

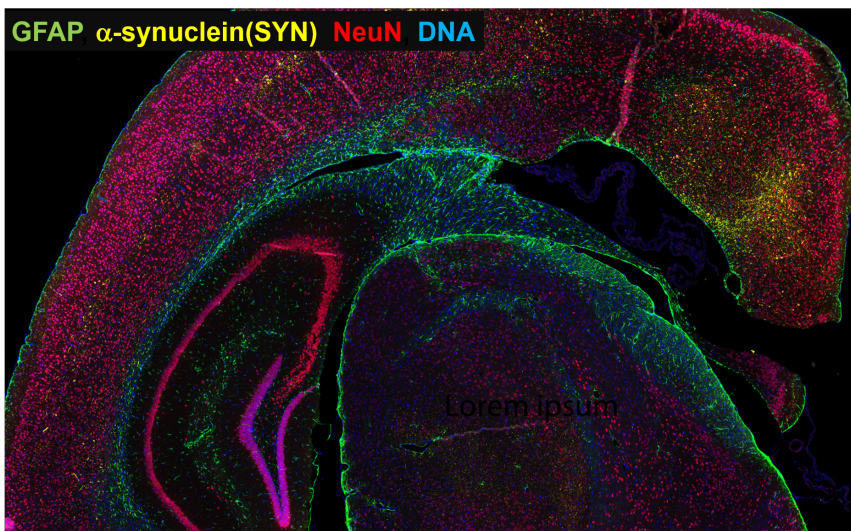
# Mouse Brain Parkinson's Disease

## Study Purpose

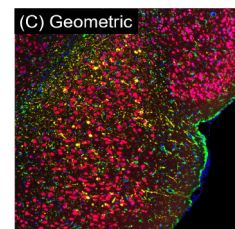
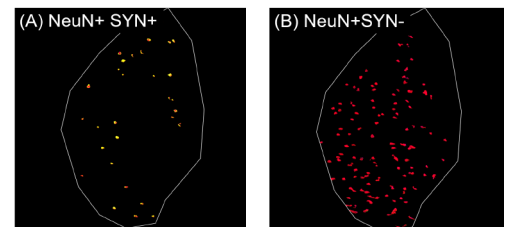
Mouse brain tissues were harvested from a mouse model with pathogenic inclusions resembling the Lewy bodies of Parkinson's disease. Alpha-synuclein antibody was used to identify the cells with inclusions and NeuN antibody was used to identify all the neurons. Two populations of neurons with and without Lewy body-like inclusions and different regions of the brain were profiled using the GeoMx Mouse Whole Transcriptome Atlas. The transcriptional differences between these regions were studied.

## Study Summary

Sample Type	FFPE
Species	Mouse
AOI* Strategy	Geometric, Cell-type specific
Assay	Mouse Whole Transcriptome Atlas
Morphology Markers	GFAP, Phospho- $\alpha$ -synuclein (SYN) <sup>#</sup> , NeuN, DNA
Targets Detected	18,533 targets
Application	Biomarker discovery

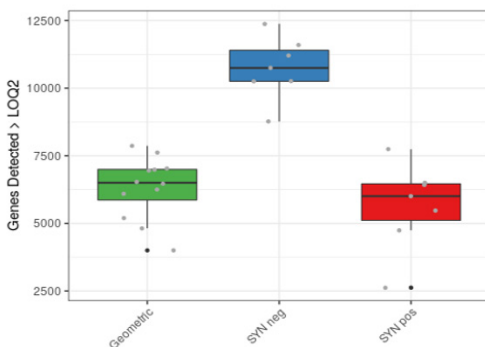


## Segmentation Strategy



## Legend

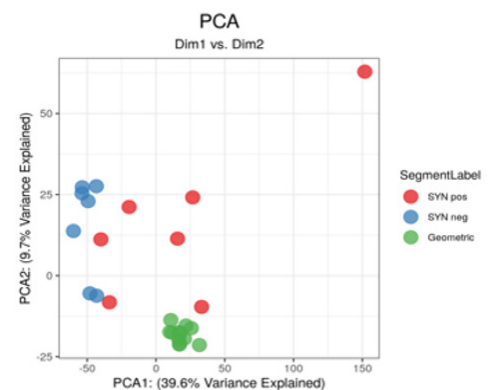
Astrocytes were stained with GFAP antibody. The neurons with and without the Lewy body-like inclusions were enriched by segmenting for the NeuN+ SYN+ (A) and NeuN+SYN- (B) cells respectively. Also, geometric ROIs (C) were placed in different regions of the brain.



## Legend

Left:  
The number of targets detected above the background (LOG2\*) by AOI groups.

Right:  
Principal component analysis (PCA) plot.



\*AOI = Area of Illumination; LOQ=Limit of Quantitation

<sup>#</sup>Anti- $\alpha$ -Synuclein Phospho (Ser129) antibody: Biologend Cat # 825701

Acknowledgement: We sincerely thank Dr. Michael Henderson from Van Andel Institute for sharing these images.

For more information, please visit

<https://nanosttring.com/geomx-morphology-markers/>

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