

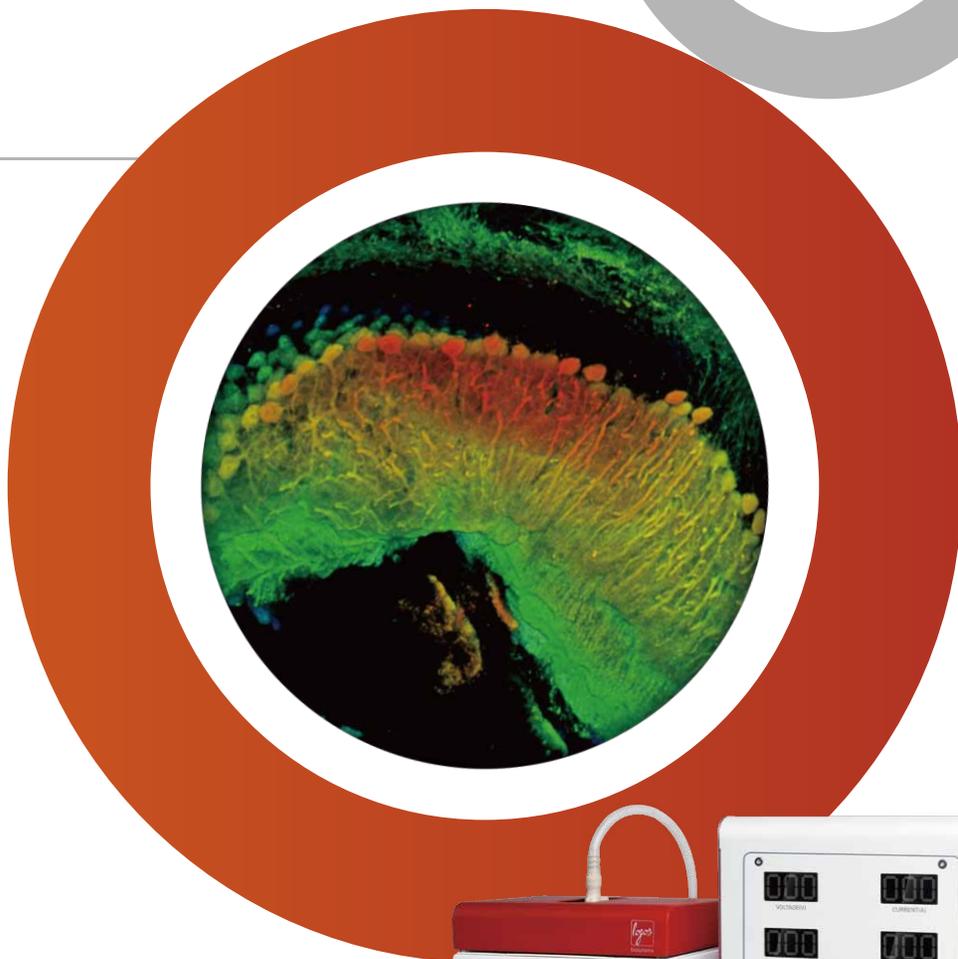


# X-CLARITY™

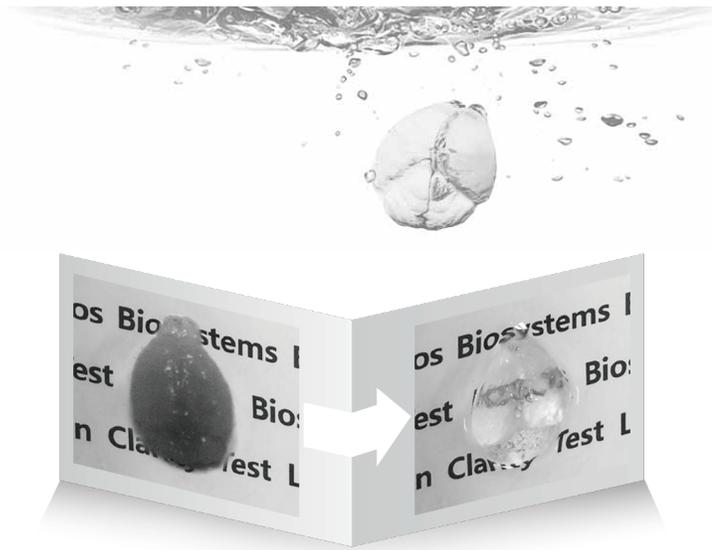
## Tissue Clearing System



ULTRAFAST CLEARING  
RELIABLE RESULTS



# X-CLARITY™



## Easy installation, ultrafast clearing, reliable results

The new X-CLARITY™ Tissue Clearing System from the imaging specialists at Logos Biosystems provides an all-in-one solution for electrophoretic tissue clearing. The groundbreaking CLARITY™ method developed by the Deisseroth Lab at Stanford University (Chung et al, Nature 497:332-337) provides unparalleled tissue samples for imaging. Combining an innovative electrode design and an integrated cooling system, the X-CLARITY™ Tissue Clearing System allows for faster and more consistent tissue clearing.

Many researchers currently attempting the CLARITY™ method often encounter difficulties that range from instrument construction to poor clarifying, resulting in the loss of valuable samples. Days or even weeks spent processing a precious sample can end in frustration and disappointment.

The X-CLARITY™ Tissue Clearing System greatly simplifies the CLARITY™ process, can clarify remove one spacea whole adults remove the mouse brain in under 48 hours, and dramatically increases your chances of obtaining transparent tissue samples for use in downstream labeling.

## How it works

Typical negative effects related with conventional electrophoretic tissue clearing methods include burning, melting, the formation of black precipitates, and bubble trapping. The main causes of these artifacts are due to irregular electric currents and poor temperature control during electrophoresis. The X-CLARITY™ dramatically reduces the negative effects associated with standard electrophoretic tissue clearing with a unique electrode design and an active cooling system. The X-CLARITY™ Tissue Clearing System is composed of four components: 1) the X-CLARITY™ ETC Controller, 2) X-CLARITY™ ETC Chamber 3) X-CLARITY™ pump and X-CLARITY™ buffer reservoir. The X-CLARITY™ ETC Controller works as both a power supply and temperature controller. At the heart of the X-CLARITY™ Tissue Clearing System is the X-CLARITY™ ETC Chamber. A tissue sample is placed inside the X-CLARITY™ ETC Chamber where it undergoes electrophoresis to remove lipids. Clearing buffer is continually circulated through the chamber under temperature controlled conditions, minimizing the probability of artifacts arising due to poor temperature control.



- Exceptional transparency
- Fastest processing time
- Easy installation and operation
- Minimized artifacts
- No leaking, no boiling
- Pre-optimized protocol

## What is CLARITY?

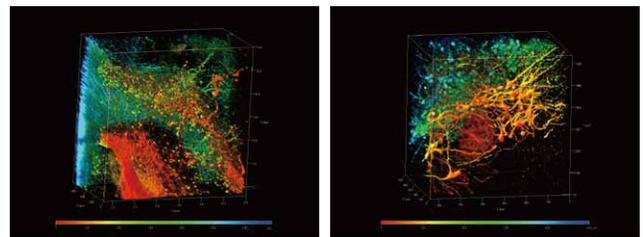
CLARITY™ is a novel technology that produces a transparent tissue by forming a hydrogel network that supports the ultrastructure while allowing for the removal of lipids. Unlike other tissue clearing technologies, the CLARITY™ method uniquely enables the efficient labeling of tissues with macromolecules such as antibodies and nucleic acids, making high resolution imaging possible. CLARITY™ is expected to overcome the current limitation of light microscopy technology, which does not allow the imaging of tissues without first creating slices. CLARITY™ is the trademark of Stanford University.

## Accelerate your research with the X-CLARITY™ Tissue Clearing System

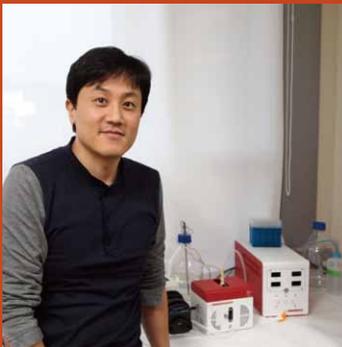
Compared to other methods, the X-CLARITY™ Tissue Clearing System dramatically reduces tissue clearing time. A whole adult mouse brain may be cleared in under 48 hours. Depending on the thickness, mouse brain slices may be cleared much faster. Additionally, the speed of the X-CLARITY™ Tissue Clearing System makes optimizing for other organs and tissues a much easier endeavor.

One of the most exciting features of the CLARITY™ technology is that, it allows for the penetration of and labeling with macromolecules such as antibodies or oligonucleotides, generating unprecedented 3D images that show the relationship between structure and function. Chemical tissue clearing technologies introduced in recent years generally do not accommodate labeling with macromolecules. The CLARITY™ technology successfully overcomes this limitation and even enables multiple rounds of antibody labeling. The X-CLARITY™ Tissue Clearing System also successfully produces samples that demonstrate the efficient penetration of antibodies.

	Processing time for whole adult mouse brain	Ab labeling and in situ hybridization	Fluorescence protein (e.g., GFP) imaging
X-CLARITY™	3-7 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 brain tissue labeled with anti-TH antibody after X-CLARITY™ tissue clearing.



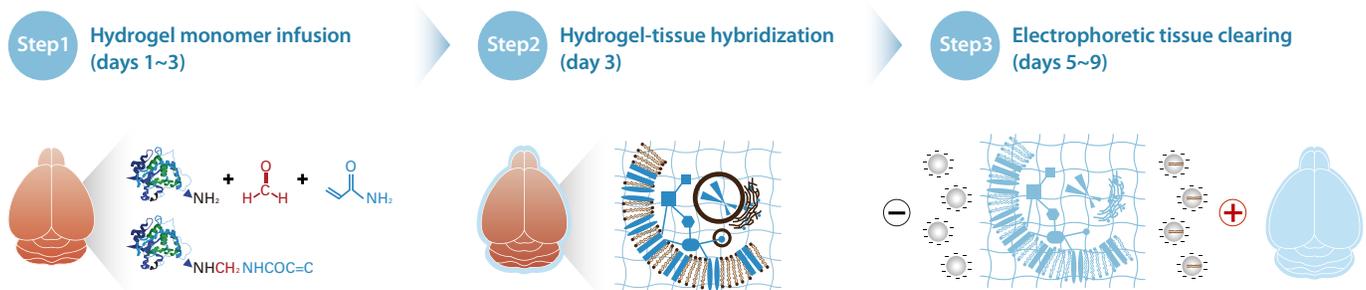
## TESTIMONIAL \_ Professor Woong Sun, Korea University Medical School

*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™ 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™ Controller	5.1 kg
· X-CLARITY™ ETC Chamber	2.8 kg
· X-CLARITY™ Pump	2.4 kg

## Ordering Information

Cat#	Product	Size
C10001	X-CLARITY™ Tissue Clearing System (Starter Kit) - X-CLARITY™ ETC Chamber (1 ea) - X-CLARITY™ Controller (1 ea) - X-CLARITY™ Pump (1 ea) - X-CLARITY™ Buffer Reservoir (1 ea) - Tissue Container (5 ea) - Container Holder (1 ea) - Electrophoretic Tissue Clearing Solution (12 X 1 L)	1 ea
C12001	Tissue Container (10 containers box)	1 box
C13001	Electrophoretic Tissue Clearing Solution (1 L per bottle)	12 X 1L
C12002	Tissue Container Holder (for whole mouse brain)	1 ea
C12003	Mouse Brain Slice Container & Holder	1 ea
C10101	X-CLARITY™ ETC Chamber	1 ea
C10201	X-CLARITY™ Controller	1 ea
C10301	X-CLARITY™ Pump	1 ea
C10401	X-CLARITY™ Buffer Reservoir (including fittings and temperature probes)	1 ea
C12101	Multi-cable (for controller/chamber)	1 ea
C12103	Snap-lock connector tube	1 ea
C12104	Peristaltic pump tube	1 ea



### United States

Logos Biosystems, Inc.  
7700 Little River Turnpike Suite 303  
Annandale, VA 22003, USA

Tel : +1-703-622-4660  
Email : sales@logosbio.com

### Headquarters

Logos Biosystems, Inc.  
#930, Doosan Venture Digm, 415 Heungan-daero  
Dongan-gu, Anyang-si, Gyeonggi-do, South Korea

Tel : +82-31-478-4185  
Fax : +82-31-478-4184  
Email : sales@logosbio.com