nanoString®

Breast
## Breast Cancer

Study Purpose

In this breast cancer study, the GeoMx Human Whole Transcriptome Atlas was used to profile the tumor vasculature and normal vasculature in adjacent surrounding non-tumor tissues. CD31, a marker for vascular differentiation, was used to guide region of interest (ROI) selection to enrich for vasculature. Differential expression analysis between tumor tissue and normal tissue revealed differences in the biology of the vasculature in the tumor versus the surrounding tissue.

Study Summary

Sample Type	FFPE
Species	Human
AOI* Strategy	Cell-type specific
Assay	Human Whole Transcriptome Atlas
Morphology Markers	Pan-Cytokeratin (PanCK), SMA, CD31, DNA
Targets Detected	12,009 targets
Application	Pathway analysis

PanCK SMA CD31 DNA

Adjacent normal tissue

Tumor

Segmentation Strategy
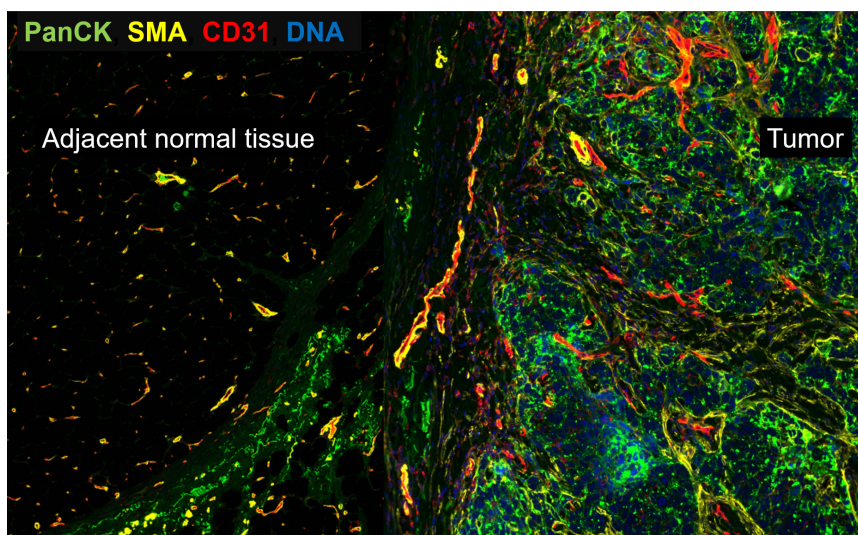
(A) Tumor vasculature

(B) Normal vasculature
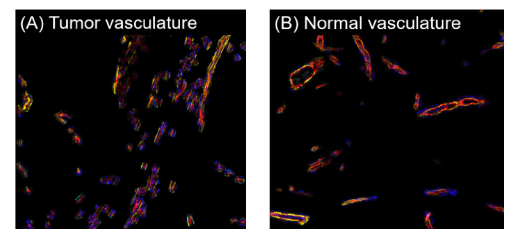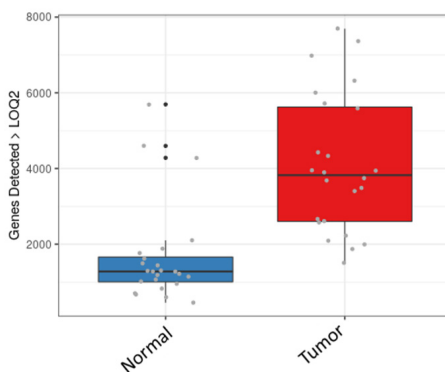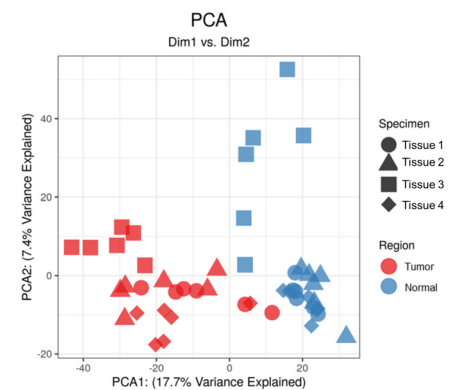
Legend

CD31 is a marker for endothelial cells and vascular differentiation. In this study, vasculatures from tumor (A) and normal (B) regions were segmented using CD31 fluorecent staining.

Legend

Left:
The number of targets detected above the background (LOQ2*) by AOI groups.

Right:
Principal component analysis (PCA) plot.

*AOI = Area of Illumination

Acknowledgement: We sincerely thank Drs. Laura Bray and Akhilandeshwari Ravichandran from Queensland University of Technology for sharing these images.

For more information, please visit   https://nanostring.com/geomx-morphology-markers/