
nCounter Vantage 3D Gene Fusion Panels

nCounter Gene Fusion Panels provide a highly-multiplexed assay capable of simultaneously characterizing key fusion events and probes for imbalanced gene expression in a single tube. Combined with direct digital counting on the nCounter Analysis System and our patented probe design, the detection of multiple fusion genes is highly sensitive, quantitative, and easy.

- Save time and sample material with multiplexed gene fusion detection in a single tube.
- Detect rare fusions with highly specific probes designed using patented Junction Sequence technology.
- Ideal for use with challenging sample types including FFPE tissue.

Panels include Leukemia and Lung. For details, visit our [Vantage 3D Fusion 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 Fusion Chemistry

NanoString’s nCounter Fusion chemistry builds on our TagSet chemistry with the addition of a Protector Probe (Probe P). The Fusion chemistry consists of target-specific oligonucleotide Probe Pairs A and B, the Protector Probe, fluorescently-labeled specific Reporter Tags, and a biotinylated universal Capture Tag, collectively called a Fusion TagSet (Figure 1).

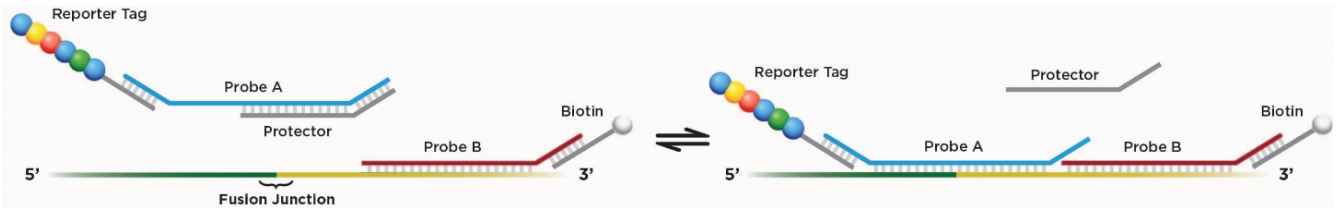


Figure 1. Junction probes span a unique fusion junction using toehold exchange technology for greater specificity. Fusion probes are designed to target the fusion genes, at the fusion junction, or 5’ or 3’ to the fusion. Probe A targets the fusion junction. Probe A recognizes both halves of the exon-exon junction and is made partially double-stranded by the addition of the Protector oligo to the hybridization mix to minimize off target hybridization. The Protector oligo, is complementary to a portion of Probe A, and allows for a new level of target specificity. This combination of Probe A and the Protector Probe (also called Probe P) is referred to as a Junction Probe.

Product Workflow

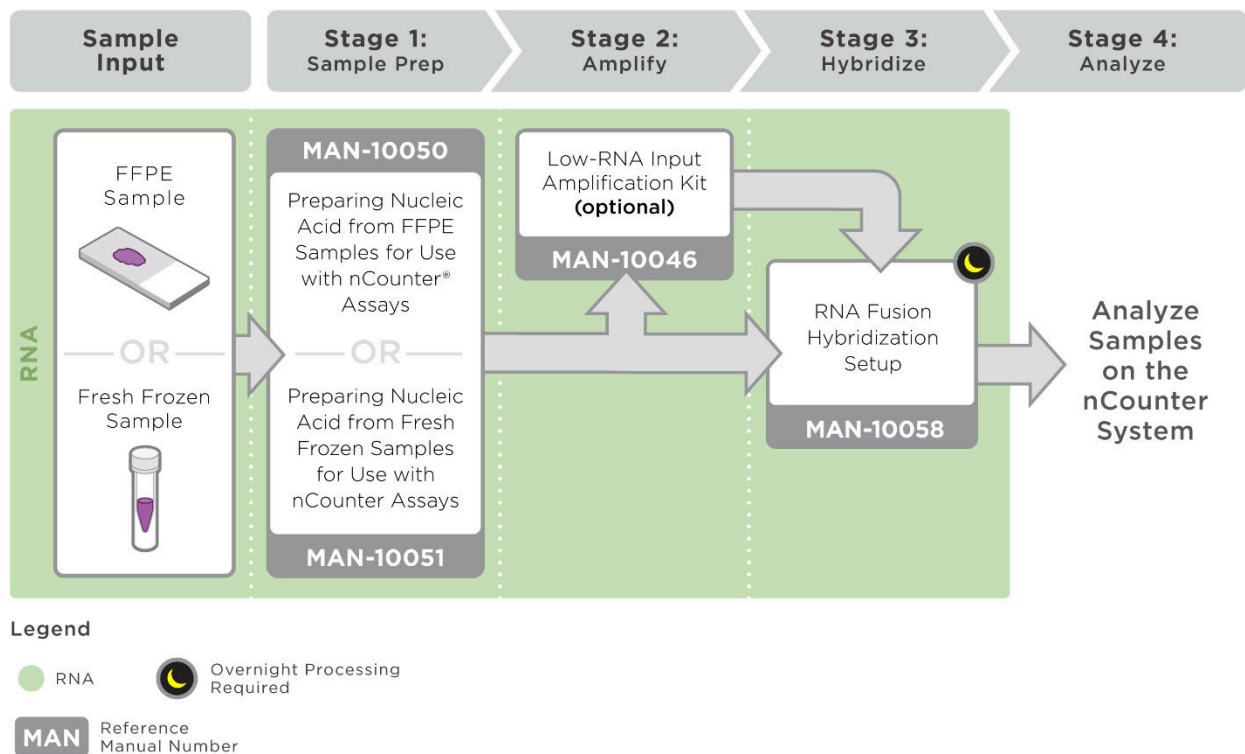


Figure 2. Workflow for the nCounter Vantage 3D Gene Fusion Panels

Materials and Supporting Documents

Table 1. Materials provided in a nCounter® Vantage 3D Gene Fusion Panel

Panel	Reagents	Storage
Vantage 3D Gene Fusion Panel • See our Gene Fusion Panels page for panels and catalog numbers	XT-TagSet-72 (Lung)	At or below -80°C
	-or-	
	XT-TagSet-48 (Leukemia)	At or below -80°C
	Probe A pool (Panel-specific)	At or below -80°C
	Probe B pool (Panel-specific)	At or below -80°C
	Probe P pool (Panel-specific)	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-10058	RNA Fusion Hybridization

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