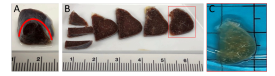


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🌐 Lightsheet Tissue Intake - Photodocumentation and Tracking

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Optical Clearing of Tissue

Human BioMolecular Atl...



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Protocol status: Working

We use this protocol and it's working

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Keywords: lightsheet microscopy, tissue processing, tissue tracking, lightsheet tissue intake, lightsheet microscopy, tissue clearing, tissue position, photodocumentation, tissue, lipid clearing pipeline, microscopy, spleen, such as the spleen, dimensional imaging, staining, tracking, sample

Abstract

In order to track tissue position and orientation each sample is photographed when received for lightsheet microscopy (Figure 1, A). Large samples ($>1\text{ cm}^3$), such as the spleen in Figure 1, are cut into 2 mm sections (Figure 1, B) to facilitate tissue clearing, staining, and three-dimensional imaging. These tissues are batch processed and withdrawn from the lipid clearing pipeline as needed (Figure 1, C); at this time a novel identifier is assigned to the sample.

Guidelines

Photodocumentation, in our pipeline, occurs following tissue-hydrogel polymerization and multiple washes in PBS. This serves to remove trace fixatives for safer handling.

Materials

MATERIALS

✂ 50 ml conical tubes

✂ Forceps (tweezers), 12.5cm, Blunt End **Bio Basic Inc. Catalog #FC003.SIZE.1**

✂ Razor blades **Fisher Scientific Catalog #12-640**

✂ Hexagonal Polystyrene Weighing Dishes **Thermo Fisher Catalog #02202103**

Troubleshooting

Safety warnings

- ! Wash tissues of any fixatives, or other dangerous chemicals, prior to manipulating for photodocumentation.



- 1 Photograph whole tissue; capture from various angles if possible. A dissection ruler or grid should accompany each photograph.
- 2 Using a razor blade and forceps slice the tissue into sections approximately 2 mm wide. Try to slice in a continuous motion, while applying a gentle downward force.
- 3 Set aside tissue section and repeat Step 2 as needed. Maintain or keep track of slice order and orientation.
- 4 Photograph the sequential 2 mm slices, again using a dissection ruler or grid.
- 5 Retain all slices within one container for subsequent processing (lipid removal).