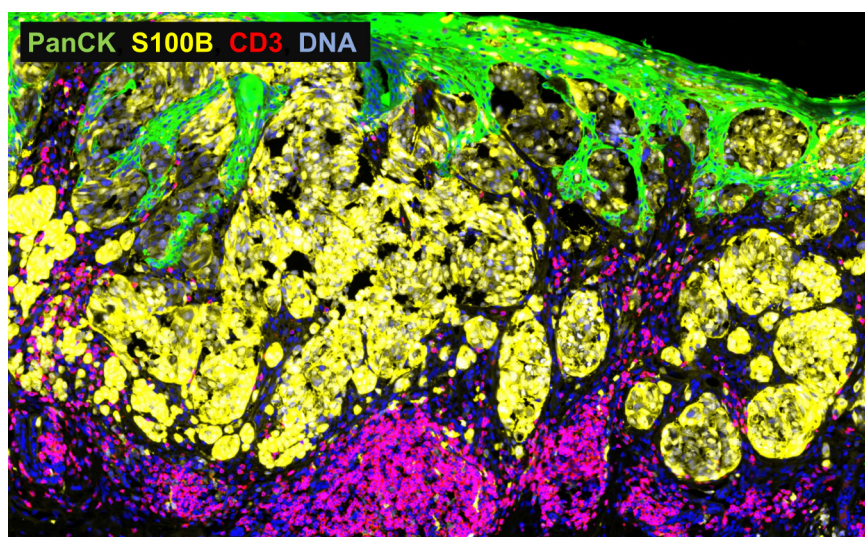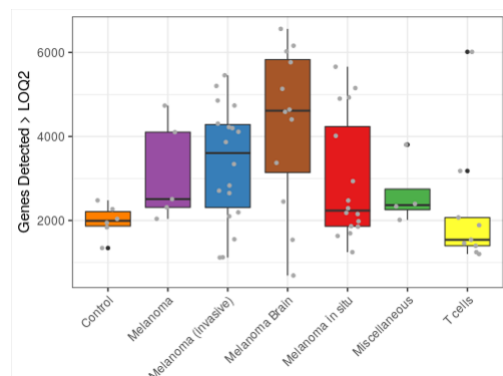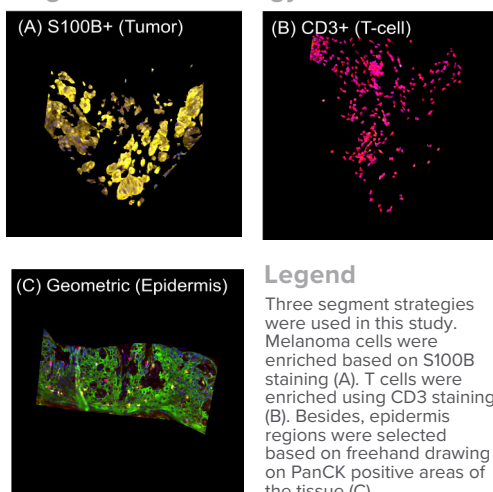nanoString®

Skin
Melanoma

Study Purpose

S100B is a clinical biomarker for melanoma staging and prognosis. In this study, clinical specimens from different stages of melanoma were profiled using the GeoMx Human Whole Transcriptome Atlas. Tumor regions and T cells were segmented based on S100B and CD3 fluorescent staining, respectively, and epidermis regions were selected by freehand drawing. Differential gene expression analysis and pathway analysis were used to study the different stages of melanoma progression.

Study Summary

Sample Type	FFPE
Species	Human
AOI* Strategy	Geometric, Cell-type specific
Assay	Human Whole Transcriptome Atlas
Morphology Markers	Pan-Cytokeratin (PanCK), S100B, CD3, DNA
Targets Detected	10,590 targets
Application	Biomarker discovery

PanCK S100B CD3 DNA

Segmentation Strategy

(A) S100B+ (Tumor)

(B) CD3+ (T-cell)

(C) Geometric (Epidermis)

Legend

Three segment strategies were used in this study. Melanoma cells were enriched based on S100B staining (A). T cells were enriched using CD3 staining (B). Besides, epidermis regions were selected based on freehand drawing on PanCK positive areas of the tissue (C).

Legend

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

*AOI = Area of Illumination

Acknowledgement: We sincerely thank Dr. Mitchell Stark from the University of Queensland Diamantina Institute for sharing these images.

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