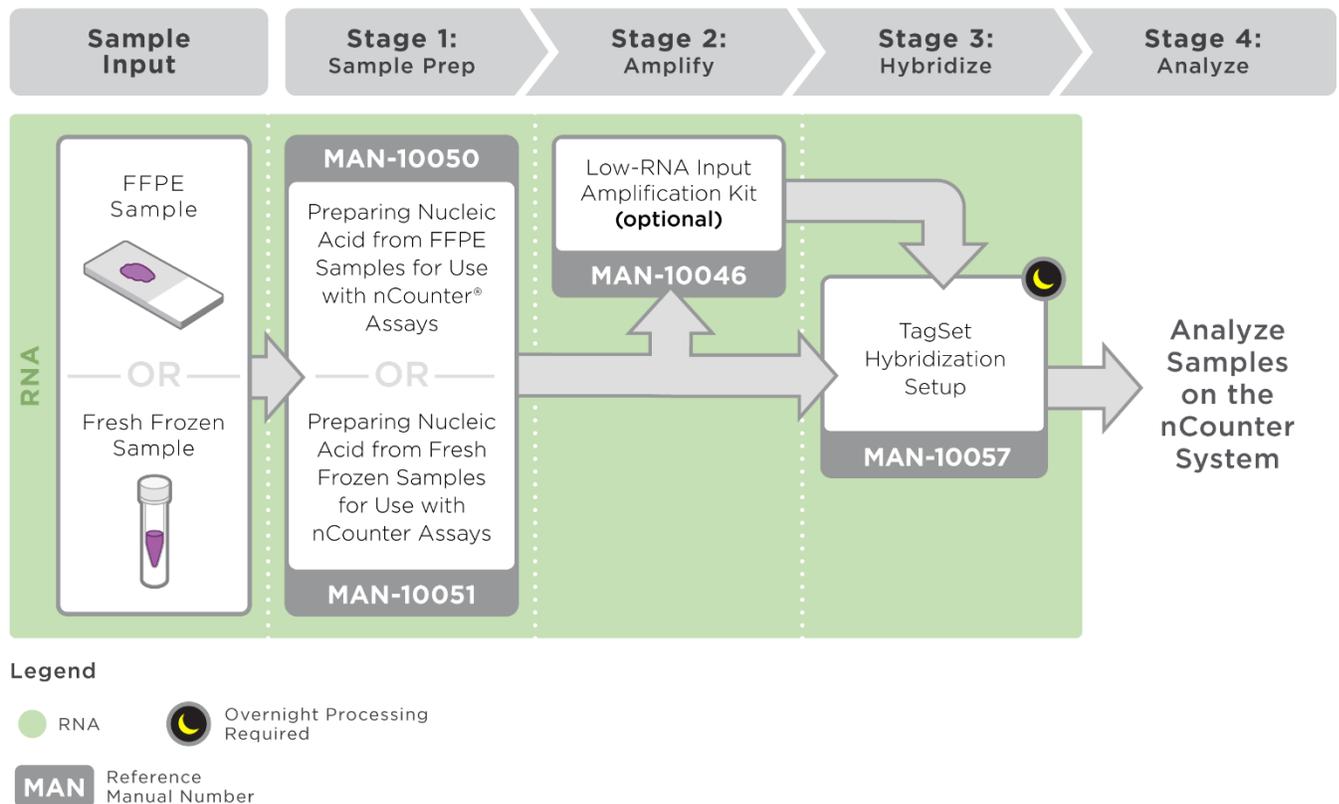


Figure 2. Workflow for the nCounter Vantage 3D RNA Panels

Materials and Supporting Documents

Table 1. Materials provided in an nCounter Vantage 3D RNA Panel

| Panel | Reagents | Storage |
|--|--|-------------------|
| nCounter Vantage 3D RNA Panel (TagSet chemistry) <ul style="list-style-type: none"> See our 3D RNA Panels page for panels and catalog numbers For custom panels, including different species, contact orders@nanosttring.com | XT-TagSet-192 | At or below -80°C |
| | Probe A pool (specific to the panel chosen) | At or below -80°C |
| | Probe B pool (specific to the panel chosen) | At or below -80°C |

NOTE: Please reference the manuals listed in Table 2 for additional required reagents not supplied by NanoString.

Table 2. Supporting Documents

| Step | Manual | Protocol |
|------------------------------|---------------------------|---|
| Nucleic Acid Extraction | MAN-10050 | Preparing Nucleic Acid from FFPE Samples for Use with nCounter Assays |
| | MAN-10051 | Preparing Nucleic Acid from Fresh Frozen Samples for Use with nCounter Assays |
| RNA Amplification (optional) | MAN-10046 | Low RNA Input Amplification Kit |
| Hybridization | MAN-10057 | TagSet Hybridization |

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