



Assessment of Tissue Quality by H&E Staining

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Category:	Quality Management		
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1.0 PURPOSE

The purpose of this SOP is to establish a standardized process for assessing tissue quality through Hematoxylin and Eosin (H&E) staining at Nourah's Tissue Biobank. The SOP outlines procedures for preparing FFPE and frozen tissue samples for H&E staining and the process for quality assessment by an external pathologist.

2.0 SCOPE

This SOP applies to all FFPE, and frozen tissue samples collected, processed, and stored at Nourah's Tissue Biobank that require quality assessment via H&E staining. The quality assessment will be performed by an external pathologist who will evaluate tissue integrity, morphology, and suitability for research purposes.

3.0 ROLES AND RESPONSIBILITIES

This SOP applies to all The SOP applies to all personnel of Nourah's Tissue Biobank members

Biobank Personnel	Responsibility
Biobank Manager	Oversees the quality assessment process and ensures that all tissue samples meet the biobank's quality standards before storage or distribution.
External Pathologist	Conducts microscopic assessment of stained tissue slides to determine tissue quality.
Lab Technologist	Responsible for preparing tissue sections, performing H&E staining, and coordinating with the external pathologist.

4.0 MATERIALS, EQUIPMENT, AND FORMS

Listing of the materials, equipment, and forms being used to achieve the goals of the SOP, this list will mainly contain necessary materials and, or recommendations that may be substituted by alternative or equivalent materials more suitable at the time of testing.

Material to be used	Site

5.0 POTENTIAL HAZARDS



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In this part of the SOP, we explain the potential hazards from chemicals and methodologies used in this procedure. It will also contain information on how to handle these chemicals and the level of biosafety

Material	Safety and handling

6.0 PROCEDURES

6.1 TISSUE PREPARATION

1. FFPE Tissue Preparation:
 - a. Section FFPE tissue blocks into 4-5 μm thick slices using a microtome.
 - b. Mount each section onto a glass slide and bake in a 60°C oven for 30-60 minutes to ensure adherence.
2. Frozen Tissue Preparation:
 - a. Section frozen tissue samples in a cryostat set to -20°C at a thickness of 5-10 μm .
 - b. Mount each section onto a glass slide and allow it to air dry at room temperature for 10-15 minutes before staining.
3. H&E Staining and labeling of slides

6.2 QUALITY ASSESSMENT BY EXTERNAL PATHOLOGIST

1. Once stained and mounted, submit slides to the external pathologist for evaluation.
2. Provide relevant documentation for each slide, including sample ID, tissue type, and fixation method (FFPE or frozen).
3. The pathologist will assess the following tissue quality criteria:
 - a. Cellular Morphology: Examination of cell structures to identify tissue integrity.
 - b. Staining Quality: Assessment of the clarity and differentiation of hematoxylin and eosin staining.
 - c. Tissue Integrity: Evaluation of tissue preservation, artifacts, or any degradation.
4. The external pathologist will document findings in a Tissue Quality Assessment Report (Appendix A).
5. The report will include a recommendation on whether the tissue sample is suitable for research based on the quality assessment.
6. The Biobank Manager will review the pathologist's report to determine if the sample meets the biobank's quality standards.
7. If approved, the tissue sample will be stored for research purposes or distributed as requested.
8. If the sample does not meet quality standards, it will be labeled accordingly and may be reprocessed or discarded based on the pathologist's recommendations.

7.0 REFERENCES

1. ISO 20387:2018 – General requirements for biobanking.
2. Internal policies of Princess Nourah bint Abdulrahman University.

8.0 REVISION HISTORY



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SOP No.	Date Revised	Author	Summary

9.0 APPENDICES

Appendix A – Tissue Quality Assessment Report