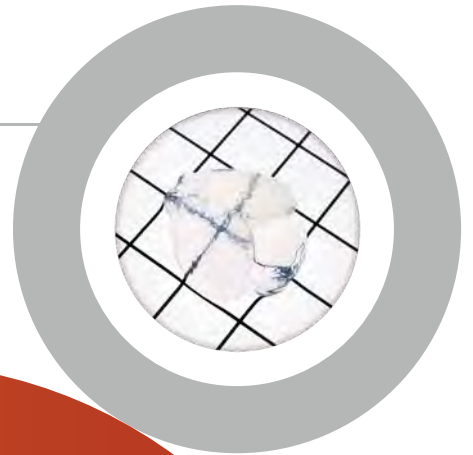
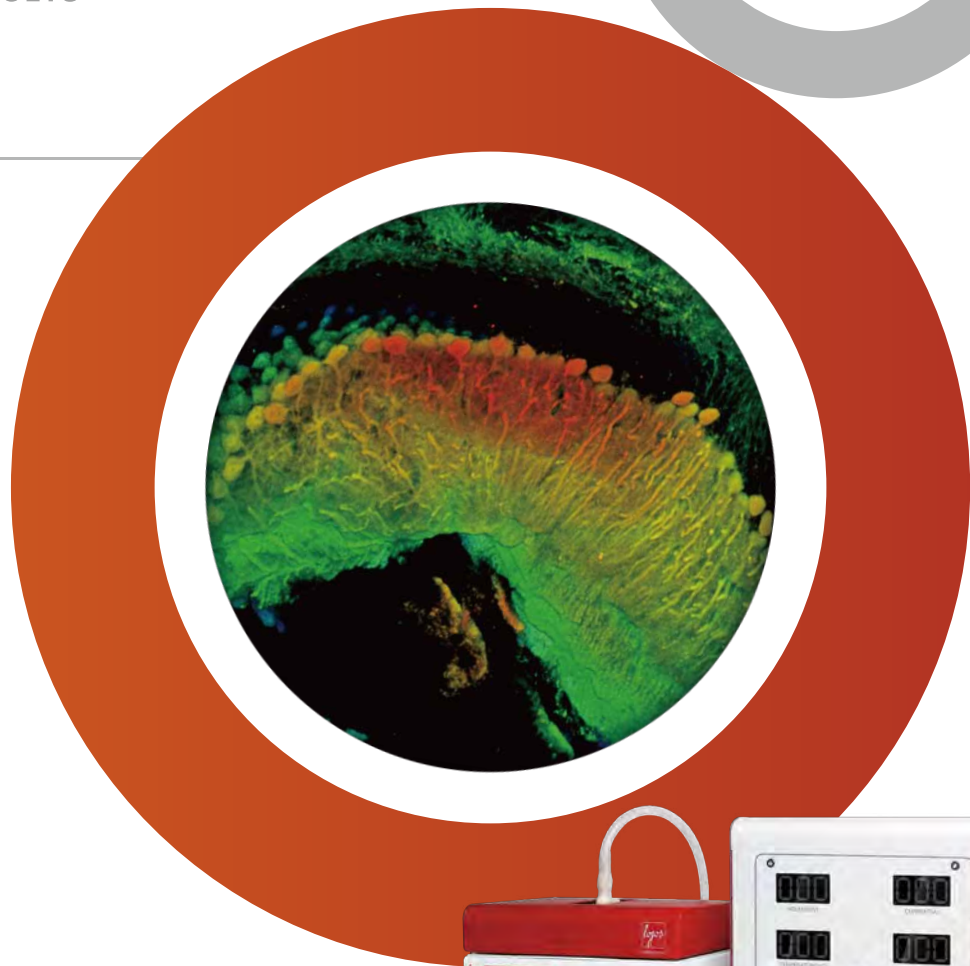


X-CLARITY™

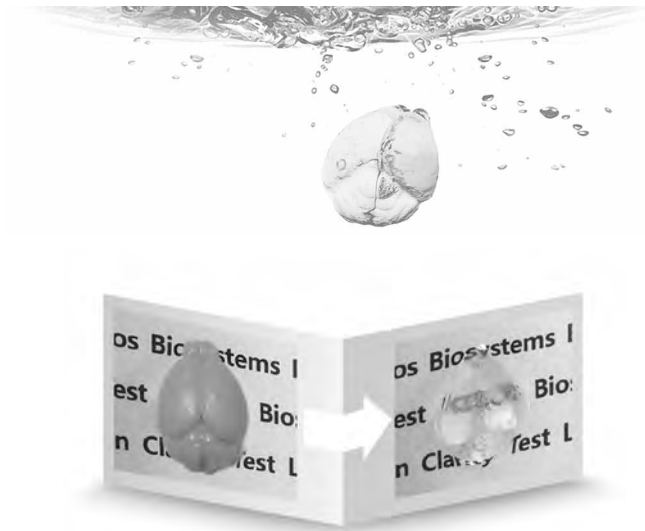
Tissue Clearing System



ULTRAFAST CLEARING
RELIABLE RESULTS



X-CLARITY™



Accelerate your research with the X-CLARITY™

Imaging large tissues at single-cell resolution traditionally involved the laborious and time-consuming process of serial sectioning, labeling, imaging, and painstakingly assembling individual images into three-dimensional structures. In 2013, the Deisseroth Lab at Stanford University revealed their CLARITY method to much acclaim. The CLARITY method allows scientists to keep samples whole by producing a tissue-hydrogel hybrid that preserves molecular structure and is permeable to macromolecules such as antibodies.

Logos Biosystems licensed and independently developed the existing technology to make tissue clearing a simple, quick, and reproducible process.

The X-CLARITY™ Tissue Clearing System is an all-in-one, easy-to-use solution for electrophoretic tissue clearing that produces structurally sound and transparent whole tissues that are ready for multiple rounds of antibody labeling and imaging. Its unique design accelerates the removal of lipids from tissues in a highly efficient manner. The X-CLARITY™ can clear a whole mouse brain in just 6 hours, an astounding 8 times faster than the original technology.

How does the X-CLARITY™ work?

The X-CLARITY™ Tissue Clearing System is comprised of four components:

- 1) the X-CLARITY™ ETC Controller
- 2) X-CLARITY™ ETC Chamber
- 3) X-CLARITY™ Pump
- 4) X-CLARITY™ Buffer Reservoir

Complicated wires are combined into a single cable for power supply and control. Improved electrodes generate a uniform electric field that eliminates uneven voltages and currents. A timer allows precise control over the clearing time by automatically turning off the current at the end of the allotted time. An active cooling system minimizes the probability of artifacts arising due to poor temperature control. Buffer circulation ensures consistent buffering capacity, temperature control, and elimination of electrophoretic byproducts. This advanced system ensures that tissue clearing occurs efficiently and rapidly.



HIGHLIGHTS

- Exceptional transparency
- Rapid clearing
- Simple setup and operation
- Pre-optimized protocol
- Efficient antibody labeling



What is CLARITY?

CLARITY is a tissue clearing method through which the biomolecules in intact tissues are covalently linked to a sturdy hydrogel network, preserving the molecular information and structural integrity of a tissue sample. Lipid bilayers are broken up through electrophoresis in the presence of ionic detergents, leaving behind a stable and transparent tissue-hydrogel hybrid that is chemically accessible for molecular phenotyping. The method has opened up a world of possibilities, from tracing neural circuitry to exploring the relationship between structure and function with a global perspective.

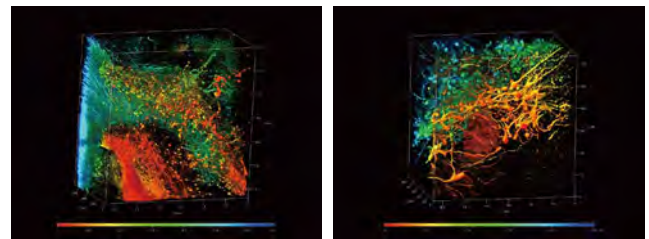
Ultrafast clearing, reliable results

Compared to all other tissue clearing methods, electrophoretic tissue clearing remains the fastest and most efficient method for clearing thick tissues.

The X-CLARITY™ Tissue Clearing System greatly simplifies and accelerates the electrophoretic tissue clearing process. The X-CLARITY™ can clear a whole adult mouse brain in just 6 hours. The speed of the X-CLARITY™ Tissue Clearing System simplifies optimizing for other organs and tissues of. The X-CLARITY™ has already successfully cleared a long list of tissue samples, organs, and even whole animals in labs around the world.

One of the most exciting features of the CLARITY method is that the tissue-hydrogel hybrid can be efficiently penetrated by and labeled with macromolecules such as antibodies or oligonucleotides. This allows for the 3D imaging of large tissues at single-cell resolution, making studying the relationship between structure and function an attainable reality. The CLARITY method even enables multiple rounds of antibody labeling. The X-CLARITY™ Tissue Clearing System has been verified to successfully produce samples that can be efficiently penetrated by antibodies.

	Processing time for whole adult mouse brain	Ab labeling and in situ hybridization	Fluorescence protein (e.g., GFP) imaging
X-CLARITY™	3 days	✓	✓
CLARITY™	2 weeks	✓	✓
Passive CLARITY™	3 weeks	✓	✓
PACT	1-2 weeks	✓	✓
CUBIC	2 weeks	✓	✓
SeeDB	3 days	NO	✓
Sca/e	3 weeks	NO	✓



3D imaging of murine brain tissue labeled with anti-TH after X-CLARITY™ tissue clearing.



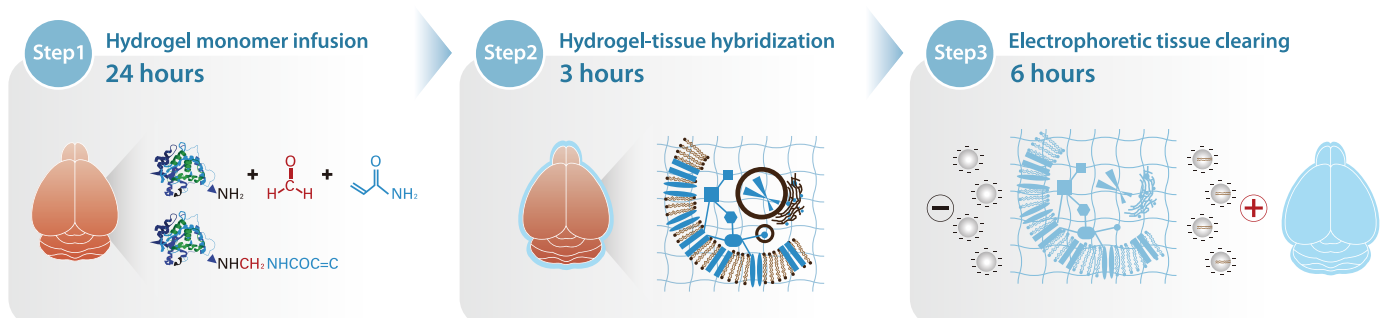
TESTIMONIAL Professor Woong Sun, Korea University Medical School

I tried to design my own DIY ETC chamber for a long time without any success.

I tried the X-CLARITY™ Tissue Clearing System and got a transparent mouse brain on my first try!

It works really well and is super easy to use. I've successfully imaged tissues that contain GFP or that I've labeled with fluorescence-tagged antibodies.

It makes tissue clearing a stress free process!



Specifications

Current range	0.2-1.5 A
Voltage range	0-60 V
Temperature control	35-50°C
Switching time	0-600 min
Pump speed	0.1-100 rpm
Reservoir volume	2 L
Dimension (WxDxH)	
· X-CLARITY™ ETC Controller	180 x 340 x 200 mm
· X-CLARITY™ ETC Chamber	176 x 128 x 154 mm (Internal chamber volume: 57 x 30 x 93 mm)
· X-CLARITY™ Pump	232 x 142 x 149 mm
Weight	
· X-CLARITY™ ETC Controller	5.1 kg
· X-CLARITY™ ETC Chamber	2.8 kg
· X-CLARITY™ Pump	2.4 kg

Ordering Information

Starter Kit		
C10001	X-CLARITY™ Tissue Clearing System Starter Kit - X-CLARITY™ ETC Chamber (1 ea) - X-CLARITY™ ETC Controller (1 ea) - X-CLARITY™ Pump (1 ea) - X-CLARITY™ Reservoir (1 ea) - Tissue Container (5 ea) - Container Holder for 1 Tissue Container (1 ea) - Electrophoretic Tissue Clearing Solution (12 X 1 L)	1 unit
Main Components		
C10101	X-CLARITY™ ETC Chamber	1 unit
C10201	X-CLARITY™ ETC Controller	1 unit
C10301	X-CLARITY™ Pump	1 unit
C10401	X-CLARITY™ Reservoir	1 unit
Containers and Holders		
C12001	Tissue Container (20 units)	1 box
C12002	Container Holder for 1 Tissue Container	1 unit
C12004	Mouse Brain Slice Holder	1 unit
C12007	Whole Rat Brain Holder	1 unit
Replacements		
C12101	Multi-Cable	1 unit
C12102	X-CLARITY™ Reservoir Cap with Temperature Probe	1 unit
C12103	Snap-Lock Connector Tube	1 unit
C12104	Peristaltic Pump Tube	1 unit
C12201	Power Cord with AC Adapter	1 unit
Consumables		
C13001	Electrophoretic Tissue Clearing Solution	12 x 1 L
C13101	X-CLARITY™ Mounting Solution	1 x 25 mL
C13102	X-CLARITY™ Mounting Solution Value Pack	10 x 25 mL

Your local distributor:



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