

**THE CHILDREN'S HOSPITAL AT WESTMEAD**

**TUMOUR BANK**

**STANDARD OPERATING PROCEDURE**

<b>BANKING FRESH FROZEN TISSUE (TUMOUR)</b>			
<b>Document Number: TB 05.08</b> <b>Version: 003</b>		<b>Issue Date: 08/10/2012</b>	
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<b>REVISION HISTORY</b>			
<b>Date</b>	<b>Amendment Details</b>	<b>Superseded version</b>	<b>Revised by</b>
07/04/2011	New Document		
03/04/2012	Revision of text	05.08.001	KJ
08/10/2012	Annual Review	05.08.002	AC

**1. PURPOSE**

The purpose of this document is to outline standardised procedures to follow when collecting tumour samples throughout the hospital, and processing and storing them.

**2. SCOPE**

This protocol covers all patients who have consented to be part of the bank and have agreed to donate tissue.

**3. RESPONSIBILITIES**

The TB Clinical Research Associate (CRA), TB Project Officer, and Research Assistants must ensure that these protocols are adhered to at all times when processing and storing fresh tissue samples.

#### 4. MATERIALS, EQUIPMENT AND FORMS

- 2 mL cryovials and blue topped cryovial lids with insert
- Carbon Steel Surgical Blade (Swann-Morton size 20)
- Surgical Blade handle
- Appropriate racks to hold tubes while processing
- Sartorius micro-balance (4 decimal place) in chemical/radiation room (Level 4)
- Stainless steel Tongs
- Freezer storage boxes
- Liquid nitrogen
- 90 mm petri-dish (Lab 8 cabinet)
- Lab Bench Sample Record Sheet
- Labelling pen
- Metal cup measure for aliquotting liquid nitrogen into
- Personal protective equipment - gowns, gloves and safety glasses

#### 5. METHOD

##### 5.1 Fresh Tissue (or Tumour)

- Fresh tissue or tumour will be collected by a surgical team at CHW or from an external hospital/laboratory.
- If coming from an external hospital/laboratory, the TB will be notified by email or phone of the expected delivery day and time of fresh tissue. The tissue should be shipped to CHW on dry-ice.

##### 5.2 Sample Processing and Storage

Depending on the size of the tissue sample, either split the sample into small pieces or bank as a whole piece (smaller <100 mg).

###### 5.2.1 Sample to be banked as a whole

- a. label one blue-top 2 mL cryovial tube with the patient's MRN, sample type (e.g. 'TUMOUR' or 'TISSUE') and collection date.
- b. Place the tissue in the labelled cryovial and snap freeze by submersion in liquid nitrogen.
- c. Using tongs, immerse cryovials into liquid nitrogen for approximately 15 seconds or until the sample stops boiling.
- d. Check for next available freezer box space in TB freezer, and store specimens in row and column order, recording box position on request sheet.

###### 5.2.2 Sample to be split

- a. Label as many blue-top 2 mL cryovials as necessary with patients MRN, sample type (e.g. 'TUMOUR' or 'TISSUE'), collection date and tube number (e.g. 1,2,3,4,etc).
- b. Weigh each labelled/empty tube individually with the Sartorius micro-balance (4 decimal place) in chemical/radiation room on level 4 and record the weight.
- c. Place fresh tissue/tumour sample on a 90 mm petri-dish. Using a sterile surgical blade, cut the tissue (while covering it with the petri-dish lid).

- d. Place each piece of tissue in a separate labelled cryovial.
- e. Record the total weight of each tube (using the same balance) and subtract from the weights above (empty) to determine approximately the weight of the tissue in the tube.
- f. Snap freeze by submersion in liquid nitrogen (as above).
- g. Check for next available freezer box space in TB freezer, and store specimens in row and column order, recording box position on request sheet.

### 5.3 Sample Recording

Record the following details of sample in the Tumour Bank Laboratory Bench Sample Record Sheet form for entry into the TB database.

- Patient MRN
- Surname and first name
- Date of birth
- Sample type
- Date of sample collection
- Number and weight/volume of sample
- Freezer box number and position
- Any additional notes

## 6. SAFETY

- All local chemical and sharps policies must be adhered to.
- Used surgical blades should be placed in sharps bin.
- Empty tubes/container and soiled gloves should be disposed of in accordance with local regulations for handling of potentially infectious biological material.