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Protocol status: Working
We use this protocol and it's working

Tissue Harvesting | HuBMAP | JHU-TMC

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Human BioMolecular Atlas Program (HuBMAP) Method Development Community

TMC - Johns Hopkins University

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ABSTRACT

This protocol describes how to harvest human tissue biopsy and prepare it for histological processes

PROTOCOL REFERENCES

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Prepare tissue collection container

1 For tissue collection container, we will prefill histology containers with 10% Neutral Buffered Formalin (NBF)

2 Combine 100 mL of Formaldehyde (37% - 40%), 900mL of distilled water, 4g of Sodium dihydrogen phosphate monohydrate, and 6.5g of disodium hydrogen phosphate anhydrous.

3 Confirm that the pH of the solution is between 6.8 and 7.2.

4 Fill the solution into histology containers

5 Store at room temperature until use.

6 One can purchase this instead: VWR® Prefilled Histology Containers, 10% Neutral Buffered Formalin (NBF) Cat. No. 16004-121

Biopsy - scalp

7 The surgical procedures for scalp skin include tissue expansion, nerve release, hair transplantation, local tissue rearrangement.

8 Hair bearing areas are chosen and areas with a paucity of hair follicles including those from advanced androgenic alopecia or alopecia areata are excluded.

Biopsy - trunk

9 We collect our samples from tissues normally discarded during surgical procedures. The surgical procedures for trunk skin include deep inferior epigastric artery perforator flaps, panniculectomy, abdominoplasty, reduction mammaplasty.

Fixation

10 Once the biopsy is harvested, we immediately put it into the tissue collection container to fix the tissue and avoid the degradation. The time delay between tissue excision and fixation, warm ischemic time, is a critical factor.

Note on the effect of delay to formalin fixation - Delay to formalin fixation effect on breast biomarkers - PubMed (nih.gov)

11 Please refer to our tissue fixation protocol for the next steps