

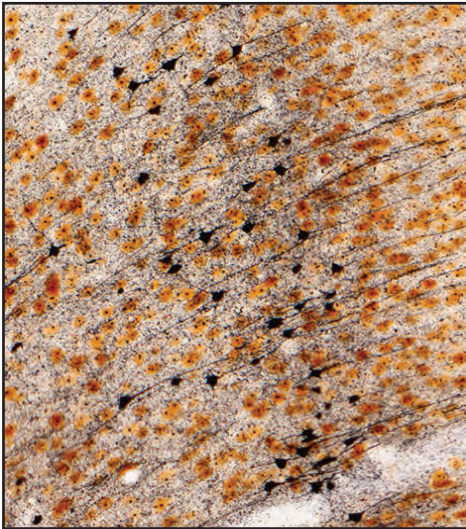
NSA SERVICES: IMAGE ANALYSIS

QUANTIFYING DEGENERATED CELLS VS SURVIVORS

Knowing the exact degree of change between treatment groups improves therapy modeling, e.g. dose range selection in tolerance or efficacy studies. NSA quantifies the amount of damage and resistance/protection of susceptible cell populations, within any area of interest (AOI/ROI). Using this precise, reproducible approach yields data superior to subjective assessments, and informs the study design of more rigorous stereological methods.

Below, labeled healthy and dead neurons in rat cortex (NeuN and Amino Cupric Silver degeneration stains).

Original Image



Results:

NeuN-positive and Degenerating cellular profiles in Rat Cingulate Cortex

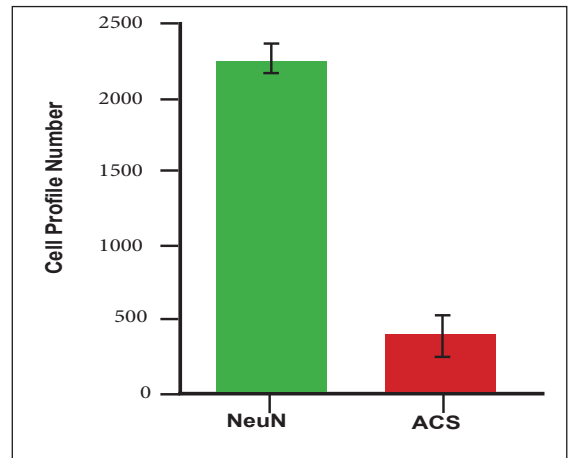
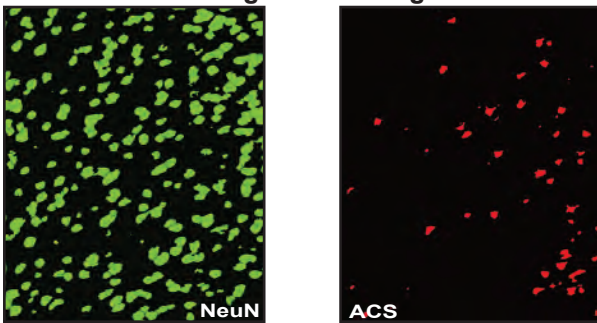
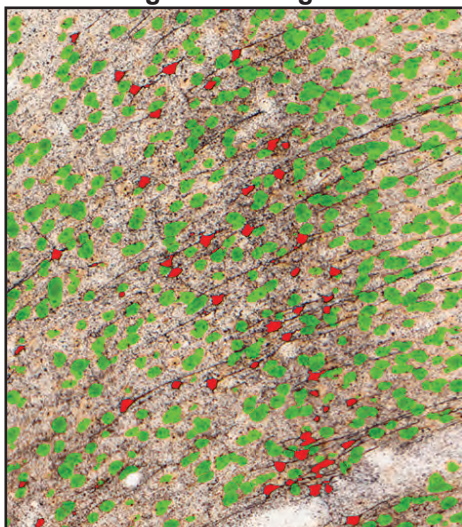


Image Processing



Segmented original



Particle Analysis parameters may include:

1. Total profile number for healthy and degenerating cell populations
2. A real density of the damaged population
3. Binning by size class category

Stains amenable to quantification include most cell phenotype and degeneration markers.

Lower Variance, Increased Confidence

MultiBrain® and MultiCord® processing minimizes technical variance, thereby increasing your ability to detect treatment or biological effects.

Expert NSA neuroanatomists ensure consistent AOI/ROIs, further reducing technical variance.

Method: The original image (top) is converted into binary, false-color representations of the NeuN positive (green) and degenerating cell populations (red) for segmentation (bottom). The NeuN positive cells are varying shades of red/brown while degenerating neurons are black. This high-contrast staining allows for robust processing and segmentation.