

Title	Tissue Collection and Transportation to Pathology
SOP Code	SOP113_02
Effective Date	04-Jan-2016

Site Approvals

Name and Title (typed or printed)	Signature	Date dd/Mmm/yyyy

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to outline standardized procedures for biorepositories to follow during the process of tumour tissue collection and transportation from the operating room (OR) to the pathology lab.

2.0 SCOPE

The SOP describes how tissues should be collected and transported. The SOP does not cover detailed safety procedures for handling Human Biological Materials (HBMs).

3.0 RESPONSIBILITIES

The policy applies to all biorepository personnel responsible for collecting tissue from the participant.

4.0 DEFINITIONS

See Glossary of Terms.

5.0 PROCEDURE

This procedure is intended to ensure that tissue samples will be collected from participants in a safe, timely, and efficient manner while eliminating the risks of contamination and maintaining high integrity and quality.

5.1 General Considerations.

- 5.1.1. The scientific utility of the data obtained from the analysis of tissues is directly related to the quality of the tissue specimen.
- 5.1.2. Cellular and molecular integrity are most affected by factors such as specimen and tissue type, conditions of tissue hypoxia, method of preservation, conditions of storage, pre-excision hypoxia and tissue product extraction methods. The following factors must be the focus of the process to obtain and maintain tissue with suitable integrity for innovative research:
- Minimizing the time the tissue is subjected to hypoxic conditions, as this initiates the cell death mechanisms and subsequent degradation process.
 - Use of agents or treatments to inactivate degrading enzymes for preserving nucleic acid integrity
 - Preservation of tissue as fresh frozen, if the intended use is for nucleic acid analysis.
 - Storage of frozen tissue and products at appropriate temperatures especially if storage is for longer periods of time.
 - Avoiding contamination with surrounding histological distinct tissue or co- processed samples if the product is intended for studies involving nucleic acid amplification.
- 5.1.3. At this stage, never place tissue intended for banking as a fresh frozen specimen in formalin.

5.2 Transporting of Tissue from the OR to Pathology Lab

- 5.2.1. It is recommended that the Operating Room (OR) staff notifies the pathologist or designate about the time of ischemia (when blood vessels were clamped).

- 5.2.2. Immediately after being notified by the OR team (or personnel responsible for identifying specimen availability) that a potentially bankable specimen will be available, the person responsible for obtaining the sample from the operating room should arrange to transport it to the pathology lab (or designated repository lab) in a manner optimal for preservation of cellular and molecular integrity.
- 5.2.3. Transport the tissue from the Operating Room to the Pathology Lab using a rapid specimen transport protocol. Recommend that the tissue be transported on ice.
- 5.2.4. Prepare tissue collection kits in advance if possible. Store kits as appropriate for contents.
- 5.2.5. No more than 30 minutes should elapse between the time of biopsy/resection and time of freezing of a given sample. If, due to practical considerations, the elapsed time is greater, records must clearly document what the actual time period is.

6.0 REFERENCES

Human Tissue and Biological Samples for use in Research. Operational and Ethical Guidelines. Medical Research Council Ethics Series.

http://www.mrc.ac.uk/pdf-tissue_guide_fin.pdf

Best Practices for Repositories Collection, Storage Retrieval and Distribution of Human Biological Materials for Research, 3rd Edition, 2012, International Society for Biological and Environmental Repositories (ISBER).

<http://www.isber.org>

National Bioethics Advisory Commission: Research involving human biological materials: Ethical issues and policy guidance, Vol. I: Report and recommendations of the National Bioethics Advisory Committee. August 1999.

<http://bioethics.georgetown.edu/nbac/hbm.pdf>

US National Biospecimen Network Blueprint

http://www.ndoc.org/about_ndc/reports/NBN_comment.asp

Jewell, S. et al. Analysis of the Molecular Quality of Human Tissues, an experience from the Cooperative Human Tissue Network. Am. J. Clin. Pathol. 002:118:733-741.

7.0 REVISION HISTORY

SOP Code	Effective Date	Summary of Changes
SOP113_01	01-Aug-2012	Original version.
SOP113_02	04-Jan-2016	Updated references. Removed OTRN logo.