



lifecanvas
technologies

Revolutionizing bioimaging
to elevate human health.

SHIELD

Exceptional protection of endogenous fluorescence, protein antigenicity, nucleic acids, and tissue architecture

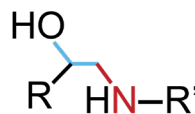
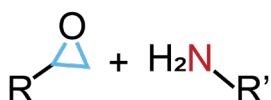
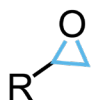
- **Versatile and compatible method:** Use with all PFA-fixed tissues, many tissue processing approaches (e.g. SWITCH, MAP, and LifeCanvas devices), and multiplexing.
- **Fast, safe, and reliable protection:** Prepare samples in 4-6 days with minimal steps, and non-toxic, easily disposable reagents. Preserve tissue without the variability of embedding samples in hydrogel or paraffin.
- **Multi-round imaging and staining:** Protect tissue during fluorescent protein imaging and antibody labeling across multiple rounds.



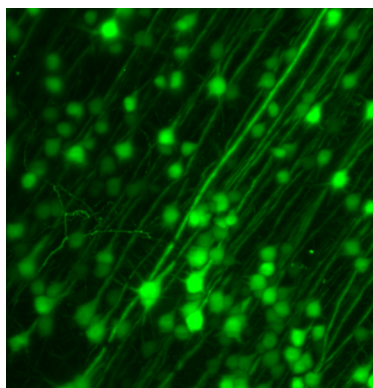
STREAMLINED WORKFLOW FOR PFA-FIXED TISSUES



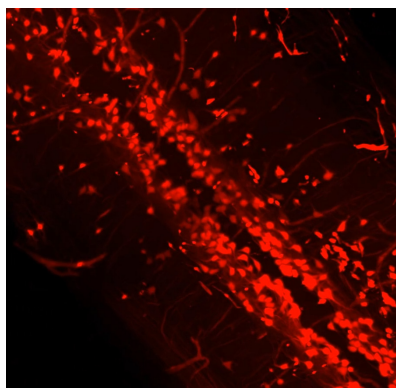
SHIELD
postfixation



Optical clearing and
refractive index matching



GFP+ motor cortical neurons
imaged with SmartSPIM, Dr.
Byungkook Lim, UCSD.



RFP+ spinal cord cells imaged
with SmartSPIM, Dr. Helen Lai,
UT Southwestern.

TWO KIT SIZES

250 mL: Preserves 25 whole mouse brains or comparably sized samples.

- 250 mL SHIELD Epoxy
- 125 mL SHIELD Buffer
- 500 mL SHIELD ON

500 mL: Preserves 50 whole mouse brains or comparably sized samples.

- 500 mL SHIELD Epoxy
- 250 mL SHIELD Buffer
- 1000 mL SHIELD ON

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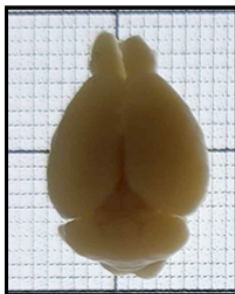
Clear+ Tissue Clearing

Complete delipidation and optical clearing
with no change in sample morphology

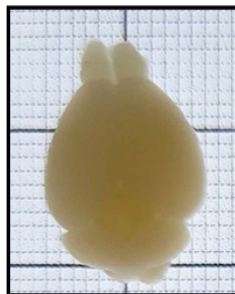
- **Preserves sample integrity:** Retain samples' mechanical strength, molecular stability, and native 3D structure.
- **Rapid, targeted clearing:** Fully delipidate whole mouse brains in one day with electrophoretic (active) clearing or one week with passive clearing, and process whole rat brains in ~4 days.
- **Compatible protocol:** For best results, use our patented stochastic electrotransport technique via SmartBatch+ or SmartClear. Clear+ also works with passive clearing.
- **Ensures high-quality labeling:** Prepare samples for active labeling, which optimizes antibody usage and signal uniformity compared to passive methods like iDISCO and CUBIC.



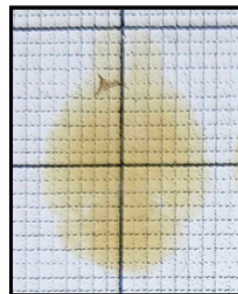
BEFORE DELIPIDATION



AFTER DELIPIDATION



AFTER DELIPIDATION
+ INDEX-MATCHING



EasyIndex

Refractive index-matching (RI=1.52) for optical
transparency of intact tissues and sections



- **Optical transparency, ideal for light sheet imaging:** Combined with delipidation, EasyIndex allows light to pass unhindered through samples, rendering them transparent for high resolution imaging throughout the tissue volume.
- **Highly versatile:** Use with a broad range of sample species and organs, as well as immunolabeled tissues, and tissues cleared with aqueous methods.

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