

# RapiClear<sup>®</sup> 1.55

#RC155001, 10mL  
#RC155002, 100mL

## INTRODUCTION

RapiClear<sup>®</sup> is a water-soluble clearing reagent for enhanced visualization of both fluorescence and non-fluorescence labeled biological specimens. It can be applied in viewing cell morphology in tissues of mammals, plants, insects, and even the biomaterial scaffolds such as collage, chitosan, and cellulose. Targets that are usually indistinguishable or blurry due to specimen opacity can now be clearly visualized simply by applying RapiClear<sup>®</sup> in the mounting procedure.

### Advantages of RapiClear<sup>®</sup> 1.55:

1. The transparent effect is reversible if samples re-immerses in water or buffer solutions.
2. RapiClear<sup>®</sup> 1.55 is ready-to-use, no need to be centrifuged.
3. RapiClear<sup>®</sup> 1.55 allows visualization of internal targets up to 10 mm below tissue surface.
4. Application of RapiClear<sup>®</sup> 1.55 will introduce just limited sample deformation.

## OPERATION

1. RapiClear<sup>®</sup> 1.55 is designed for large volume and structurally condensed organ research (e.g., mouse brain and kidney).
2. Animal fixed by 4% paraformaldehyde solution via cardiac perfusion.
3. Tissues were taken out and subjected to 4% paraformaldehyde solution at 4 °C for overnight and cryo-protection in 20% sucrose/PBS (wt/vol) at 4 °C for 1 day.
4. Samples were embedded in OCT compound and frozen for overnight.
5. Samples were fixed again with 4% paraformaldehyde solution for 1 hour at RT.
6. Samples initially were treated with 50ml of SCALEVIEW-A2 solution (Olympus Co., LTD.) for 2 days, with 8M urea of ScaleB4 solution (*Nat. Neurosci.* 2011, 14, 1481-1488) for 5~10 days.

**Note:** During the preparation of the ScaleB4 solution, Solution will initially become cold to the touch. A 25~28 °C water bath will aid in the dissolution of the powdered urea. Solution can be stirred with a heavy magnetic bar and the temperature should never exceed 30°C. Do not allow the temperature of the solution to rise above 30 °C, since urea may begin to breakdown into isocyanate that will be detrimental to the proteins.

**For research use only.**

**Not for use in diagnostic procedures**

7. Then, samples were transferred to working solution prepared by diluting RapiClear<sup>®</sup> 1.55 with ScaleB4 in filled 15 ml tube on to a rotator (Elmi Intelli-Mixer, Rose Scientific Ltd) at RT.

**Note:** Pre-warm the RapiClear<sup>®</sup> to 40°C before mounting can facilitate solution penetration.

	Working solution, RapiClear <sup>®</sup> 1.55:ScaleB4 (vol:vol)
Kidney	4 ml, 1:1 (1~2 days)
Brain	10 ml, 3:2 (2~4 days)

8. Samples mounting in previously prepared working solution between two coverslips separated by spacer stickers (iSpacer, SunJin Lab Co.) to prevent flattening.
9. Press gently around the edges of the coverslip to ensure a safety seal.
10. Remove carefully the exceeding solution with Kimwipes.
11. Fill the space outside the iSpacer with clear nail polish to seal the edges between the two coverslips.

For more information, please check the “**Instruction**” in our website: [www.sunjinlab.com/instruction/](http://www.sunjinlab.com/instruction/)

## REFERENCE

1. Piatek P et al. MS CD49d+CD154+ Lymphocytes Reprogram Oligodendrocytes into Immune Reactive Cells Affecting CNS Regeneration. *Cells* (2019). <http://dx.doi.org/10.3390/cells8121508>
2. Evrard M et al. Developmental Analysis of Bone Marrow Neutrophils Reveals Populations Specialized in Expansion, Trafficking, and Effector Functions. *Immunity* (2018). <http://dx.doi.org/10.1016/j.immuni.2018.02.002>

## STABILITY AND STORAGE

RapiClear<sup>®</sup> 1.55 can be stored at -20°C~RT. When stored at 4°C or -20°C, the product is stable for at least 1 year.

## WARNING AND PRECAUTIONS

Repeated exposure may cause skin dryness or cracking. Prevent skin contact is suggested.

## MANUFACTURER

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