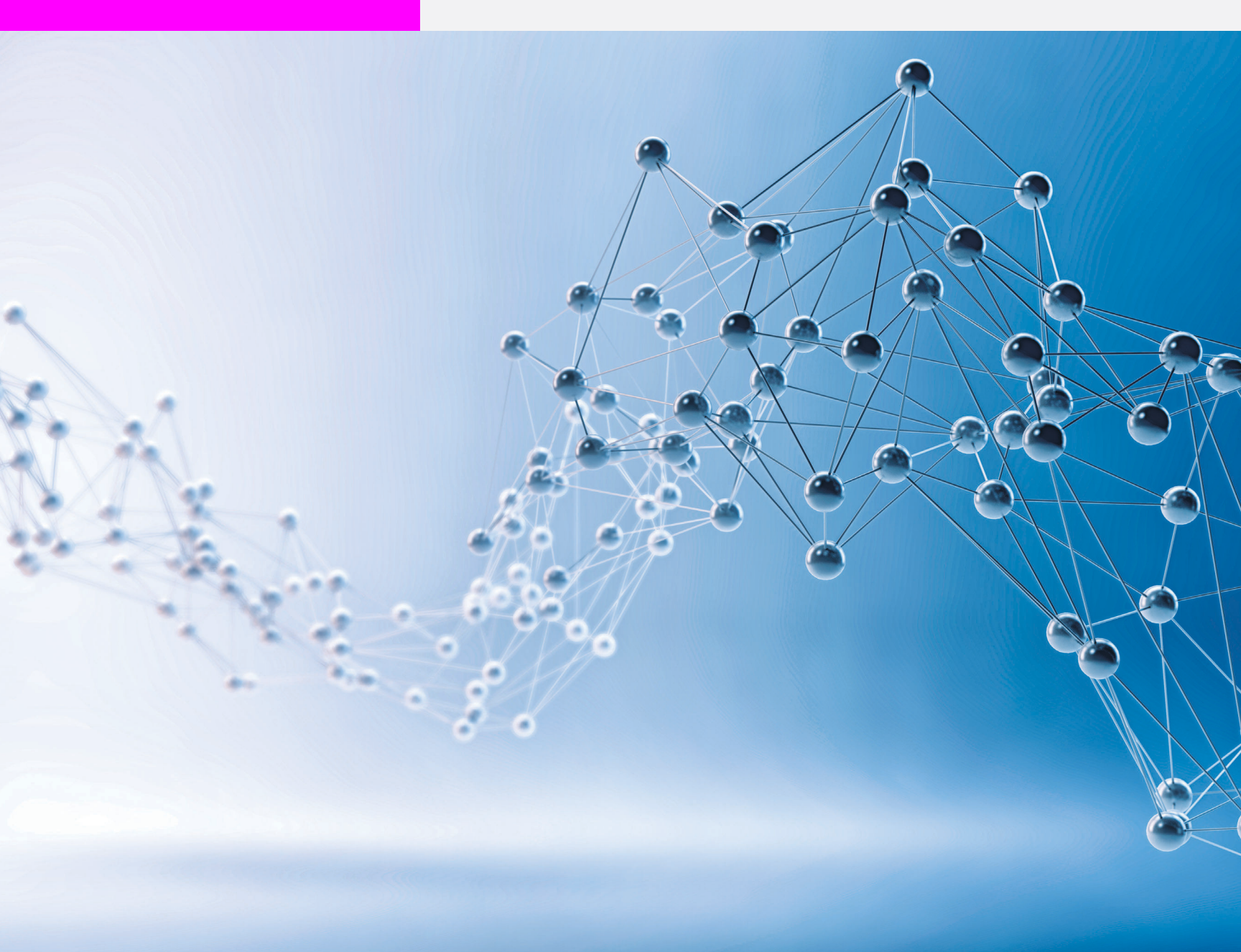


nCounter Vantage 3D[™] Portfolio

Small Sample. Big Insight.



nanosttring.com/3D

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

nanosttring[®]

Biology in **3D**Dimensions

NanoString is pioneering the field of 3D Biology to accelerate the rate of research and maximize the amount of information that can be generated from a given sample.

3D Biology is the ability to analyze combinations of RNA and protein simultaneously in a single experiment. Based on the NanoString digital barcode technology and designed for flexibility, NanoString's 3D Biology™ Technology, including the nCounter® Vantage 3D™ Portfolio of assays, provides a deeper view of cancer and immune biology and can be mixed and matched to answer a wide variety of biological questions.

Capture More Biology From Less Sample

nCounter® Vantage 3D™ Assays

3D BIOLOGY™ TECHNOLOGY OVERVIEW

Don't let sample volume limit your analytical aspirations. Quantify RNA and protein in a single assay to use less precious material and gather more informative data.

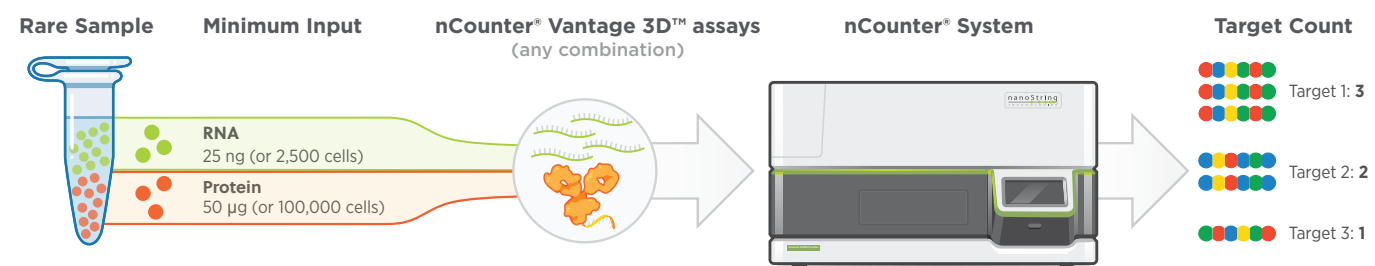


Based on the proven nCounter digital molecular barcoding technology, 3D Biology Technology simplifies your workflow and data analysis by comparing gene and protein expression in a single view. This approach eliminates the need for sequential testing and removes potential bias arising from splitting samples and merging data from different platforms, which allows for biological discrepancies between analytes to be directly identified. With the ability to multiplex up to 800 multi-analyte targets, 3D Biology Technology allows you to extract more data from your most valuable samples.

3D BIOLOGY WORKFLOW

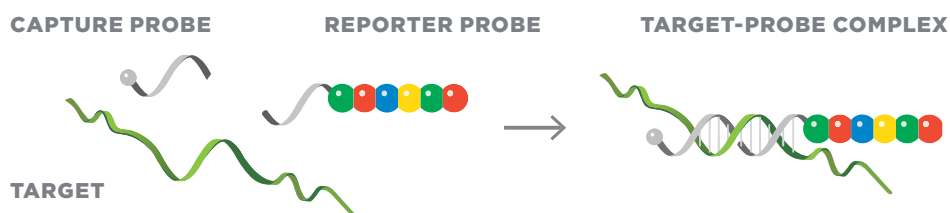
The nCounter Vantage 3D portfolio is designed for flexibility. Select the right targeted panels for each analyte type, and detect and analyze them all at once with the nCounter Analysis System and nSolver™ software.

RARE SAMPLE



Powered by Digital Barcode Technology

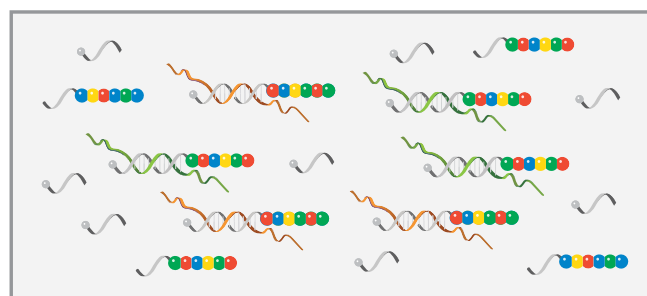
Each color-coded barcode represents a unique target. Barcodes hybridize directly to target molecules and can be individually counted without the need for amplification, providing sensitive digital data.



1 HYBRIDIZE

Probes hybridize directly to a target molecule in solution. The Reporter Probe carries the digital fluorescent barcode and the Capture Probe contains a biotin moiety that immobilizes the hybridized complex for data collection.

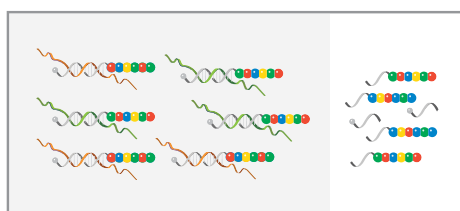
SOLUTION PHASE HYBRIDIZATION



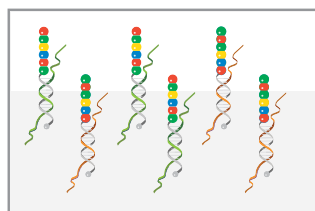
2 PURIFY + IMMOBILIZE

After hybridization, samples are transferred to an nCounter[®] instrument, which removes excess probes. Purified target-probe complexes are bound, immobilized, and aligned on the imaging surface of the nCounter cartridge.

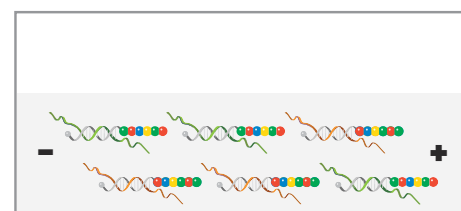
EXCESS PROBES REMOVED



HYBRIDIZED PROBES BIND TO CARTRIDGE



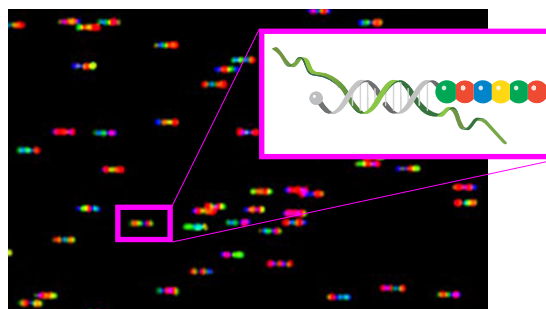
COMPLEXES ARE IMMOBILIZED AND ALIGNED ON CARTRIDGE



3 COUNT

Sample cartridges are scanned by an automated fluorescence microscope. Barcodes are counted for each target molecule, and the data are exported as a simple CSV file.

BARCODES COUNTED



The Promise of 3D Biology™ Technology

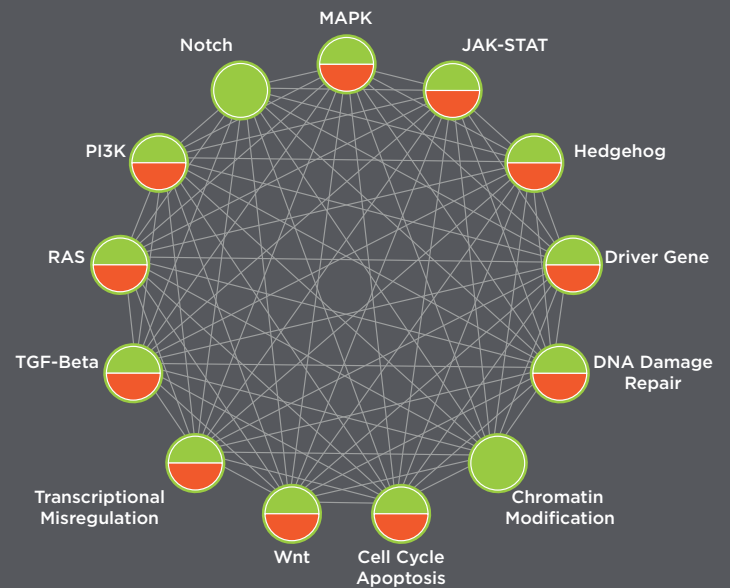
Solid Tumor Profiling

The nCounter® Vantage 3D™ Solid Tumor Assays are designed to provide a complete solid tumor profiling solution. With analysis for 770 RNA and 28 total and phospho-proteins, you can get comprehensive profiling from less sample.

Quantify protein and gene expression in one experiment with Vantage 3D RNA:Protein Solid Tumor panels for in-depth characterization of up to 800 total targets.

The RNA and protein content for solid tumor profiling was designed to be complementary and allow for comprehensive coverage of the canonical signaling pathways in solid tumor research (see right: Green = RNA, Orange = Protein).

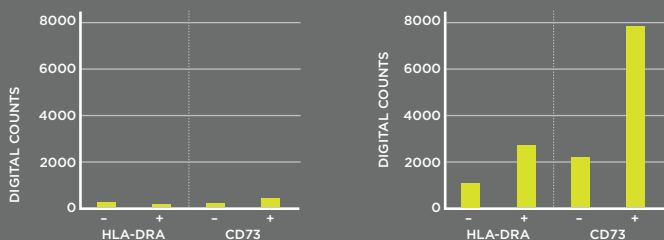
Vantage 3D Solid Tumor Assay Content



nCounter Vantage 3D RNA:Protein assays was used to monitor targeted drug therapy response on melanoma-derived cell-lines.

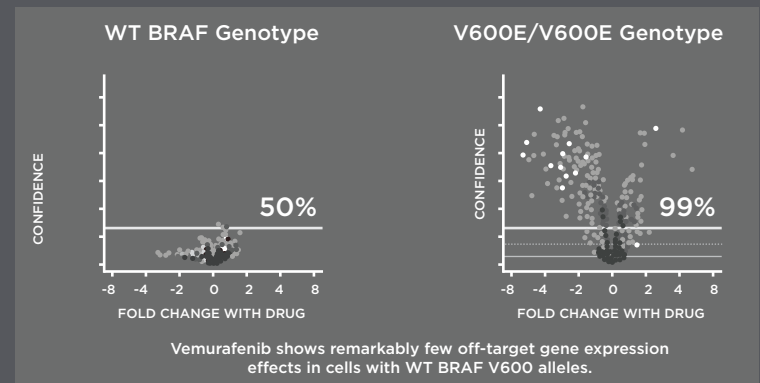
Drug response to Vemurafenib (+/- Trametinib) was most pronounced in the homozygous BRAF V600E cell line yielding significant changes in gene and protein expression. Changes included the tumor-survival promoting 5'-ectonucleotidase CD73, a candidate target to improve melanoma therapy and intracellular phosphorylation state changes consistent with the mechanism of action of therapeutic kinase inhibitors.

Protein Expression

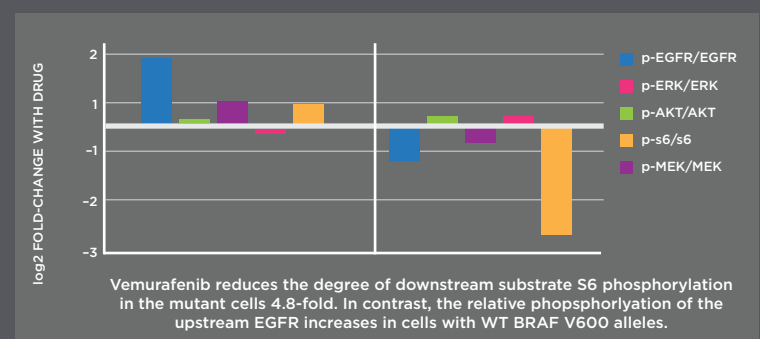


CD73, a cell-surface enzyme that is immunosuppressive, is upregulated in cells with mutant BRAF V600E alleles.

RNA Expression



Protein Phosphorylation

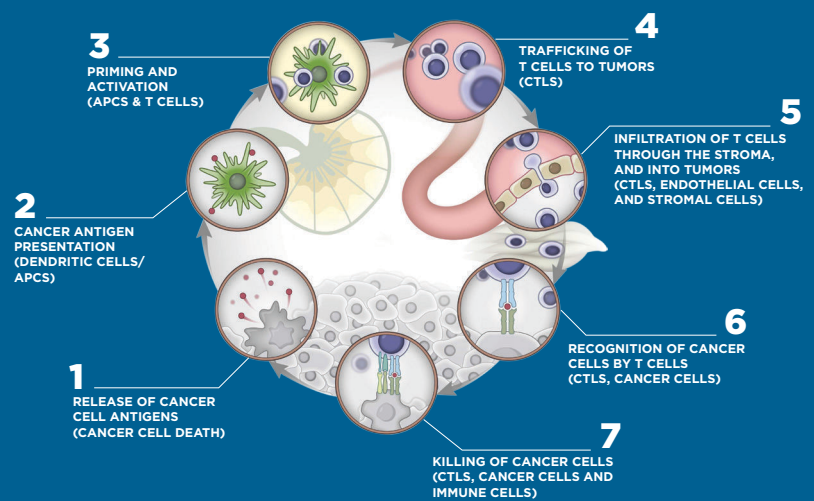


The Promise of 3D Biology™ Technology

Immuno-Oncology Profiling

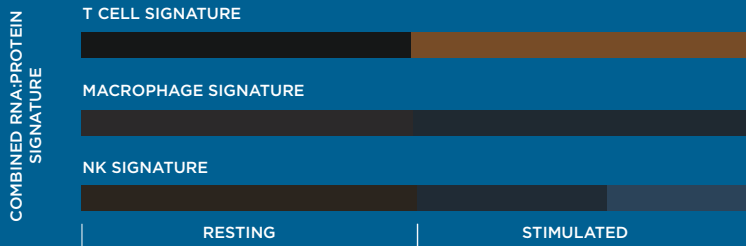
The nCounter® Vantage 3D™ RNA:Protein Immune Cell Profiling Assay combines our PanCancer Immune Profiling panel for RNA expression analysis with 30 key immuno-oncology protein targets and allows for direct measurement of RNA and protein expression using the nCounter system. By enabling a new way of looking at your targets and systems of interest, you can gain deeper insight into your immuno-oncology research.

STAGE OF CANCER IMMUNITY CYCLE	PROTEINS IN THE nCOUNTER VANTAGE 3D RNA:PROTEIN IMMUNE CELL PROFILING ASSAY
2 Antigen Presentation	CD4, CD40, CD154 (CD40L)
3 Priming and Activation	CD279 (PD-1), CD274 (PD-L1), CD273 (PD-L2), CD25 (IL2R) CD56 (NCAM), CD357 (GITR), CD137 (OX40), CD27, CD28, CD127, CD137 (4-1BB)
4 Trafficking & Infiltration	CD9
6 Recognition and Killing of Cancer Cells	CD279 (PD-1), CD274 (PD-L1), CD273 (PD-L2), CD272 (BTLA), HLA-DRA
Immune Modulation	CD279 (PD-1), CD278 (ICOS), CD158e1 (KIR3DL1), CD335 (NKp46), CD152 (CTLA-4), CD3 (CD3E), CD8 (CD8A), CD14, CD19, CD33, CD68, CD163

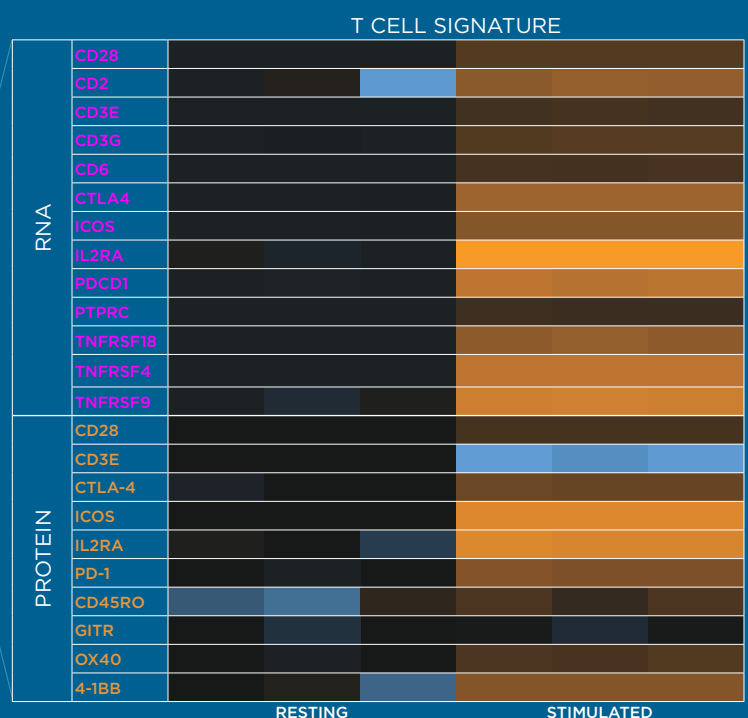


T CELL PROFILING

RNA:Protein signatures can accurately identify specific immune cell types, allowing you to uncover changes in a heterogeneous cell population in response to external stimuli, such as immunotherapeutic agents, for example. This assay is also compatible with 3D Flow™ Analysis for integrated multi-analyte profiling of rare FACS sorted populations.



PBMC from a healthy donor were stimulated with anti-CD3 and anti-CD28 for 3 days. Profiling RNA and protein expression uncovered specific T cell expansion in a mixed population.





3D BIOLOGY

RNA + Protein

**Learn how nCounter[®]
Vantage 3D[™] Assays can
impact your research**

nanosttring.com/3D

nCounter Vantage 3D Portfolio

Mix and match any combination of pre-validated RNA and Protein panels from below or select pre-matched assays. Each panel can also be run as a stand-alone assay so you can generate the data you need.

MIX AND MATCH

PRE-MATCHED

RNA PANELS	PROTEIN PANELS	UP TO 800-PLEX MULTI-ANALYTE ASSAYS
Adaptive Immunity	Immune Cell Profiling for cell suspensions	RNA:Protein Immune Cell Profiling for cell suspensions
Cancer Metabolism	Solid Tumor for lysate	RNA:Protein Solid Tumor for lysate
Cellular Profiling	Solid Tumor for FFPE	RNA:Protein Solid Tumor for FFPE
Cellular Signaling	Heme for Lysate	RNA:Protein Heme Tumor for lysate
DNA Damage and Repair	Heme for FFPE	RNA:Protein Heme Tumor for FFPE
Heme		
Innate Immunity		
MAPK-PI3K Pathways		
WNT Pathways		
Leukemia Gene Fusion		
Lung Gene Fusion		

NanoString Technologies, Inc.

530 Fairview Avenue North
Seattle, Washington 98109

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

nanostring.com
info@nanostring.com

Sales Contacts

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

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

FOR RESEARCH USE ONLY. Not for use in diagnostic procedures.

© 2017-2019 NanoString Technologies, Inc. All rights reserved NanoString, NanoString Technologies, the NanoString logo, nSolver, Vantage 3D, 3D Biology, and nCounter are trademarks or registered trademarks of NanoString Technologies, Inc., in the United States and/or other countries.

