



The Cancer Genome Atlas (TCGA) Study Supports Power of Subtyping Breast Cancer by PAM50

Online Publication in Journal Nature Shows PAM50 Potentially Simplifies Underlying Tumor Biology

SEATTLE – Sept. 24, 2012 –On September 23, researchers published online in the journal *Nature* a [study](#) of the molecular biology of breast cancer, using the intrinsic subtypes as defined by the PAM50 gene signature as an organizing framework for analyzing genomic and proteomic aberrations. This landmark study both underscores the emergence of the intrinsic subtypes as a powerful taxonomy of breast cancer in research, and PAM50’s role as the gold standard for categorizing breast cancer by subtype.

This study, titled *Comprehensive molecular portraits of human breast tumours*, represents the most complete description of breast cancer biology to date. The study was an outcome of The Cancer Genome Atlas (TCGA) Initiative, a comprehensive and coordinated effort to accelerate our understanding of the molecular basis of cancer through the application of genome analysis technologies. The study involved the analysis of tissue from 800 breast cancer tumors by a total of six technology platforms, covering genomics, epigenetics, and proteomics.

Intrinsic subtype by PAM50 was used as a primary organizing framework for the analysis and presentation of the data. The research concluded that diverse genetic and epigenetic alterations converge phenotypically into the four main breast cancer subtypes defined by PAM50 – Luminal A, Luminal B, HER2-enriched, and Basal-like.

NanoString Technologies, Inc., a privately held provider of life science tools for translational research and developer of molecular diagnostics, is developing a PAM50-based *in vitro* diagnostic test for breast cancer. NanoString announced in December 2010 that it had secured an exclusive worldwide license for the PAM50 gene signature from Bioclassifier, LLC to develop *in vitro* diagnostic and research products for breast cancer on its nCounter® Analysis System.

“This research advances our understanding of the molecular architecture of breast cancer, and reinforces the emergence of intrinsic subtypes by PAM50 as a powerful description of breast cancer biology,” said NanoString President & CEO Brad Gray. “We congratulate the authors on this seminal contribution to our understanding of breast cancer, and look forward to the day when analysis of breast cancer tumors by PAM50 will be available to patients worldwide.”

The nCounter Analysis System is a fully automated, multi-application digital detection and counting system with a very simple workflow currently intended for research use only. The nCounter system has been employed in basic and translational research since it was first introduced in 2008. NanoString provides assays for gene expression, miRNA analysis and copy number variation.

Press Release

About NanoString Technologies, Inc.

NanoString Technologies is a privately held provider of life science tools for translational research and developer of molecular diagnostics. The company's nCounter Analysis System is the first and only technology platform to deliver highly multiplexed, direct profiling of individual molecules in a single reaction without amplification. The nCounter Analysis System offers a cost-effective way to easily profile hundreds of gene transcripts, copy number variations, or miRNAs simultaneously with high sensitivity and precision. The company's technology enables a wide variety of basic research and translational medicine applications, including biomarker discovery and validation. NanoString is also developing the technology for use in molecular diagnostics.

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