NanoString® Contract Services

For Clinical Test Development

nanoString™

From sample to signature, faster

With ASCO® clinical guidelines[1] increasingly calling for multi-gene approaches to testing, production workflows must rely on accurate, reproducible measurements of multiple markers in a single assay. Additionally, the importance of RNA markers (Gene Expression Signatures and Fusion Gene Analysis) in precision medicine is becoming clear. NanoString's multiplexed, digital detection technology with direct hybridization reduces operator bias and minimizes spurious cross-hybridization reactions.

Contract Services expedites your biomarker development efforts. Develop and validate gene expression, gene fusion, and DNA copy number assays to support assay development using NanoString's nCounter® platform.

Each contract services engagement is tailored to the needs of individual customers.

Built for your lab: Accessibility. Convenience. Speed.

Services offered:

- **Reagent manufacturing:** Reagents built exactly to your specifications and clinical assay needs
- **Study design consultation:** Access to technical support as you prepare and conduct validation studies
- **Signature development:** Optimize your algorithms prior to analytical and clinical validation studies
- **Clinical report development:** Access to third party experts who can assist in customizing your clinical reports from nCounter data based on your unique assay specifications

Visit nanostring.com and contact us to begin your signature discovery today

[1]ASCO Clinical Practice Guidelines - www.asco.org/practice-guidelines/cancer-care-initiatives/genetics- toolkit/genetic-testing/panel-tests
* Covers the time taken to process and hybridize sample with extracted nucleic acid

Reproducible results from challenging samples

- **Reproducibility:** Highly reproducible results from run to run, operator to operator, and site to site
- **High sensitivity:** Observe small alterations in as little as 10% tumor sample for detection of critical oncogenic events
- **Sample compatibility:** Process FFPE, frozen tissue, or blood products
- **Dynamic range:** Consistently high levels of concordance between replicates for low and high expressors alike

Figure 1: High concordance from site-to-site and user-to-user
Correlation of NanoString expression data generated in Toronto versus that generated at the two international validation sites (Miami, USA and Geneva, Switzerland). r = Pearson correlation

Source: Northcott et al, "Rapid, reliable, and reproducible molecular sub-grouping of clinical medulloblastoma samples", Acta Neuropathol., 2012 Apr;123(4):615-26

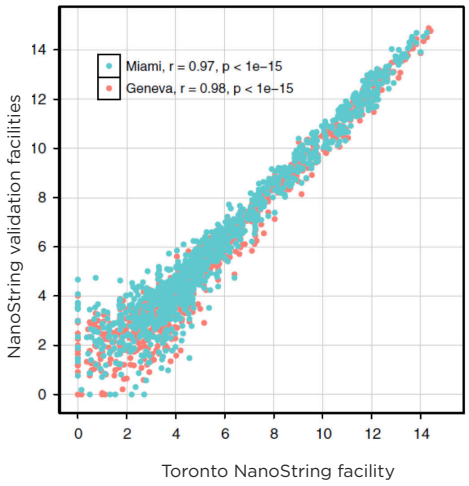


Figure 2: High Concordance between FFPE and Frozen Tissue
Counts from purified RNA extracted from FFPE human heart slices (green) and a crude lysate from the same FFPE human heart (orange) compared to total RNA from the same flash-frozen heart.

Source: NanoString Technical Note, "Sample Flexibility for Gene Expression Analysiswith the nCounter™ Analysis System"

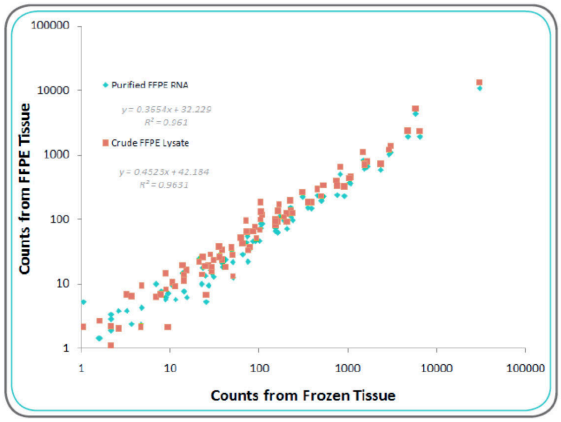
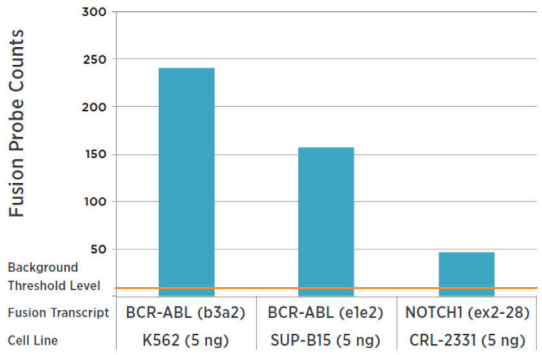


Figure 3: Detection of gene fusions in presence of 90% normal RNA
Probe counts of BCR-ABL and NOTCH1 transcripts from different cell lines at 5ng RNA. Internal NanoString data.



Fast, simple and robust workflows for production environments

- **Data in under 24 hours.** Three simple steps with only 15 minutes hands-on time for next day results
- **Maximum information per precious sample.** Capture all clinically relevant biology by multiplexing up to 800 targets
- **Intuitive data analysis and access to expertise.** Our free nSolver™ software enables do-it-yourself analysis without the need for bioinformatics. Our in-house experts in test development can assist with structuring your validation studies for peace of mind.

	1	2	3
	Hybridization	**Sample Processing**	**Digital Data Acquisition**
Only 15 Minutes of Total Hands-on Time			
Process	**Set Up Hybridization** Add buffer, CodeSet, and sample into a strip tube and hybridize overnight.	**Set Up Prep Station** Place the strip tube into the automated **nCounter Prep Station** with reagents and consumables from the nCounter Master Kit.	**Set Up Digital Analyzer** Take the cartridge from the nCounter Prep Station and place it into the **nCounter Digital Analyzer** for direct digital counting.
Hands-on Time	5 minutes	5 minutes	5 minutes
	Day 1	**Day 2** (automated)	**Day 2** (automated)

Customer Testimonials

What distinguishes the NanoString nCounter® platform from other alternatives?

"NanoString technology has distinct advantages relative to other genetic testing platforms. In lung cancer, we have now several oncogenes with potential for targeted inhibition and multiplex platforms are strongly recommended. However, major related limitations are the high tissue requirements and the delayed turnarounds of more than two weeks. The nCounter platform might circumvent all these boundaries by requiring lower genomic inputs, allowing for multiplex detection but with short response time. In sum, I would be very pleased to have one single technology to cover all genomic requirements."

Noemi Reguart - *Consultant Pathologist, University Clinic Barcelona*

How do you think NanoString technology will change the work that you do?

"Our fusion assay has already significantly changed our molecular diagnostic approach to sarcomas, and we believe it will replace the need for FISH in >90% of sarcoma cases. In addition, as the assay also covers rare fusion variants for which FISH assays are not available, we have already identified diagnostic fusion genes in sarcoma cases where current molecular testing would not have been able to identify the fusion."

Tony Ng - *Consultant Pathologist, Vancouver General Hospital*

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