

# SMARTCLEAR II PRO

The Multi-Purpose Clearing System You've Been Waiting For.



Powered by patent-pending Stochastic Electrotransport (Kim et al, PNAS, 2015) technology

## SMARTCLEAR II PRO SYSTEM

### MULTIPURPOSE USABILITY

**Batch processing and customization:** 4 whole mouse brains, 8 mouse brain hemispheres, or 2 rat brains can be cleared simultaneously. Larger clearing chamber enables clearing of various sample types and sizes that can be customized according to your needs.

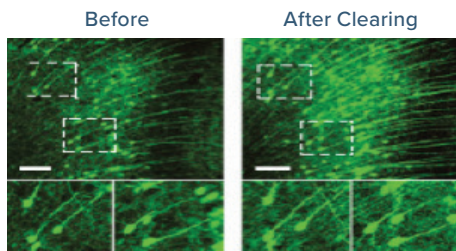
### COST-EFFECTIVE CLEARING

**Cost-Effective and Eco-Friendly:** New-generation buffer set lasts approximately 10 days without loss of its clearing ability. Lower running costs for samples as the same volume of buffer is used regardless of size and number of samples.

### FAST, EASY, AND RELIABLE

**Fast & Easy:** Order of magnitude faster than passive clearing. Our ready-to-use technologies bring plug-and-play options to clearing.

**Reliable:** Prevents tissue damage with Stochastic Electrotransport technology (Kim, PNAS). Our nanoporous membranes (patent-pending) eliminate tissue contamination, tissue browning, black precipitates and tissue deformation while providing uniform clearing.

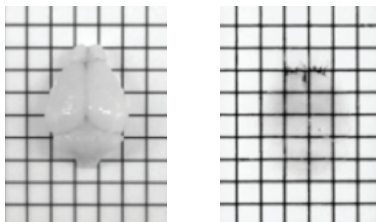


FP is preserved well after clearing (Thy1-GFP mouse brain)

### OPTIMAL CLEARING WITH MAXIMAL PRESERVATION OF FP SIGNAL

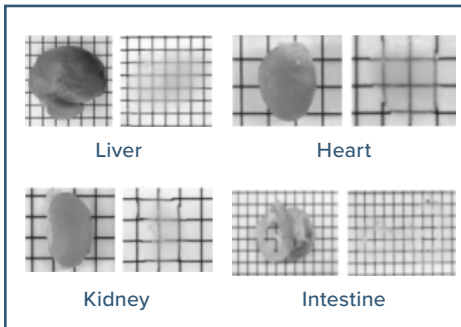
**FP Signals:** Maximum preservation of Fluorescent Protein (FP) signals with optimized buffers that maintain pH.

**Optical Clarity:** Minimum light scatter. Removes lipids for minimal light scatter and for best antibody diffusion.



Whole Mouse Brain

Cleared Mouse Brain



Liver

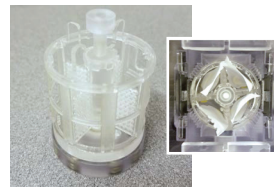
Heart

Kidney

Intestine

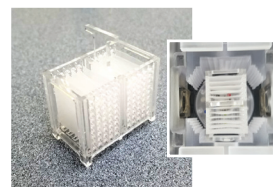
Heart, kidney, and liver were also completely cleared with stochastic electrotransport in 3d. Intestine took 1d (Kim et al, PNAS, 2015)

## VARIOUS SAMPLE HOLDERS



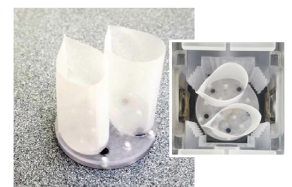
**SC-L2P10**

Clears 4 whole mouse brains or up to 8 hemispheres in custom mesh



**SC-L2P11**

(3mm apart)  
Clears up to 10 1\*2mm thick slices



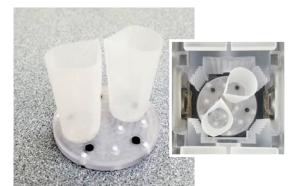
**SC-L2P12**

19mm (W) x 28mm (D) x 40mm (H) x 2  
Clears 2 whole rat brains



**SC-L2P13**

4mm (D) x 18 holes  
Clears up to 18 circular disk-shape tissues



**SC-L2P14**

15mm (bottom diameter) x 19mm (top diameter) x 40mm (H) x 2  
Clears 2 whole rat brains.

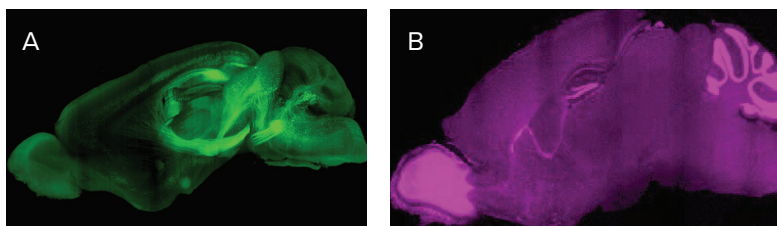


## SMARTBOX

A simple touchscreen with a user-friendly UI makes it fast and easy to run the SCII Pro. Beginner and Expert modes give the user preset Gentle and Rapid clearing settings while also providing total control of temperature, current limits, voltage limits and sample rotation speed.

## COMPATIBILITY

The SmartClear II Pro is compatible with the full lineup of LifeCanvas products and enables a fast and easy workflow for your experiments. It can clear tissues preserved with SWITCH or SHIELD, and samples with endogenous fluorescence can be imaged with SmartSPIM (A) after index matching with EasyIndex. Subsequent rapid immunolabeling (~ 2 days) is enabled with SmartLabel (B), opening the door to a wide array of research tools to answer your questions.



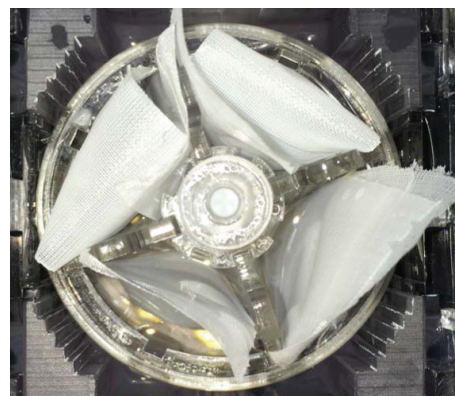
(A) Thy1-YFP animal. Tissue was fixed with SHIELD, cleared in SmartClear II Pro, and imaged with SmartSPIM. (B) A mouse brain hemisphere was fixed with SHIELD, cleared in SmartClear II Pro, labeled using SYTO16 with SmartLabel, and imaged with SmartSPIM.

## SPECIFICATIONS

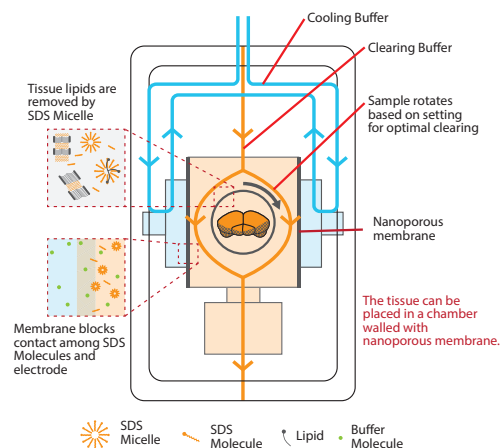
SmartClear II Pro Module		
Physical Characteristics	Dimensions	14.4" (W) x 14.8" (D) x 16.9" (H)
	Weight	55 lbs (25 kg)
Control Values (User Controlled)	Buffer Temperature	37~50°C
	Sample Rotation	0~10rpm
	Electrophoresis Power	0~90V, 0~1.5A
	Additional Features	Timer, Polarity Switching
Buffer/Membranes	Volume Required	Buffer A, B x 500mL each
	Lifetime	10 days

Smart Box: SmartClear II Pro Control Module		
Physical Characteristics	Dimensions	8.3" (W) x 14.8" (D) x 10.4" (H)
	Weight	12 lbs (5 kg)
	Electrical Input	100~120V (15A) or 200~240V (8A)
Interface	LCD Touchscreen	RGB256 Color, 800 x 480 Pixel Touch

## LARGER CHAMBER



## CHAMBER DETAIL



### Clearing Buffer

- Optimized for tissue clearing
- Long life time (up to 10 days)
- Eco-friendly



### Optical Clearing Solution (RI=1.46)

- Formulated for best performance with aqueous clearing methods.
- Cost-effective and convenient