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HuBMAP: Paraffin Embedding Tissue Samples

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Human BioMolecular Atlas Program (HuBMAP) Method Development Community

ABSTRACT

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

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

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

MATERIALS TEXT

- Tissue Embedding Center OR Paraffin Wax Dispenser and Cold Plate
- Paraplast
- 4x4 Gauze
- Preference of Forceps / Tweezers

SAFETY WARNINGS

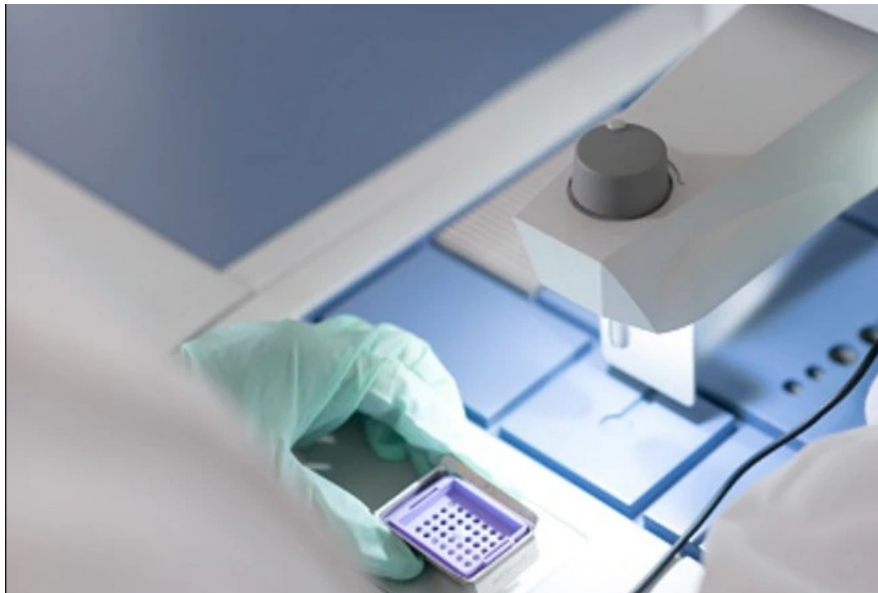
- Use physical safety precautions when working with sharps (disposable blades).

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. 3m 30s
- 2 Preheat embedding utensils in the forceps warming chambers located on the sides of the paraffin dispensing nozzle.
Turn on station cold plate module. . 3m 30s
- 3 Open the cassette carefully maintaining tissue orientation. Dispose of cassette lid. 30s
- 4 View the tissue sample and select an appropriately sized disposable embedding mold. 30s
- 5 Using forceps, tap the dispenser plate on the embedding center's dispensing nozzle and partially fill a mold with molten paraffin. 30s
- 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.

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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.**



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