HuBMAP: Paraffin Embedding Tissue Samples

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ABSTRACT

The purpose of this Standard Operating Procedure (SOP) is to outline procedures for the paraffin embedding of HuBMAP specimens.

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KEYWORDS

hubmap, embedding, tissue, histology, histopathology

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GUIDELINES

- Managers and supervisors - are responsible for making sure that technicians are properly trained and equipment and facility are maintained in good working order.
- Laboratory personnel - are responsible for reading and understanding this SOP and related documents and to perform these tasks in accordance with the SOPs.
MATERIALS

- Paraplast Contributed by
  users Catalog #39501006
- Gauze 4x4 Non-Sterile Squares Fisher
  Scientific Catalog #MSD-1400249
- Disposable Embedding Molds Fisher
  Scientific Catalog #22363553
- Electron Microscopy Sciences - Tissue Embedding Center Fisher
  Scientific Catalog #50-293-24
- Curved Medium Point General Purpose Forceps Fisher
  Scientific Catalog #16-100-110
- General-Purpose Broad-Tipped Forceps Fisher
  Scientific Catalog #10-300

SAFETY WARNINGS

- Use physical safety precautions when working with sharps (disposable blades).

BEFORE STARTING

- Embedding can be a messy process, to protect your clothes it is best to wear a lab coat or apron.
- Gloves are required when working with human specimens.

Post-Processing Tissue Acquisition

1. Place processed cassettes in wax holding chamber of embedding center. Stock station with embedding utensils, gauze, and disposable embedding molds.

2. Preheat embedding utensils in the forceps warming chambers located on the sides of the paraffin dispensing nozzle. Turn on station cold plate module.

3. Open the cassette carefully maintaining tissue orientation. Dispose of cassette lid.

4. View the tissue sample and select an appropriately sized disposable embedding mold.

5. Using forceps, tap the dispenser plate on the embedding center’s dispensing nozzle and partially fill a mold with molten paraffin.

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6 Using heated forceps, carefully transfer the tissue inside the cassette into the mold, placing the tissue cut side down (surface viewed when opening the cassette).

7 Transfer the mold to the cold pad in front of the dispensing nozzle, and gently press tissue flat with forceps or a tamper.
Allow paraffin to solidify in a thin layer, to hold the tissue in position.

8 Once oriented with the tissue specimen in the center of the mold, place the lower basket of the emptied cassette on top of the mold.

9 Add additional molten paraffin to 2/3 fill the cassette basket.
Remove any bubbles that may form between the mold and the cassette by slowly lifting and repositioning the cassette.

10 Carefully transfer paraffin filled mold to freezing/cold plate module of embedding station.
Allow paraffin to completely solidify.

11 If you have additional tissue samples to embed, return to step 4 and repeat through step 11.
≥ go to step #3 if you have additional samples.