

See everything in your whole sample  
CUBIC-HV™ is a 3D tissue staining kit for large specimens

CUBICStars provides state-of-the-art three-dimensional nuclear staining and immunostaining kits based on research reported by RIKEN and The University of Tokyo (Susaki et al. Nature Communications, 11:1982, 2020). These kits allow you to stain thick, large tissue samples with a variety of nuclear stains and antibodies. The combination with tissue cleaning reagents (e.g., CUBIC-L/R+) is powerful for viewing deep areas of stained samples with a confocal, light sheet, and multi-photon microscopies.

## CUBIC-HV™ offers



### CUBIC-HV™1 3D nuclear staining kit

This kit lets you stain your thick and large specimens uniformly with typical nuclear stains, including DAPI, SYTOX®, PI, and RedDot™2.



### CUBIC-HV™1 3D Immunostaining kit

This kit lets you stain your thick and large specimens uniformly with various antibodies. We also offer technical notes for a specific antibody.



Protocols and technical notes are available at our website

You can also email us at [cubic-hv@cubicstars.com](mailto:cubic-hv@cubicstars.com)



**CUBICStars**  
*Make the world clear*

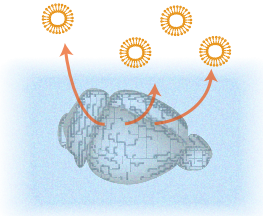
<https://www.cubicstars.com>

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## The Workflow

### Delipidation

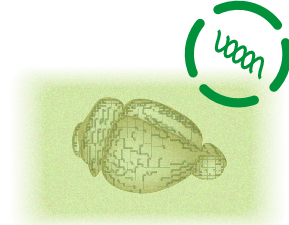
1



First, your fixed sample is needed to be delipidated for tissue clearing and permeabilization. CUBIC-L (TCI T3740) is a representative delipidation reagent for CUBIC-HV™.

### Nuclei staining

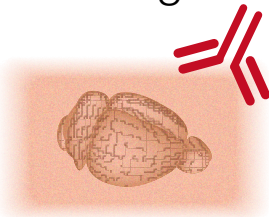
2



The whole delipidated sample is stained with CUBIC-HV™1 3D nuclear staining kit. You can choose typical nuclear stains (e.g., DAPI, SYTOX-G, PI, RedDot™2).

### Immunostaining

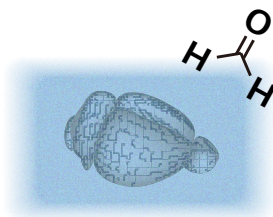
3



The delipidated and nuclear-stained sample is immunostained with CUBIC-HV™1 3D immunostaining kit. If you only need nuclear signals, this step can be skipped.

### Post-fixation

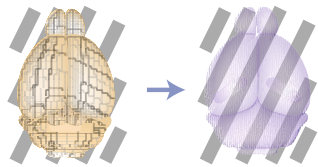
4



The sample is needed to be post-fixed with formalin diluted with the kit's immunostaining wash buffer before the final clearing step. If you only need nuclear signals, this step can be skipped.

### RI matching

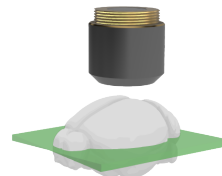
5



The stained sample can be optically cleared by the refractive index (RI)-matching step of tissue clearing. CUBIC-R+ (TCI T3741) is a representative RI-matching reagent for CUBIC-HV™.

### Image acquisition

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Finally, the cleared sample is subjected to the whole-organ 3D imaging using a light-sheet microscope. To use CUBIC-Cloud for whole mouse brain data, you must always have nuclear staining channel for registration.

