The Tumour Bank

STANDARD OPERATING PROCEDURES

KIDS RESEARCH, THE SYDNEY CHILDREN'S HOSPITALS NETWORK

Revised: May 2017

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1.00 ADMINISTRATION

01.01 Education and Training

Document Number: TB 01.01 **Version:** 003	**Issue Date:** 03/05/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
03/05/2017 20/07/2017	New Document Review and updated	 001	Oksana Markovych Li Zhou
8/08/2017	Minor amendments – review from Biobanking certification program	002	Li Zhou

1. PURPOSE

To ensure the Tumour Bank staff are adequately educated and trained in order to meet the demands of their job and effectively carry out assigned duties and responsibilities while maintaining a high level of ethical and quality standards. It is also to ensure employee compliance with the relevant institutional mandatory training requirements as stipulated in organisational policy and procedures.

2. SCOPE

Training is designed to inform, educate and orient all new Tumour Bank personnel with relevant material vital to performing of their duties, as well as to ensure compliance with the Sydney Children's Hospital Network (SCHN) staff training requirements. The training is also designed to educate, inform and update existing personnel with evolving industry requirements, procedural changes and in order to maintain currency of certification and licensing if applicable.

3. RESPONSIBILITIES

This SOP applies to all Tumour Bank staff, which includes the following role:

- Principal Investigator-Head of CCRU
- Head of Tumour Bank
- Research Officer
- Clinical Research Associate (CRA)
- Research Assistant (RA)

Tumour Biobank Personnel	**Responsibility/Role**
Principal Investigator	This role has overall responsibility to oversee that standards of the management of tumour bank are upheld.
Head of Tumour Bank	This role has overall responsibility for Tumour Bank staff and daily operations of the Tumour Bank.
Research Officer	This role is responsible to liaise with researchers about their specimen requests, and oversees the specimen flow from collection, storage to distribution
Clinical Research Associate	This role is responsible to liaise with oncology and haematology registrars to collect samples and communicate with patients and their family to collect consents
Research Assistant	This role is responsible to liaise with histopathology and genetic department to collect solid tumour samples and perform general histopathology and genetic/genomic lab tasks

All Tumour Bank personnel must be qualified by professional education, training and experience to perform their duties. All staff is responsible for maintaining currency of individual licencing and certification relevant to their position. In addition, all staff carries individual responsibility for compliance with the SCHN mandatory training requirements and is expected to monitor such training requirements via personalised Learning Management System account and organizational memos.

4. MATERIALS, EQUIPMENT AND FORMS

Health Education &Training Institute (HETI) My Health Learning on-line account.

Tumour Bank Staff Training Manual:

- New staff General Orientation
- Position-specific Training Checklist
- Continuous Education Training Record

Civil Aviation Training Academy approved course in Transport of Infectious substances and Dangerous Goods by Air

Human Tissue Act 1983 No 164 - NSW Legislation

National Statement on Ethical Conduct in Human Research 2007 (Updated May 2015)

Children's cancer Research Unit Administrative Staff support

NSWHP Biobanking Certification Program (http://nsw.biobanking.org/)

5. METHOD

5.1 All new Tumour Bank personnel must undergo workplace orientating training as outlined in the Tumour Bank Staff Training Manual as outlined in *Sections 1 - 3*.

5.2 Clinical Research Associates must complete ICH-GCP training prior to commencement of their duties. Regular courses are offered by ARCS Australia Ltd.

5.3 Laboratory staff responsible for shipment of biomaterial must complete Transport of Infectious Substances and Dangerous Goods training every 2 years.

5.4 All new laboratory personnel must complete an in-house training in laboratory protocols and the use of laboratory equipment utilised by the Tumour Bank.

5.5 Position-specific training must be offered to all new personnel upon commencement of their duties. Training must be conducted by appropriately skilled Tumour Bank staff.

5.6 All training must be documented and records filed in the Staff Training Manual.

5.7 Tumour Bank staff is encouraged to participate in continuous education programs to maintain high level of expertise in line with evolving trends in biobanking field.

6. ASSESSMENT OF TRAINING

At the end of a training session and on an ongoing regular basis, staff must to pass the HETI tests for relevant modules in the Biobanking Certification program, so they can start or continue their duty.

7. REFERENCES, REGULATIONS AND GUIDELINES

7.1 The ISBER best practice for repositories third edition.

7.2 Declaration of Helsinki
http://www.wma.net/en/30publications/10policies/b3/index.html

7.3 NSW pathology biobanking certification program training module

8. APPENDICES

Appendix A — Staff Training record

Appendix B — Staff continuous education record

Appendix A— Staff Training record

SOP Number	SOP Title	Date	Trainer	Attendee

Appendix B— Staff continuous education record

Date	Location	Conference/ Seminar/ Training Session / Course Attended	Organisation/ Presenter/ Trainer

2.00 PARTICIPANT AND RECRUITMENT MANAGEMENT

02.01 NOTIFICATION OF DECLINED CONSENT	
Document Number: TB 02.01 **Version:** 004	**Issue Date:** 11/10/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History			
Date	Amendment Details	Superseded version	Revised by
01/08/2011 11/10/2012	New Document Annual Review	 02.01.001	 Amanda Rush
09/12/2013	Annual Review – notify Oncology CRA team of patients that have declined consent (Section 5 d and e); Pro forma electronic location (Section 4)	02.01.002	OM
02/03/2017	Annual Review - Consent Declined pro forma has been superseded by a single form "C2CH CHW Tumour Bank Patient Consent" V2. 29 September 2014	02.01.003	OM

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when consent is declined for Tumour Bank (TB) in person, by telephone, by letter or by message via a third party.

2. SCOPE

This protocol covers all instances when consent is declined by a patient or the parent of a patient under the age of 18.

3. RESPONSIBILITIES

Any TB staffs who are involved in taking receipt of information of a patient of Children's Hospital at Westmead (CHW) declining to consent to TB must ensure that this protocol is adhered to.

4. MATERIALS, EQUIPMENT AND FORMS

Consent form (G:\data\TumourB\Tumour CRA docs\Consents\Consent docs\Current English\C2CH CHW Tumour Bank PATIENT CONSENT V2.pdf)

5. METHOD

5.1 Information regarding the decline of consent for a TB patient is received via the following routes:

- "Consent declined" box checked on a mailed-out consent form
- In person via the TB Clinical Research Associate

5.2 For methods other than written decline using the TB Consent form, TB CRA must complete the 'Consent passively declined' form located in G:\data\TumourB\Tumour CRA docs\Consents\Consent docs\Notification of Consent 'Passively Declined'.doc

5.3 On receipt of notification of a patient declining consent to TB, an email should be sent to:
The TB Project Officer and Research Assistant (to remove any samples from the TB -80°c freezer)

The TB CRA (to remove all associated clinical data from Biogenix, except the following data:

- MRN
- Patient name
- Consent Status
- Comments: discarded on [date]
- 'CC' the Oncology CRA team

5.4 TB CRA will update "Consent Declined" patient list located in G:\data\TumourB\Tumour CRA docs\Lists

Note 1: See TB SOP 02.02 for a definition of 'Consent Declined' patients.

6. SAFETY

Not applicable

02.02 Patient Consent Information Flow

Document Number: TB 02.02 **Version:** 006	**Issue Date:** 10/10/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
24/08/2010	New Document		
01/12/2011	Annual Review	02.02.001	AR
09/02/2012	Updates to consent categories	02.02.002	AR
10/10/2012	Addition of "Over 18 written consent"	02.02.003	AR
09/12/2013	Annual Review – addition of PowerChart set-up procedures in "5.1 Consenting" method	02.02.004	OM
02/03/2017	Annual Review – addition of new Consent Classifications: Written Consent; Conditional and Written Consent; Child/Young Person	02.02.005	OM

1. PURPOSE

The purpose of this document is to outline a standardised procedure to follow when consent is obtained from patients at CHW, as well as via telephone and mail. In addition, consent definitions used in the Tumour Bank (TB) database are described.

2. SCOPE

This protocol covers the consenting process for all patients at CHW whose samples are stored at the TB. In accordance with the New South Wales (NSW) Human Tissue Act and the National

Health and Medical Research Council (NHMRC) National Statement on Ethical Conduct in Research Involving Humans, donations of human tissue must have written consent associated with them prior to being used for research purposes.

3. RESPONSIBILITIES

Any TB staff member who may be approaching oncology or non-oncology Children's Hospital at Westmead (CHW) patients for consenting in person, via telephone or mail for sample donation to the TB must ensure that these protocols are adhered to at all times during the process.

4. MATERIALS, EQUIPMENT AND FORMS

TB consent information pack:

- TB Information Sheet and Consent Form and TB Child/Young Person Information Sheet and Child/Young Consent Form (G:\Data\TumourB\Tumour CRA docs\Consents\Consent docs\Current English)
- TB newsletter (latest version)
- Reply paid envelope (ensure TB details are added)
- TB business card
- TB letter (when approaching by mail only) (G:\data\TumourB\Tumour CRA docs\Letters)

Appendix 1: Flow diagram of consenting process
Appendix 2: Timeline of changes to TB database

5. METHOD

5.1 Consenting

5.1.1 The TB Clinical Research Associate (CRA) will check PowerChart each afternoon for any patients that are inpatients in Camperdown, Variety Wards, Commercial Traveller and outlying wards or visiting the Oncology Treatment Centre (OTC) on the following day, and have not consented to TB.

5.1.2 To view daily inpatient lists for the wards, initially set up individual ward tabs in PowerChart; this can subsequently be clicked on a daily basis to view a list of current inpatients.

5.1.3 Follow the set-up procedure below:

- Click on "Patient List" tab in PowerChart toolbar
- Click on "List Maintenance" icon depicted as a wrench
- "Modify Patient Lists" window will pop-up; click "New"
- In "Patient List Type" window select "Location" and click "Next"
- Expend "Locations" folder in the right-hand side field
- Scroll down to "Royal Alexandra Hospital for Children" and expend the directory, then expend "Royal Alexandra Hospital" sub-directory to view locations
- Select the location of interest e.g. "Camperdown Ward" by ticking the box next to it and click "Finish"
- The location will appear in the "Available Lists" field on the left-hand side of the "Modify Patient Lists" window; select this location and move it to the "Active Lists" field by clicking on the blue arrow button
- Click "OK"; a new tab will appear on your PowerChart screen

5.1.4 To generate daily OTC visitors list:

- Click on “Scheduling Appointment Book” tab in PowerChart toolbar
- In “Scheduling: Scheduling Appointment “window click on “Appointment Report” icon depicted as a blue/yellow report
- Click on “Location” tab in the “Schedule Report” window
- Make the following field selections: “Report = Standard Appointment List”; “Location Type = Ambulatory”; “Location = Oncology OPD L2” and then select the appropriate appointment date to generate a list of patients coming to the OTC on that day
- Click “View” to display “Schedule Report”
- “Save As” the report in your personal directory and print lists as required.

5.1.5 Cross check these lists against consent status in Biogenix, and approach those parents in person who have not consented, utilizing an interpreter where necessary. Mention the following during the consenting process:

- introduction of self;
- brief explanation of what the TB is;
- what the TB does with samples;
- researcher’s applications are vetted by ethics committee;
- samples are de-identified;
- research is voluntary- care in hospital is not affected either way (refer to TB SOP 02.03- Patient Consenting Guideline).

5.1.6 If patients are not seen in person in the hospital, a letter is an alternative method of consenting. Approved letters are stored at G:\Data\TumourB\Tumour CRA docs\Letters\Current letter templates

- The letter is followed up with a telephone call approximately one week later.
- Patients over the age of 18 must give consent themselves.

5.2 Consent Classification

Consents are classified into the following categories in the Biogenix database:

5.2.1 Consent pending: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, and who has not been approached by the TB by each of the following three methods a) letter b) in person c) telephone call, or has been approached by all three methods and has not consented; however, six months since last contact has not passed.

5.2.2 Written consent: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, for whom the TB holds a signed *Consent Form for Tumour Bank,* irrespective of version number.

5.2.3 Written Consent; Conditional: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, for whom the TB holds a signed *Consent Form for Tumour Bank* where condition of use for biomaterial have been specified, irrespective of version number.

5.2.4 Written Consent; Child/Young person: Written Assent obtained from any person under the age of 18 and is deemed by a person conducting informed consent interview to have the capacity to comprehend the information provided in a simplified version of the patient information sheet, and has expressed interest in providing such assent in addition to the Written Consent or Written Consent; Conditional (*SECTION 4: ETHICAL CONSIDERATIONS SPECIFIC TO PARTICIPANTS* CHAPTER 4.2: CHILDREN AND YOUNG PEOPLE).

5.2.5 Consent declined: Any patient of CHW (oncology or non-oncology), who has been approached by any method regarding consent for the TB, and has indicated that they do not wish/do not wish for their child to participate.

5.2.6 Consent withdrawn: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, for whom the TB held a signed *Consent Form for Tumour Bank*, irrespective of version number, and subsequently indicated that they do not wish /do not wish for their child to participate.

5.2.7 Consent not pursued: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, and has not been approached by the TB regarding consent due to perceived religious or cultural beliefs, personal reasons, or under instructions from their Senior Medical Officer.

5.2.8 Passively declined: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, and who has been approached by the TB by each of the following three methods a) letter b) in person c) telephone call, and has not signed a *Consent Form for Tumour Bank* within six months of last contact.

5.2.9 Lost to Follow Up: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the Tumour Bank, and who is no longer contactable due to ethical or logistical reasons.

5.2.10 HTA Exempt (incl. OT Consent): Any patient of CHW (oncology or non-oncology), who has paraffin blocks as their sole sample type in Biogenix e.g. for TMAs or microscope slide sections, or who had samples collected prior to 1st November 2003. The Human Tissue Act does not operate so as to prohibit any tissue removed lawfully for medical purposes and stored in the form of a block to be used for scientific purposes; furthermore, any tissue removed for medical or scientific purposes prior to the 1st November 2003 did not require specific patient/parent consent. Parents prior to 1st November 2003 may have signed an *Operating Theatre Consent* or *Children's Hospital at Westmead Admissions Form* that included consenting to residual samples being used for research purposes.

5.2.11 Multiple consent status: Any patient of CHW (oncology or non-oncology), who has had changing consent statuses over time. The types of consent will be specified in the comments in Biogenix. For example, a participant may have samples that were HTA-Exempt (incl. OT Consent) until 1st November 2003 and then Written Consent was obtained for samples after that date.

5.2.12 Over 18 written consent: Any patient of CHW (oncology or non-oncology), who may or may not have specimens available to the TB, for whom the TB holds a signed *Consent Form for Tumour Bank,* irrespective of version number and who has legally signed the consent form themselves, because they are over the age of 18 years.

Refer to Appendix 1 for a flow chart of the consenting process.

Refer to Appendix 2 for a timeline of changes to consent categories.

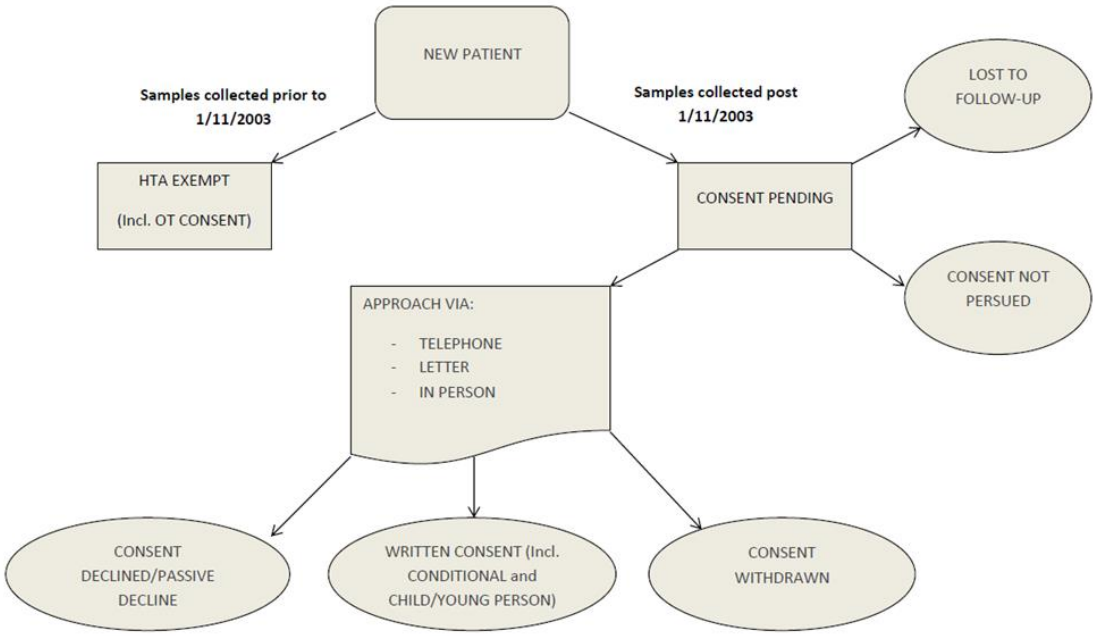
6. SAFETY

Not applicable

7. APPENDIX

Appendix 1

Flow diagram of consenting process



Appendix 2

Timeline of changes to TB database (Consent Only)

Date	Amendment
09/08/10	• Additional consent categories added to Biogenix - 'Passive decline' - 'Lost to follow up' • All consent categories defined Refer to SOP # 13 for definitions of al consent categories.
20/10/11	• Patients with paraffin blocks only had their consent status changed to 'HTA-Exempt' Refer to SOP # 13 for definition of 'HTA Exempt'
16/11/11	• Samples between 1/11/03 and 1/1/06 sorted into three categories depending on rarity of sample and size of sample. Samples were divided into: - 'Lost to Follow Up' - 'Consent Pending' - the samples were discarded, or - moved to Box 401 in Histopathology (samples that do not have consent and cannot be used for research).
09/02/12	• Remove category 'OT Consent' from Biogenix, and change 'HTA-Exempt' category to 'HTA-Exempt (incl. OT consent)' to include all samples prior to 1/11/03. Patients with all of their samples collected prior to 1/11/03 will be changed to 'HTA-Exempt (incl. OT consent)'; patients with samples that traverse this time will be coded '>1 Consent status'. Refer to SOP # 13 Version 1.3 for expanded definition of 'HTA-Exempt (incl. OT consent)'. • Addition of category '>1 Consent status' to cover those participants with changing consent statuses. NB. Patients whose consent statuses changed from 'OT consent' to '>1 consent status' because some of their samples were collected prior to 1/11/03, and some were collected post 1/11/03 (but prior to 1/1/06) appeared on the consent pending list and required sorting into 4 categories as per 16/11/11 point above ('Lost to Follow Up', 'Consent Pending', 'Discard' or 'Box 401').

02.03 Patient Consenting Guideline

Document Number: TB 02.03 **Version:** 007	**Issue Date:** 10/10/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
21/09/2010	New Document		
01/12/2011	Annual Review	02.03.001	AR
10/10/2012	Annual Review	02.03.002	AR
09/12/2013	Annual Review – consent new patients 7 days post diagnosis (Section 5.2); consent patients in OTC Monday – Friday; utilise CAFAT interpreter (Section 5.5)	02.03.003	OM
31/03/2017	Annual Review – updated links and data entry responsibilities	02.03.004	NG
31/07/2017	Minor amendments – review from biobanking certification program	02.03.005	NG
08/08/2017	Minor Amendments	02.03.006	LZ

1. PURPOSE

The purpose of this document is to outline a standardised procedure to follow when explaining and potentially obtaining consent from inpatients at Children's Hospital at Westmead (CHW), as well as via telephone and mail.

2. SCOPE

This protocol covers the consenting process for all patients at CHW whose samples are stored at the Tumour Bank (TB). In accordance with the New South Wales (NSW) Human Tissue Act and the National Health and Medical Research Council (NHMRC) National Statement on Ethical Conduct in Research Involving Humans, donations of human tissue must have written consent associated with them prior to being used for research purposes.

3. RESPONSIBILITIES

This procedure is primarily relevant to any TB Clinical Research Associate (CRA) at CHW who may be approaching oncology or non-oncology CHW patients for consenting in person, via telephone or mail for sample donation to the TB.
In addition, this procedure is relevant to Oncology Fellows who may undertake TB consenting in some special circumstances (for e.g. whilst consenting TB patients for other clinical trials or studies being performed at CHW).

4. MATERIALS, EQUIPMENT AND FORMS

TB consent information pack:

- TB information sheet and consent form (https://www.schn.health.nsw.gov.au/health-professionals/statewide-laboratory-services/tumour-bank)
- TB newsletter (latest version)
- Reply paid envelope (ensure TB details are added)
- TB business card
- TB letter (G:\data\TumourB\Tumour CRA docs\Letters\Current letter templates)
- TB SOP 02.02
- Appendix 1: Flow chart of Tumour Bank consenting process

5. METHOD

Upon ascertaining a list of patients to be approached, the TB CRA and Oncology Fellow (where applicable) should be cognisant of the following when consenting. All staff conducting consent must have taken appropriate training [ref SOP 08.01.002].

5.1 Basic Information to Convey

- What is the TB?
- Why do we do research?
- Who may eventually use the samples
- How long the TB has been running for (approximately 17 years)
- What samples we store
- That the specimens are de-identified
- That researchers must apply to an ethics committee before samples are released
- That there are no needles or extra procedures

- That donation is voluntary and whether the parent/guardian consents or not makes no difference to their child's care in the hospital
- That families have a freedom to withdraw samples or retract consent at any time
- That the participant will be given a hard photocopy of the signed consent form to keep for their own personal records.

5.2 Consenting in Camperdown and Outlying Wards

5.2.1 Wait at least 7 days from initial diagnosis for families to settle into the ward and process their child's diagnosis

5.2.2 Ask nurses at the ward front desk prior to approaching patients. This serves a number of purposes:

- Nurses are aware of who you are and your purpose of visit
- Patients may have been moved from the bed allocation listed on PowerChart
- Nurses can inform you whether a parent or guardian is present at the time
- Nurses can inform you whether the family is in a suitable emotional state to receive information about research
- Nurses can inform you whether the family can speak fluent English

5.2.3 Make use of the anti-bacterial hand rub both at the entrance to each ward, and at the entrance to each room

5.2.4 Upon reaching the bedside, introduce self and explain that you are from the research arm of oncology

5.2.5 Ask whether it is a good time to talk about research

5.2.6 If so, explain the basic consent process as above

5.2.7 Ask if the parent/guardian has any questions

5.2.8 During the consenting process, use specific examples of their child's disease

5.2.9 Use the child's name when talking about them

5.2.10 Gauge the parent/guardian's emotional reactions when talking to them, and if necessary return at a more appropriate time

5.2.11 If families are not ready to sign consent at the first visit, advise the parent/guardian to discuss the consent with their family and/or friends, and then advise that you will return in a few days to check whether they have any further questions. Alternatively, they can leave the form at the front desk of the Oncology Treatment Centre.

5.3 Upon Consenting in Wards

5.3.1 Remove one of the small stickers with the child's identifying information (name, DOB, MRN) from the child's chart kept in the nurse's station

5.3.2 Place at the top of the consent form

5.3.3 TB Clinical Research Associate to update Consent data entry (status, and any additional notes) into TB database (Labmatrix) and Oncology local database (OPR).

5.4 Non-English-Speaking Families

5.4.1 Ascertain time periods that interpreters are available in the wards by asking the ward clerk/nurse in charge or looking on the print out at the front desk of each ward

5.4.2 Ensure that the parent/guardian that you wish to speak to is available

5.4.3 Liaise with other utilisers of the interpreter to ensure a suitable time for TB purposes within the time period. Tumour Banking explanations should take approximately 15 minutes per patient.

5.4.4 If there is no interpreter booked and one is required urgently, book one via the Health Care Interpreter Service (Ph: 9912 3800; Name: CH Cancer Research Unit L4)

5.4.5 Accompany the interpreter to the child's room, introduce yourself to the parent/guardian and ask whether they would mind coming to the interview room to talk about research; alternatively conduct the interview at bedside.

5.4.6 Explain the TB as per *Consenting in Camperdown and outlying wards*, but with a pause every sentence or two to allow the interpreter to speak.

5.5 Consenting in the Oncology Treatment Centre

5.5.1 Check daily the appointments scheduling for OTC using PowerChart as per the instructions outlined in TB SOP 02.02 5.1 b.

5.5.2 Cross check this list as per TB SOP 02.02 5.1 e Attend OTC clinic daily to consent patients as required. Refer to the Patient Appointment List for scheduled appointment times TB SOP 02.02.5.1 d Liaise with OTC ward clerks regarding patient arrivals on the day of clinic. Provide ward clerks with the list of patients you are planning to see. The ward clerks can then page the TB CRA when these patients arrive.

5.5.3 Utilising the check-in notice board at the front desk, as well as information from the ward clerks, ascertain which parents/guardians are available to speak to

- The ward clerks can also inform you whether the family is in a suitable emotional state to receive information about research
- The ward clerks can also inform you whether the family can speak fluent English
- For French-speaking CAFAT patients utilise CAFAT interpreter who accompanies these patients on the day of clinic. (CAFAT interpreter can be paged on 6802)

5.5.4 Call out the child's name, or ask the ward clerks to point out where the parents/guardian are seated

5.5.5 Introduce self and explain that you are from the research arm of oncology

5.5.6 Ask whether it is a good time to talk about research

5.5.7 If so, explain the basic consent process as above

5.5.8 Ask if the parent/guardian has any questions

5.5.9 During this process, use specific examples of their child's disease

5.5.10 Use the child's name when talking about them

5.5.11 Gauge the parent/guardian's emotional reactions when talking to them, and if necessary return at a more appropriate time

5.5.12 Advise the parent/guardian to discuss the consent with their family and/or friends

5.5.13 Advise the parent/guardian that they can post the consent form using the reply-paid envelope provided, or if they wish, they can leave the form with Ward clerk in the Oncology Treatment Centre.

5.6 Letter/telephone Calls

5.6.1 Divide the list of patients who require consenting into those who were diagnosed with a non-malignant condition, and those with a malignant condition

5.6.2 Cross check the child's name, the parent/guardian name/s, types of sample/s against Labmatrix and PowerChart

5.6.3 Write standard letters (approved by HREC), completing details where necessary

5.6.4 Send in batches of approximately 8

5.6.5 Letters are followed up with a telephone call approximately one week later

5.6.6 Patients over the age of 18 must give consent themselves

5.6.7 PowerChart indicates under the 'Patient demographics' tab whether a family speaks English; if not, a letter should not be sent.

5.7 Recording consent

5.7.1 When consents are returned to the TB CRA, the patient's name, DOB and MRN are written at the top of the form for identification by the Medical Records Department.

5.7.2 All letters sent and interviews undertaken are recorded in an Excel sheet (G:\data\TumourB\Tumour CRA docs\Lists\Consenting), including whether the letter or interview resulted in a successful consent or not.

5.7.3 The TB Clinical Research Associate records the patient's consent status in the TB Database (Labmatrix) and Oncology local database (OPR).

See Appendix 1 for a flow chart of the TB consenting process.

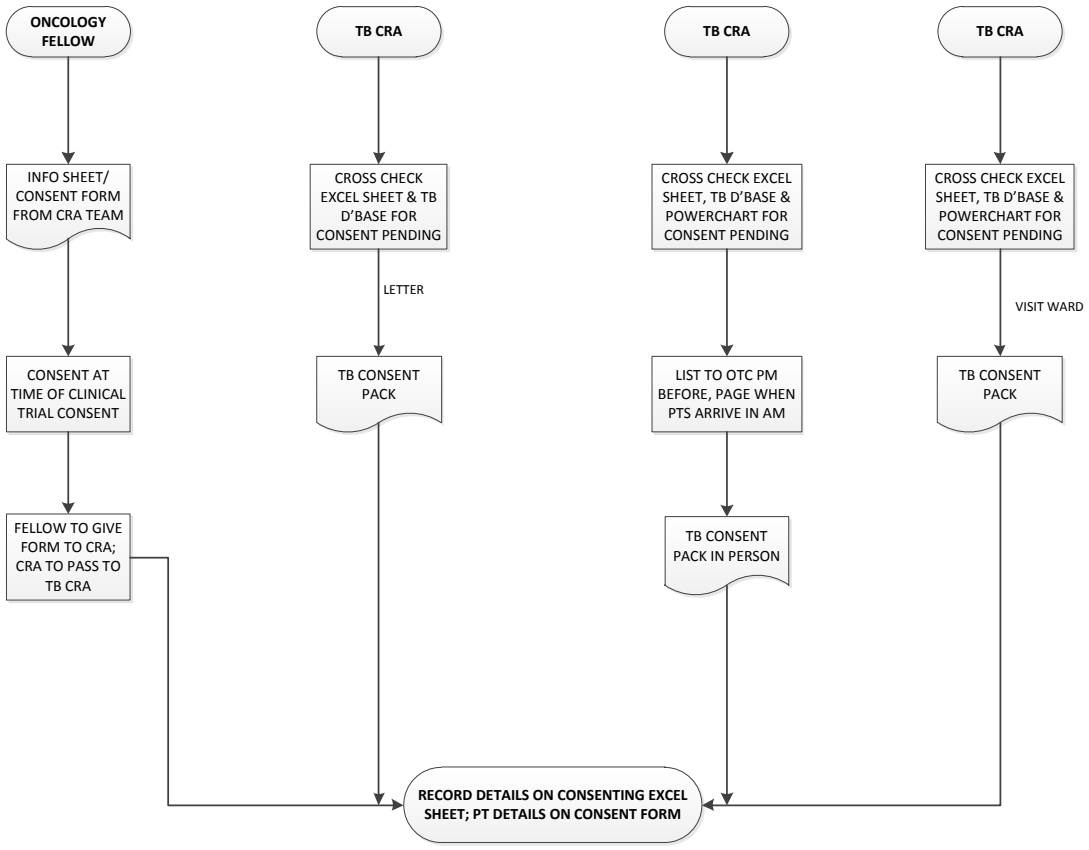
6. SAFETY

Not applicable

7. APPENDIX

Appendix 1

The TB consenting process



3.00 RECORDS AND DOCUMENTATION MANAGEMENT

03.01 Records and Documentation

Document Number: TB 03.01 **Version:** 005	**Issue Date:** 19/09/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
01/05/2009 01/12/2011 19/09/2012	New Document Annual Review Annual Review	 03.01.001 03.01.002	 KJ AR
16/9/2013	Annual Review – Amended 5.3 – "Tumour Bank Storage of TB Database" Added 7 – Appendix – "Timeline of Changes to TB Database"	03.01.003	NN
02/03/2017	Annual Review Amended 3 – Changed Administration Officer to Research Assistant	03.01.004	OM

1. PURPOSE

The purpose of this document is to outline the principles that are used by the Tumour Bank (TB) to ensure that electronic and paper records and documents are generated and maintained with high quality standards.

2. SCOPE

This document applies to all records and documents that are generated and maintained as part of the operation of the tumour repository. This document covers written, original paper records, true copies such as photocopies, as well as electronic records and documents.

3. RESPONSIBILITIES

The TB Clinical Research Associate (CRA), Project Officer and Research Assistant must ensure that this protocol is adhered to at all times when generating, maintaining and handling paper and electronic records and documents as part of the operation of the TB.

4. MATERIALS, EQUIPMENT AND FORMS

The Children's Hospital at Westmead Tumour Bank abides by, and is governed by three main laws that protect the privacy of individuals. These are:

The Privacy and Personal Information Protection Act (1998) (NSW)

- Sets privacy standards for dealing with personal information
- Provides information for all NSW public sector agencies in how they must manage personal information
- The Act includes 12 information protection principles (IPPs) that form the backbone of the Act and must be adhered to by all NSW public sector agencies. They can be grouped under 5 main headings- collection, storage, access and accuracy, use and disclosure.

The Health Records and Information Privacy Act (2002) (NSW)

- Sets privacy standards for dealing with health information
- Governs the handling of health information in both the public and private sectors in NSW
- The HRIP Act contains 15 health privacy principles (HPPs) which concern the collection, storage, access and accuracy, use, disclosure, identifiers and anonymity, and transferrals and linkage.

The Federal Privacy Act (1988) (Commonwealth)

- Sets privacy standards for dealing with personal information
- Regulates with way the Commonwealth Government and ACT Government Agencies and some private sector organisations deal with personal information

The TB is also guided by The Sydney Children's Hospital Network's Code of Conduct (http://webapps.schn.health.nsw.gov.au/epolicy/policy/2568).

- TB SOP 02.01 Notification of Consent Declined
- TB SOP 02.02 Patient Consent Information Flow
- TB SOP 02.03 Patient Consenting Guideline
- TB SOP 03.02 Collation of clinical data for Tumour Bank applications
- TB SOP 09.01 Responding to requests for specimens from the Children's Hospital at Westmead Paediatric Tumour Bank

5. METHOD

The following principles are to be used to further guide the TB in maintaining compliant records and documents.

5.1 Collecting demographic and clinical Information for TB database

5.1.1 Information on patients is entered into the TB database when the TB receives a sample for that patient

5.1.2 The Children's Hospital at Westmead's (CHW) patient management database, PowerChart is considered source data (original place of entry for all patient information), and this must be used to populate the TB database if at all possible

5.1.3 The diagnosis should not be entered until it is confirmed by the relevant Pathology department ('not yet identified' should be used as an interim measure).

5.2 Consents

5.2.1 The TB CRA will refer to the TB database to check the consent status of a patient, prior to seeking consent either in person or via post.

5.2.2 The TB CRA will follow the protocol outlined in TB SOP 02.02 and TB SOP 02.03 when consenting patients, in order to obtain written consent for tumour banking.

5.2.3 When a written consent for a patient is received, the TB CRA will change the consent status of the patient in the TB database to 'written consent'.

5.2.4 The written consent will be copied, and the copy will be taken to the Medical Records department on a monthly basis. The original will be filed in the dedicated filing cabinet.

5.3 Additional information requested by researchers

5.3.1 Additional information requested by researchers is gathered as per TB SOP 03.02.

5.4 Retention of Data in the Case of Withheld or Revoked Consent

5.4.1 The actions taken in the event of withheld or revoked consent are outlined in TB SOP 02.01.

5.5 Tumour Bank Storage of TB Database

5.5.1 The TB Database is password protected. The Head of TB, the Project Officer, the Research Assistant and the TB CRA are assigned 'Superuser' status, and can alter both data and aspects of the database per se.

5.5.2 Separate usernames allow retrospective audit if required.

5.5.3 The TB Database is backed up each night onto the local research server which is firewalled off from the main hospital. The back-up of the database on the research server is also password protected.

5.6 Consents

5.6.1 Written consents are stored in a locked filing cabinet in the TB Office. The TB Office is also locked at night.

5.6.2 Scanned copies of the TB consent are available on PowerChart, which is password protected.

5.7 Additional information requested by researchers

5.7.1 Additional information requested by researchers is stored in Excel sheets on password protected computers that are backed up each night.

5.7.2 Emails pertaining to particular TB participants are also stored on password protected computers, and email subject lines do not contain patient names.

5.7.3 The specimens' book that lists all biospecimens received is locked each evening in the TB office. Only TB staff has access to this key. Completed specimen pages are stored in a locked filing cabinet in the TB office.

5.8 Access and accuracy of TB Database

5.8.1 Access to the TB database is limited to the staff members of the TB

5.8.2 The TB Research Officer performs monthly audits on selected data points (name, DOB, diagnosis (incl. date), DOD if applicable, MRN, spelling in comments field, consent status, type of sample, collection date and split samples) within the TB Database to improve data accuracy. To avoid audit duplication, an Excel spreadsheet is used to mark off those cases that have been audited.

5.8.3 Additional information requested by researchers. Refer to TB SOP 03.02 for an outline of monitoring for additional information requested.

5.9 Use and disclosure of Tumour Bank data; identifiers and anonymity

5.9.1 TB samples and data are used solely for paediatric cancer research.

5.9.2 They are provided to researchers and clinicians from CHW. Researchers must have their project reviewed and approved by the TB Committee (refer to TB SOP 09.01 for an outline of the application process).

5.9.3 When samples are provided to a researcher, the TB Project Officer or Research Assistant will label the sample with the TB Biospecimens number only. This is a unique, database generated number.

5.9.4 Data requested by the researcher to accompany the samples either at the time or after shipping will also be identified only by the TB Biospecimens number.

6. SAFETY

Not applicable

7. APPENDIX

Appendix 1

Timeline of changes to TB database

Date	Amendment
09/08/10	• Additional consent categories added to Biogenix - 'Passive decline' - 'Lost to follow up' • All consent categories defined Refer to SOP # 13 for definitions of al consent categories.
20/10/11	Patients with paraffin blocks only had their consent status changed to 'HTA-Exempt' Refer to SOP # 13 for definition of 'HTA Exempt'
16/11/11	Samples between 1/11/03 and 1/1/06 sorted into three categories depending on rarity of sample and size of sample. Samples were divided into: - 'Lost to Follow Up' - 'Consent Pending' - the samples were discarded, or moved to Box 401 in Histopathology (samples that do not have consent and cannot be used for research).
09/02/12	• Remove category 'OT Consent' from Biogenix, and change 'HTA-Exempt' category to 'HTA-Exempt (incl. OT consent)' to include all samples prior to 1/11/03. Patients with all of their samples collected prior to 1/11/03 will be changed to 'HTA-Exempt (incl. OT consent)'; patients with samples that traverse this time will be coded '>1 Consent status'. Refer to SOP # 13 Version 1.3 for expanded definition of 'HTA-Exempt (incl. OT consent)'. • Addition of category '>1 Consent status' to cover those participants with changing consent statuses. NB. Patients whose consent statuses changed from 'OT consent' to '>1 consent status' because some of their samples were collected prior to 1/11/03, and some were collected post 1/11/03 (but prior to 1/1/06) appeared on the consent pending list and required sorting into 4 categories as per 16/11/11 point above ('Lost to Follow Up', 'Consent Pending', 'Discard' or 'Box 401').
12/5/2013	Instead of using the status "Not available" for Jeremy Henson samples, use "Hold".
28/6/2013	Box 401 could not be located in Histopathology, where it was being stored. Patients who only had samples stored in Box 401 were deleted. Patients who had samples both in Box 401 and elsewhere had samples from Box 401 only deleted.

8/7/2013	Created a new consent status for clinical trial patients' consent. This is called "Clinical Trial Service Provision" and is to be used for all clinical trial patients.
2/9/2013	Instead of using "Snap Frozen" for tumour samples, use "Frozen" for the preservation status.
12/9/2013	For each sample entered onto Biogenix, enter them as an aliquot (split), even if there is one split only.

03.02 COLLATION OF CLINICAL DATA FOR TUMOUR BANK APPLICATIONS

Document Number: TB 03.02 **Version:** 004	**Issue Date: 06/04/2017**
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
12/10/2011	New Document		
08/10/2012	Annual Review	03.02.001	AC
16/9/2013	Annual Review – No changes made	-	NN
06/4/2017	Annual Review	03.02.003	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when replying to researchers regarding their clinical data requests in a timely manner, and processes for accessing, collating and monitoring this data.

2. SCOPE

This protocol covers collation of all clinical data for successful Tumour Bank (TB) applications if requested by the applicant. Care should be taken to assure accuracy of this collated data, by using primary data sources to obtain the data and subsequent monitoring mechanisms to check for errors.

3. RESPONSIBILITIES

The TB Research Officer must ensure that these protocols are adhered to at all times when collating clinical data for applicants.

4. MATERIALS, EQUIPMENT AND FORMS

None

5. METHOD

5.1 Response to Tumour Bank Applicants

5.1.1 On receipt of clinical data request from an applicant, a response is to be made within 1 business day by the TB Research Officer.

5.1.2 This should include advising the time period in which they can expect the data (usually 3-4 weeks depending on the number of samples).

5.2 Accessing and Collation of Clinical Data

5.2.1 Clinical data associated with the TB samples can include demographic/epidemiological data and data from Haematology, Histopathology, Cytogenetics, Molecular Genetics, Imaging studies, surgery and clinical trials.

5.2.2 This data is stored in various databases within the hospital, and each source requires checking and cross checking to ensure data accuracy.

5.2.3 Sources for clinical data include:

- Oncology Patient Register (OPR): An Access database managed by the Oncology CRA team and contains detailed records of all Oncology patients admitted under the Oncology Department since 1986.
- Power Chart: The main clinical database for The Children's Hospital at Westmead (CHW) and contains all data on patients from 1995 onwards.
- PathNet: A database used by the Pathology Department to record details of samples processed by Pathology.

5.3 Monitoring of Collated Data

5.3.1 The TB Research Officer has the responsibility to monitor the data for accuracy and completeness.

5.4 Forwarding Data to Researcher

5.4.1 Once the monitoring is completed, the TB Research Officer is to forward the checked data to the researcher.

6. SAFETY

Not applicable

4.00 FACILITIES MANAGEMENT/ OPERATION

04.01 TUMOUR BANK -80°C FREEZER FAILURE PROCEDURE	
Document Number: TB 04.01 **Version:** 006	**Issue Date:** 7/4/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History			
Date	Amendment Details	Superseded version	Revised by
06/07/2009	New Document		
01/12/2011	Annual Review	04.01.001	AC
03/04/2012	Revision of text	04.01.002	KJ
21/09/2012	Annual Review	04.01.003	AC
30/10/2013	Annual Review – Change of contacts	04.01.004	ARo
07/04/2017	Annual Review	04.01.005	LZ

1. PURPOSE

The purpose of this document is to outline a standardised procedure to follow if the Tumour Bank's (TB) -80°C freezer was to fail (i.e., unable to keep the contents of the freezer below -65°C long term).

2. SCOPE

This protocol covers any occasions when the freezer may fail (including power failures). The TB's -80°C freezer contains more than 45,000 samples collected over 19 years. The contents of the TB's -80°C freezer must be maintained at less than -65°C to ensure the long-term viability of samples.

The reason why the freezer has failed will determine the short-term and long-term action(s) required to address the problem. The freezer may fail because of:

- Short- or long-term power failure of the whole or part of the building
- Complete failure of the freezer, i.e., mechanical compressor failure

3. RESPONSIBILITIES

The TB will be responsible for management of the freezer in co-ordination with the Laboratory Manager.

4. MATERIALS, EQUIPMENT AND FORMS

Depending on what action is required.

5. METHOD

5.1 Person to Contact

If the TB -80°C freezer alarm goes off and the freezer is unable to return to less than -65°C, DO NOT OPEN THE FREEZER DOOR. Keep the freezer door closed until one or more of the following persons are contacted.

First Contact		
Laboratory Manager	(Mobile)	0477 363 278
Rebecca Rielly	(Work)	9845 3091
	(Pager)	7322
Second Contact		
Dan Catchpoole	(Mobile)	0408 297 594
	(Work)	9845 1205
	(Pager)	6809
	(Home)	(02) 4753 6553
or		
Li Zhou	(Mobile)	0432 634 562
	(Work)	9845 3028
	(Pager)	6692
	(Home)	(02) 9683 4995

It will be the role of these persons to determine the problem that has caused the alarm to be triggered, and thus the short- and long-term course of action required.

5.2 Course of Action

5.2.1 Freezer CO_2 backup system

The TB -80°C freezer is connected to a CO_2 backup. If the temperature inside the freezer rises above -65°C, CO_2 gas will be pumped into the freezer slowly. This will maintain temperature of the contents at around -65°C to -70°C.

5.2.2 Short- and long-term power failure

If the freezer is in working order, but part or the whole of the building is experiencing power failure, then the freezer's CO_2 back up system will maintain the temperature inside the freezer at around -65°C to -70°C.The CO_2 back-up system should be maintained and checked to keep the freezer cold. Monitor and manage the CO_2 gas level

only at this stage. If the CO_2 system fails, then the procedure for "*Complete freezer failure*" should be followed.

5.3 Complete freezer failure

If it has been determined that the freezer has malfunctioned (i.e., the freezer compressor has failed), then a process of transferring the contents to the backup -80°C freezer, located next to the TB freezer, should begin. The CO_2 backup should still be working and monitored during the transfer procedure. The transfer procedure should follow these steps:

5.3.1 The failed -80°C freezer should be opened and only the top 5 racks of samples (all the freezer racks on the top shelf) should be removed from the failed freezer and immediately transferred to the back-up freezer.

5.3.2 Both freezers should be allowed to settle and cool-down for 15-20 mins.

5.3.3 The next shelf (5 racks of samples) should then be quickly transferred between freezers.

5.3.4 This should be repeated until all samples are transferred.

6. SAFETY

Thick padded gloves should be worn to transfer material from one -80°C freezer to another -80°C freezer.

04.02 Downloading -80°C Freezer Temperature Data

Document Number: TB 04.02 **Version:** 004	**Issue Date:** 7/4/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
02/06/2011	New Document		
01/12/2011 10/10/2012 16/9/2013	Annual Review Annual Review Annual Review – No changes made	04.02.001 04.02.002 -	AR AR NN
7/4/2017	Annual Review	04.02.003	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when downloading temperatures from the Tumour Bank's (TB) -80°C freezer.

2. SCOPE

This protocol covers all monthly downloads of the temperatures from TB -80°C freezer to ensure that the storage of samples is maintained at less than -65°C. The download should occur on the 1st of every month (or on the next work day if the 1st falls on a weekend or public holiday).

3. RESPONSIBILITIES

The TB Research Officer must ensure that this protocol is adhered to at all times when downloading temperatures from TB -80°C freezer.

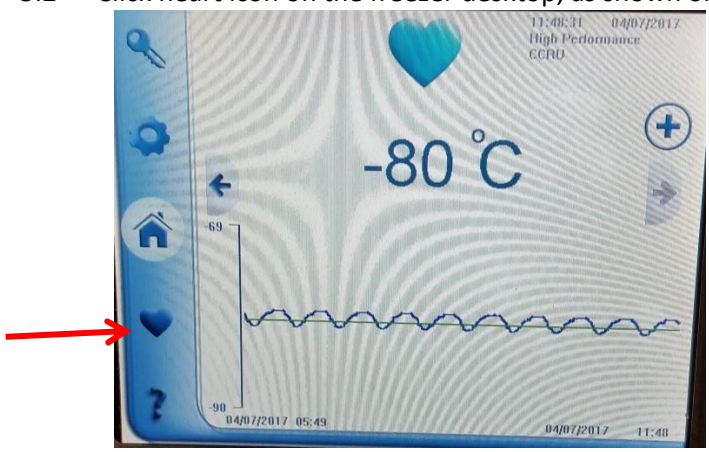
4. MATERIALS, EQUIPMENT AND FORMS

USB

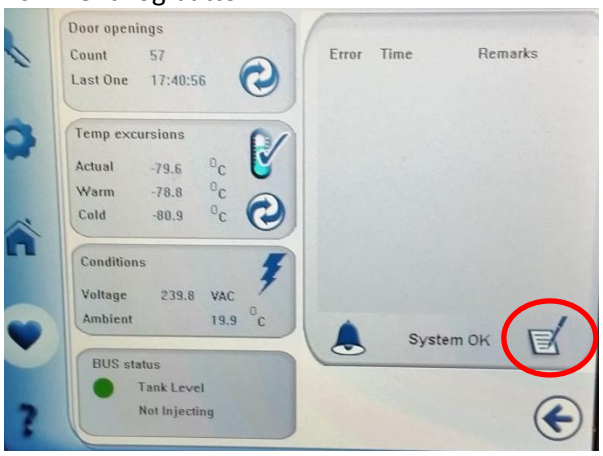
5. METHOD

5.1 Plug USB into freezer USB port

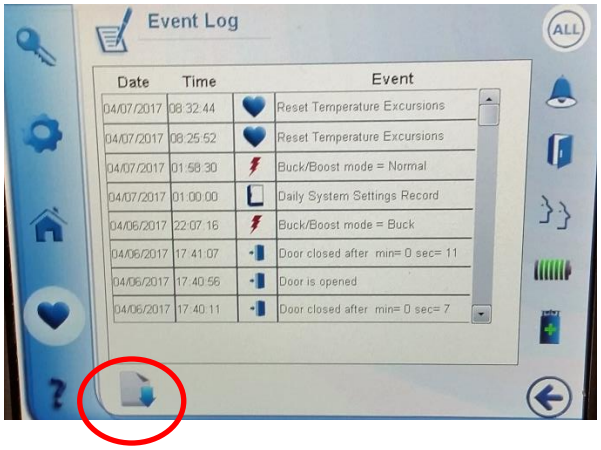
5.2 Click heart icon on the freezer desktop, as shown on below images



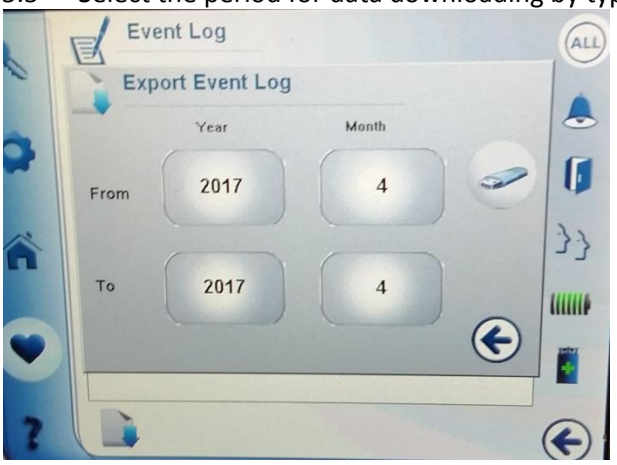
5.3 Click Event Log button



5.4 Click download icon



5.5 Select the period for data downloading by typing in year and month, then click USB icon.



5.6 After finishing download, click back arrow to return the home page.

5.7 Unplug the USB from TB -80°C freezer and plug it into computer, and save the data as a .csv file in G:\data\TumourB\Laboratory\Freezer\Temperature logger data.

6. SAFETY

None

5.00 MATERIALS AND DOCUMENTATION

05.01 Sample Collection

Document Number: TB 05.01 **Version:** 004	**Issue Date:** 02/09/12
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
02/09/12	New Document		
09/12/13	Annual Review – all peripheral bloods ordered by TB staff can be retrieved from the box labelled "Tumour Bank" located in Pathology department (Section 5.1)	05.01.001	OM
31/03/2017	Annual Review – updated team responsibilities, updated blood collection forms and processes with paperwork distribution and sample collection	05.01.002	NG
20/7/2017	Minor Amendment	05.01.003	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when collecting samples for the Tumour Bank (TB) from departments across The Children's Hospital at Westmead (CHW). This will maximise the number and quality of samples collected, which in turn will maximise translational research gains for investigators at CHW and their collaborators.

2. SCOPE

This protocol covers all bone marrow aspirate, trephine, blood, bone marrow slides and solid tissue samples collected from oncology or non-oncology patients at CHW.

3. RESPONSIBILITIES

The TB Clinical Research Associate (CRA), Research Officer and Research Assistants must ensure that these protocols are adhered to at all times when retrieving samples from CHW departments.

4. MATERIALS, EQUIPMENT AND FORMS

- Blank white A4 Pathology Request Forms, with pre-filled instructions for blood collection signed by the Head of Oncology
- Blank white A4 Pathology Request Forms, with pre-filled instructions for blood collection of residual samples from Pathology
- CRA SOP BSM 001 Requesting and Managing Bone Marrow Aspirate Samples for Oncology Patients Attachment 1.
- CRA SOP BSH 006 Collection of Tumour/Tissue for Research
- TB SOP 05.06 Obtaining Samples From Long Term Follow Up Patients
- TB SOP 05.07 Obtaining Patient Peripheral Blood Samples from the Clinical Haematology Department
- Appendix 1: Flow chart of blood samples across CHW
- Appendix 2: Flow chart of bone marrow and solid samples across CHW

5. METHOD

Peripheral blood ordering and retrieval

5.1 Oncology Treatment Centre (OTC)

5.1.1 The TB CRA/Research Assistant will complete patient details on blank white A4 Pathology Request Forms, using the General Anaesthetic (GA) folder located in OTC and/or the updated GA list which is sent in an email from the OTC administration team (Donna/Mira).

5.1.2 Request forms are to be completed on Friday and Wednesday afternoons, for sample collection on the following Monday and Thursday, respectively.

5.1.3 Give completed white A4 Pathology Request Forms to the Oncology CRA team.

5.1.4 Only patients undergoing a Bone Marrow Aspirate (BMA) are to have bloods ordered.

5.1.5 TB staff can retrieve bloods from the-blue box labelled “Tumour Bank” located in the

5.2 Clinical Haematology Department, Pathology

Refer to TB SOP 05.07 for details of new and relapsed oncology patients who have had bloods collected for the purpose of a full blood count, and can have this EDTA tube subsequently banked in the TB.

5.3 Specimen Reception, Pathology

The TB will be paged to retrieve the blood samples. They can be collected from pathology specimen reception, in the Clinical Haematology laboratory.

5.4 Blood collection, Pathology

5.4.1 Refer to TB SOP 05.06 for details of Long Term Follow Up (LTFU) patients with blood request forms who present to CHW's blood collection room in the Pathology department.

5.4.2 Blood samples can be retrieved from the box labelled "Tumour Bank" located in the Pathology department

5.5 Bone marrow aspirate/trephine ordering and retrieval

5.5.1 Bone marrow aspirates (and trephines if sufficient aspirate cannot be obtained) are ordered by the CRA team and/or Haematology registrar, according to the schedule outlined in the CRA SOP BSM 001.

5.5.2 The Haematology registrar will page the TB when samples are ready to collect.

5.5.3 Samples are to be collected from the designated TB receptacle in the Haematology registrar's office.

5.6 Bone Marrow Slide ordering and retrieval

5.6.1 Haematology registrars routinely make bone marrow slides for clinical investigations.

5.6.2 Additional research slides are stored in slide drawers provided by the TB CRA.

5.6.3 When the drawer is full, the haematology registrar will contact the TB.

5.6.4 The TB CRA will collect the drawer and replace it with an empty drawer.

5.7 Solid tissue retrieval

5.7.1 Malignant and non-malignant tissue excised by CHW surgeons is triaged via the Histopathology department as per the CRA SOP BSH 006.

5.7.2 Tissue for the TB is allocated to a 'Postie Box' receptacle in Histopathology's -80°C freezer.

5.7.3 On a monthly basis, the TB Research Officer retrieves samples from the 'Postie Box' in Histopathology.

Refer to appendix 1 for a flow chart of all samples across CHW.

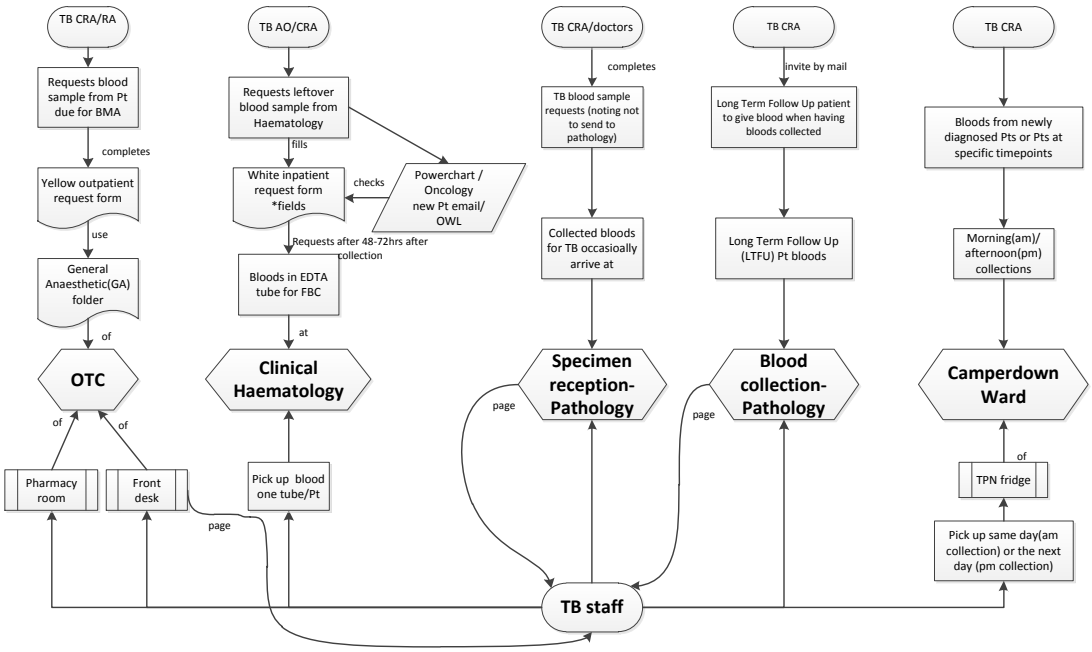
6. SAFETY

Adhere to all local biological, chemical and sharps policies.

7. APPENDIX

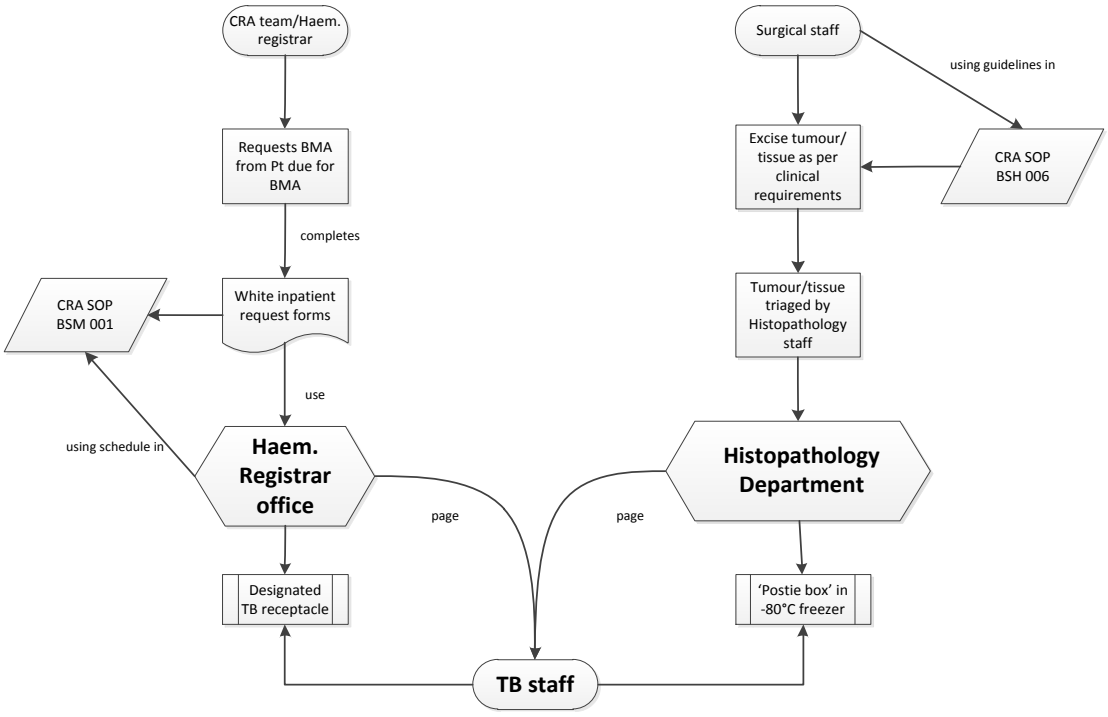
Appendix 1

Flow chart of blood samples across CHW



Appendix 2

Flow chart of bone marrow and solid samples across CHW



05.02 Bone Marrow Aspirate and Trephine Sample Processing

Document Number: TB 05.02 **Version:** 007	**Issue Date:** 01/12/2011
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
01/05/2009	New Document		
30/06/2010	Annual Review	05.02.001	AR
01/12/2011	Annual Review	05.02.002	AR
19/09/2012	Annual Review	05.02.003	AR
23/10/2013	Annual Review-Use of label printer	05.02.004	AY
31/03/2017	Annual Review – updates in sample processing, labelling and data entry into Labmatrix	05.02.005	NG
20/7/2017	Minor Amendment	05.02.006	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when snap freezing bone marrow samples in order to provide maximum benefit to the end users.

2. SCOPE

This protocol covers all bone marrow samples collected from oncology or non-oncology patients at The Children's Hospital at Westmead (CHW), for whom the Haematology department has residual samples, and subsequently contacts the Tumour Bank (TB) for processing and storage.

3. RESPONSIBILITIES

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

4. MATERIALS, EQUIPMENT AND FORMS

- 2.0mL Cryovial – with clear lid
- Cryovial lid inserts – white
- Disposable plastic transfer pipettes
- Racks to hold tubes while processing
- Tongs
- Freezer storage boxes
- Permanent waterproof marker
- Metal cup for aliquoting liquid nitrogen into
- 4 decimal place balance
- Label printer
- Small dewar for liquid nitrogen transportation
- Personal protective equipment - gowns, gloves, safety glasses

5. METHOD

5.1 Sample Processing and Labelling

Aliquot and snap freeze bone marrow aspirate and/or trephine samples as soon as possible after retrieval.

Bone Marrow Aspirate

5.1.1 Aliquot (into cryovial with clear lid) the BMA sample into 2.0mL lots using a disposable plastic transfer pipette.

5.1.2 Place a white insert into the lid.

5.1.3 Label the side of the cryovial with the following information using a label printer, using the sample information generated (after it has been entered into Labmatrix):

- Subject Code
- Biomaterial Name (the type of specimen) i.e. “BMA”
- Date of collection
- Volume and Unit
- Tube Type

Bone Marrow Trephine

5.1.4 Using the 4-decimal place balance in the chemical room, weigh an empty cryovial with yellow lid. Record the weight.

5.1.5 Place bone marrow trephine sample into the cryovial which has been weighed and replace lid.

5.1.6 Reweigh the cryovial containing bone marrow trephine sample.

5.1.7 Record the weight of the tube with a yellow lid plus the bone marrow trephine sample.

5.1.8 Subtract the weight of empty cryovial from the weight of the cryovial plus sample. Record the weight.

5.1.9 Place a white insert into the lid.

5.1.10 Label the side of the cryovial with the following information using a label printer (use font size 10pt):

- CHWTB number
- Date of collection
- Type of specimen (trephine)
- Volume of sample in grams

5.2 Sample Freezing and Storing

5.2.1 Decant liquid nitrogen from the large dewar (in the liquid nitrogen store room on Level 3) into a small dewar and transport to laboratory.

5.2.2 Aliquot some liquid nitrogen into a metal cup.

5.2.3 Using tongs, immerse cryovial containing sample into liquid nitrogen for approximately 15 seconds or until sample changes colour.

5.2.4 Place frozen cryovial containing sample in next available freezer box space in Tumour Bank freezer.

5.2.5 Record the box number and row and column position into Labmatrix.

5.3 Sample Recording

Record the following details of sample into the TB database (Labmatrix):

- Patient MRN
- Surname and first name
- Date of birth
- Sex
- Mortality Status
- Consent status
- Episode information (index, type, date)
- Facility
- Timepoint
- Biomaterial type
- Disease status
- Date of sample collection
- Date of processing the sample
- Derivative
- Preservation
- Cryopreservation
- Cryopreservation delayed
- Number and weight/volume of sample
- Freezer box number and position (storage location)
- Any additional notes

Then print a summary (daily data entry report) from Labmatrix to then file into the Tumour Bank Laboratory Bench Sample Folder along with the patient Pathology request forms. Also document within the Oncology local database (OPR) that a sample has been collected in the Patient Management tab window.

6. SAFETY

- Adhere to all local chemical and sharps policies.

- Dispose empty bone marrow tubes, pipette tips and soiled gloves in accordance with local regulations for handling of potentially infectious biological material.

7. REFERENCE

http://msds.chemalert.com/default.aspx?code=5071 : liquid nitrogen

05.03 Blood Sample Processing

Document Number: TB 05.03 **Version:** 007	**Issue Date:** 19/09/2012
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
01/05/2009	New Document		
01/07/2010	Annual Review	05.03.001	KJ/AR
01/12/2011	Annual Review	05.03.002	AR
20/02/2012	Expansion of blood collection methods	05.03.003	AR
19/09/2012	Annual Review	05.03.004	AR
23/10/2013	Annual Review-Use of label printer	05.03.005	AY
31/03/2017	Annual Review – updates in sample processing, labelling and data entry into Labmatrix	05.03.005	NG
20/7/2017	Minor Amendment	05.03.006	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when snap freezing blood samples in order to provide maximum benefit to the end users.

2. SCOPE

This protocol covers all blood samples collected from oncology or non-oncology patients at The Children's Hospital at Westmead (CHW), for there are residual samples, and the Tumour Bank (TB) is subsequently contacted for processing and storage.

3. RESPONSIBILITIES

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

4. MATERIALS, EQUIPMENT AND FORMS

- 2.0ml Cryovial with red lids
- Cryovial lid inserts – white
- Disposable plastic transfer pipettes
- Racks to hold tubes while processing
- Tongs
- Freezer storage boxes
- Permanent waterproof marker
- Metal cup for aliquoting liquid nitrogen into
- Label printer
- Small dewar for liquid nitrogen transportation
- Personal protective equipment - gowns, gloves, safety glasses

5. METHOD

5.1 Sample Processing and Labelling

After retrieval, aliquot and snap freeze blood sample as soon as possible.

5.1.1 If there are any delays in processing, store the sample in the TB 4°C refrigerator.

5.1.2 Aliquot (into red cryovial) the blood sample into 2.0mL lots using a disposable plastic transfer pipette.

5.1.3 Place a white insert into the lid.

5.1.4 Label the side of the cryovial with the following information using a label printer, using the sample information generated (after it has been entered into Labmatrix):

- Subject Code
- Biomaterial Name (type of specimen) i.e. peripheral blood (PB)
- Date of collection
- Volume and Unit
- Tube Type

5.2 Sample Freezing and Storing

5.2.1 Decant liquid nitrogen from the large dewar (in the liquid nitrogen store room on Level 3 into a small dewar and transport to laboratory.

5.2.2 Aliquot liquid nitrogen into a metal cup.

5.2.3 Using tongs, immerse cryovial containing sample into liquid nitrogen for approximately 15 seconds or until sample changes colour.

5.2.4 Place frozen cryovial containing sample in next available freezer box space in Tumour Bank freezer.

5.2.5 Record the box number and row and column position into Labmatrix.

5.3 Sample Recording

Record the following details of sample into the TB database (Labmatrix):

- Patient MRN
- Surname and first name
- Date of birth
- Sex
- Mortality Status
- Consent status
- Episode information (index, type, date)
- Facility
- Timepoint
- Biomaterial type
- Disease status
- Date of sample collection
- Date of processing the sample
- Derivative
- Preservation
- Cryopreservation
- Cryopreservation delayed
- Number and weight/volume of sample
- Freezer box number and position (storage location)
- Any additional notes

Then print a summary (daily data entry report) from Labmatrix to then file into the Tumour Bank Laboratory Bench Sample Folder along with the patient Pathology request forms. Also document within the Oncology local database (OPR) that a sample has been collected in the Patient Management tab window.

6. SAFETY
    - Adhere to all local chemical and sharps policies.
    - Dispose empty bone marrow tubes, pipette tips and soiled gloves in accordance with local regulations for handling of potentially infectious biological material.

7. REFERENCE

http://msds.chemalert.com/default.aspx?code=5071 : liquid nitrogen

5.04 Frozen Tissue Sample Collection from Histopathology Department and Processing

Document Number: TB 05.04 **Version:** 006	**Issue Date:** 10/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
26/05/2009	New document		AC
22/09/2010	Change of protocol	05.04.001	NM/AC
01/12/2011	Annual Review		AC
03/04/2012	Revision of text	05.04.002	KJ
24/09/2012	Annual Review	05.04.003	AC
10/03/2017	Revision of text/protocol	05.04.004	AY
20/07/2017	Minor Amendment	05.04.005	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedure to be followed during the transportation, processing and storage of frozen tissue samples collected from CHW Histopathology Department to provide maximum benefit to the end users.

2. SCOPE

This protocol covers tissue samples collected from CHW (Children's Hospital at Westmead) patients for whom the CHW Histopathology Department has residual samples which they have snap frozen. Subsequently the Tumour Bank (TB) will bank and store the samples after patients have consented.

3. RESPONSIBILITIES

The TB Clinical Research Associate (CRA), Research Officer and Research Assistant (RA) have to ensure that these protocols are adhered to at all times when processing and storing tissue samples.

4. MATERIALS, EQUIPMENT AND FORMS

- 2 mL blue lid cryovial with insert (Greiner bio-one)
- Appropriate racks to hold tubes while processing
- Stainless steel tongs
- Sartorius micro-balance (4 decimal place) in chemical/radiation room (Level 4)
- Freezer Storage boxes
- Personal protective equipment - gowns, gloves and safety glasses
- Liquid nitrogen
- Dry ice
- Carbon Steel Surgical Blade (Swann-Morton size 20)
- Surgical Blade handle (size 4)
- 90 mm petri-dish (Lab 8 cabinet)
- Label using Brady LabXpert printer
- Lab Bench Sample Record Sheet (see Appendix 2)
- SOP; 05.08.006 BANKING FRESH FROZEN TISSUE (TUMOUR)

5. METHOD

Residual fresh tissue sample following diagnosis is deposited in the TB's "Postie Box" located in the Histopathology Department -80^{O}C upright freezer. Details of sample are noted on the "Tumour Bank Postie Box" form (see Appendix 1) on the door of the Histopathology -80^{o}C upright freezer by Histopathology Department staff.

A TB staff member is to take note of list of frozen samples from the "Tumour Bank Postie Box" form located on the door of the Histopathology -80^{o}C upright freezer on Tuesday and Friday (list is used to pursue consent and matching blood sample).

A TB staff member is to check and empty the Postie Box located in Histopathology -80^{o}C upright freezer on a monthly basis using the following procedure.

If there is abundant sample (visually looks greater than 100mg), attempt to aliquot about 3-4 mm^3 or more (depending on size and availability).

5.1 Treat all tissue as potentially infectious.

5.2 Place all cryovials from the TB's Postie Box into a dewar containing liquid nitrogen.

5.3 Bring the dewar back to the TB specimen reception desk.

5.4 Transfer cryovials individually from the dewar into a 10X10 freezer storage box sitting in liquid nitrogen.

5.5 Record the information on each cryovial on the Lab Bench Sample Record Sheet (see Appendix 2) under appropriate headings (record BX number under "Notes").

5.6 If the biopsy number (BX-##-#####) is the only information recorded on the cryovial, check the pathology database (PathNet) to obtain patient's full name, DOB, collection

date and MRN. The hospital database (PowerChart) may also be used to find details about the sample.

5.7 Weigh the cryovial containing tumour sample using the 4-decimal place balance in the chemical room. Record the total weight of the cryovial and subtract from the following to determine the approximate weight of the tissue in the cryovial.

- blue lid cryovial with white cap insert = 2.1048g
- blue lid cryovial without white cap insert = 1.9561g

5.8 Record the weight (whole number, in mg) of the tissue in the cryovial on the Lab Bench Sample Record Sheet. If the tissue is greater than 100 mg, aliquot the sample following SOP 05.08 Method point 5.4.

5.9 Label the side of the cryovial with the following information using a label printer:

- Subject Code
- Biomaterial Name (type of specimen) i.e. Tissue (TI)
- Date of collection
- Amount and Unit

5.10 Place sample in the next available freezer box space in TB freezer, and record box number and position (row, column) on the Lab Bench Sample Record Sheet.

5.11 Use the information from Lab Bench Sample Record Sheet to prepare a detailed MS Excel spread sheet of the samples collected. Add extra columns titled “Diagnosis”, “Consent”, and “Blood Sample Available” (see Appendix 3). You can find the diagnosis of sample in either PathNet or PowerChart.

5.12 Forward this MS Excel spread sheet to the TB’s Research Assistant.

5.13 The TB’s Research Assistant is to record the information from the Lab Bench Sample Record Sheet on to the TB database.

5.14 The TB’s Research Assistant is to update the consent and blood sample availability status on the MS Excel spread sheet and forward it to the TB CRA, and the CRA, is to follow up on the consent and blood sample.

6. SAFETY

- All local chemical and sharps policies must be adhered to.
- Used surgical blades should be placed in sharps bin.
- Caution should be used when dealing with liquid nitrogen.
- Personal protective equipment should be used, including latex gloves, lab gown, safety glasses.
- Soiled gloves should be disposed of in accordance with local regulations for handling of potentially infectious biological material.

7. REFERENCE

http://msds.chemalert.com/default.aspx?code=5071 : liquid nitrogen

http://webapps.schn.health.nsw.gov.au/epolicy/policy/3295/download

SOP: 05.08.006 BANKING FRESH FROZEN TISSUE (TUMOUR)

8. APPENDICES

Appendix 1 - Histopathology Department sample list form – Tumour Bank Postie Box

TUMOUR BANK POSTIE BOX				
PATIENT SURNAME	**BX #**	**SPECIMEN SITE/DIAGNOSIS**	**SAMPLE COLLECTION DATE**	**DATE PICKED UP BY TB**

Appendix 2 – Tumour Bank sample list form – Laboratory Bench Sample Record Sheet

LABORATORY BENCH SAMPLE RECORD SHEET											
MRN	**CHWTB No.**	**SURNAME, first name**	**DOB**	**Sample type**	**Date collect**	**Samples**			**Notes**	**Data Entry**	
						mg	**Box #**	**Position (row. column)**		**Biog**	**OPR**

Appendix 3 - Tumour Bank detailed MS Excel spread sheet of the collected tissue samples form - Tumour Samples added to TB

LABORATORY BENCH SAMPLE RECORD SHEET														
MRN	CHWTB No.	SURNAME, first name	DOB	Sample type	Date collect	Samples			Notes	Data Entry		Diagnosis	Consent	Blood Sample Available
						mg	Box #	Position (row. column)		Biog	OPR			

05.05 Constructing Tissue Microarrays

Document Number: TB 05.05 **Version:** 007	**Issue Date:** 10/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

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26/05/2009	New Document		NM
22/09/2012	Annual Review	05.05.001	NM
13/12/2011?	Annual Review	05.05.002	AC
21/09/2012	Annual Review	05.05.003	AY
23/10/2013	Annual Review-Revision of text	05.05.004	AY
01/06/2016	Annual Review-Revision of text	05.05.005	AY
10/03/2017	Annual Review-Revision of text	05.05.006	AY

1. PURPOSE

The purpose of this document is to outline standardised procedures to be followed when locating, collecting and sampling tissue blocks to prepare a tissue microarray block; and, annealing and sectioning a constructed tissue microarray (TMA) block.

2. SCOPE

This protocol covers all TMA's constructed by the Tumour Bank (TB). Prior to constructing/planning a TMA, every core of tissue should be assessed and approved for use by a qualified member of the Histopathology Department.

3. RESPONSIBILITIES

TMAs will be constructed by the TB's Histopathology Research Assistant (RA) under guidance by the TB Project Officer.

4. MATERIALS, EQUIPMENT AND FORMS

- Donor tissue block together with matching Haematoxylin and Eosin (H&E) slide and report
- Paraffin wax recipient block or Unitma Pre-made recipient block
- Large embedding (eyeball) mould or Unitma embedding mould
- Superfrost plus slides
- MTA-1 Beecher Manual Tissue Arrayer
- Embedding centre
- Automated H&E stainer
- Microtome
- Water bath
- Incubator
- Histopathologist Block Screening form- for pathologist to complete and sign (see Appendix 1)
- To be approved list form –for RA to complete (see Appendix 2)

5. METHOD

5.1 Tissue selection and donor block preparation

5.1.1 Pull all the cases to be included in the TMA together i.e. block, H&E slide and report per case.

5.1.2 If the blocks have been previously cut for other clinical or research purposes, a fresh H&E slide may be obtained to ensure that the slide is representative of the block.

5.1.3 Complete the "Histopathologist Block Screening form" (see Appendix 1) and "To be approved list form" (see Appendix 2).

5.1.4 Place the completed "Histopathologist Block Screening form" together with the case.

5.1.5 Deliver case to a Histopathologist to review all the slides and they will mark areas of interest using a fine felt-tipped waterproof marker. It is useful to mark multiple areas from more than one block, as blocks may be depleted or misplaced.

5.1.6 Areas to be sampled/cored (tumour, normal) should be identified.

5.2 The recipient block

5.2.1 Prepare the recipient block by melting paraffin wax and dispensing it into a deep eyeball size mould.

5.2.2 Place a cassette on top of the liquid paraffin and wait until the wax has solidified.

5.2.3 Remove recipient block from mould.

5.2.4 Check block for any holes or cracks that may have risen during the block preparation.

5.2.5 Ensure that the block surface is flat and parallel to the underside of the cassette by facing off or trimming the block surface on a rotary microtome.

5.2.6 Take care not to introduce scores or nicks in the paraffin recipient block.

Or, you may use a ready to use Unitma pre-made recipient block.

5.3 Creating a Map

5.3.1 After all donor tissue is identified, a spreadsheet is constructed listing all the donor blocks of tissue.

5.3.2 A map for the TMA is constructed using the spreadsheet to map each patient to a specific x, y coordinate. The map should be designed to best accommodate the variety of cases, number of samples, matching normal tissue, and the purpose of the array.

5.3.3 It is good practice to insert recognizable cores at indicator positions to define the TMA orientation and ensure correct case identification when the TMA is scored (see Appendix 3).

5.4 TMA construction

5.4.1 With the MTA-1 Beecher Manual Tissue Arrayer, use the smaller core to make a hole in the homemade recipient block where the donor tissue will be positioned.

5.4.2 Place the donor paraffin blocks under a low wattage lamp before coring. This makes the donor blocks softer, less likely to crack and easier to punch.

5.4.3 With the MTA-1 Beecher Manual Tissue Arrayer, use the larger core to extract tissue from the donor block.

5.4.4 Tissue cores are to be deposited in a grid pattern in the recipient block to form a “tissue microarray”.

5.5 Annealing of the TMA Block

If using a homemade recipient block

5.5.1 Place block facing upward in slide oven at 64°C for 10 minutes (1st Round).

5.5.2 Use a clean glass microscope slide to level the face of the block by placing a glass slide on top of the block, applying even pressure to push all the cores on the array to the same level.

5.5.3 Let block cool at room temperature for 10 minutes.

5.5.4 Repeat steps 5.5.1, 5.5.2 and 5.5.3 3 more times i.e. 4 rounds in total.

5.5.5 After annealing the block, allow block to settle overnight before sectioning.

5.5.6 Take a digital photo of the tissue microarray block before sectioning.

If using a Unitma Pre-made recipient block

5.6 Put the recipient block into embedding mould with cutting section faced down and incubate in oven at about 70℃ for 45~60 minutes.

5.6.1 Take out the recipient block from the oven when completely transparent.

5.6.2 Embed recipient block as per normal.

5.6.3 Solidify the block on cold plate.

5.6.4 Take a digital photo of the tissue microarray block before sectioning.

5.7 Sectioning of the Array Block

5.7.1 Note the depth of the block and adjust the microtome distance accordingly.

5.7.2 Use a new disposable blade. Section a blank wax TMA block to blunt the knife slightly before trimming the TMA.

5.7.3 Trim block and place on ice for 20 minutes.

5.7.4 Serial Section Block.

5.7.5 Float out ribbon on 42°C water bath.

5.7.6 Use Superfrost Plus slides to pick up sections, don't waste any sections, and pick up every section including those with folds or bubbles.

5.8 Possible Sectioning Problems/Troubleshooting

- When moving the knife to new part, always blunt blade slightly on a new blank wax block to avoid discs (cores) rolling.
- If discs are rolling onto themselves then the blade is probably too sharp or if a homemade recipient block is used, wax needs to re-anneal around the cores.
- To re-anneal homemade recipient block, put in slide oven (64°C) for 1 minute (max), then let block cool on ice.

6. Refer to the following manuals for further technical instructions
    - Unitma Tissue microarray using Quick Ray® User Guide Manual
    - Manual Tissue Arrayer Technical Manual Version 1
    - Manual Tissue Arrayer MTA-1 Beecher Instruments Instruction Manual
    - SOP TB 05.15 CHW Histopathology Archived Case Access
    - SOP TB 05.17.001 SECTIONING OF TISSUE SAMPLES

7. SAFETY
    - All local chemical and sharps policies must be adhered to.
    - Safety equipment required includes latex gloves, lab gown, safety glasses and oven mitt.

8. APPENDICES

Appendix 1

Histopathology Department and Tumour Bank

[redacted]

…. for potential inclusion of specimens in tissue microarrays.

Tissue Microarray Project

Patient Details
Surname:
First Name:
MRN:
DOB:
Gender:

Specimen Details
AP Accession Number:
Collection Date:
Specimen Category (e.g. diagnosis/resection/metastasis):
Treatment Stage (e.g. pre or post chemo):
Diagnosis:

Block Details

Block ID:	Biopsy Site:	Block Diagnosis: (e.g. tumour, normal)	Permission to sample: (Y/N)	No. of 1mm cores permitted:

Comments/Notes:

Histopathologist
Initials:
Date:

Tumour Bank Office Use
Entered into DB (Y/N):
Date:
Initials:

Histopathologist block screening form Version 3 31-Mar-17

Appendix 2

Histo Number	MRN	Surname	First Name	Specimen Collection Date	Approved (Y/N)	Approved By	Blocks of Interest	Number of Cores Approved

Appendix 3

TMA (using Unitma Pre-made Recipient Block)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Appendix APP004		Blue Agar Marker									
2	Brain BRA003											
3	Breast BRE002											
4	Kidney KID002											
5	Liver LIV001											
6	Muscle											
7	Skin SKI002											
8	Spleen SPL001											
9	Testes TES001											
10	Tonsil TON002											

	Colour coding	
	Blue Agar Marker	
	"Normal tissue" control	
	"Disease" control	
0		
	cases=	
	patients=	

05.06 Obtaining Samples from Long Term Follow Up Patients

Document Number: TB 05.06 **Version:** 008	**Issue Date:** 19/09/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
	New Document		
30/06/2010	Annual Review	05.06.001	AR
01/12/2011	Annual Review	05.06.002	AR
19/09/2012	Annual Review	05.06.003	AR
09/12/2013	Annual Review – changes to 5. Method	05.06.004	OM
02/03/2017	Annual Review – Addition of point d. to section 5. METHOD	05.06.005	OM
20/7/2017	Minor Amendment	05.06.006	LZ
8/8/2017	Minor Amendment	05.06.007	LZ
14/8/2017	Minor Amendment	05.06.008	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedure to follow when obtaining consent and blood specimens from patients attending the Children's Hospital at Westmead (CHW) Oncology Department's Long Term Follow Up (LTFU) Clinic.

2. SCOPE

This protocol covers all consent and sample collection of patients attending the Long Term Follow Up Clinic, usually 5 years off treatment plus subsequent visits.

3. RESPONSIBILITIES

This document is relevant to the Tumour Bank (TB) Clinical Research Associate (CRA), who obtains consent and collects blood specimens from the CHW Pathology Department, and also the TB Research Assistants (RAs) and the TB Research Officer.

4. MATERIALS, EQUIPMENT AND FORMS

- TB Information Sheet and Consent Form and TB Child/Young Person Information Sheet and Child/Young Consent Form (G:\Data\TumourB\Tumour CRA docs\Consents\Consent docs\Current English)
- TB newsletter (latest version)
- Reply paid envelope (ensure TB details are added)
- TB business card
- TB letter (when approaching by mail only) (G:\data\TumourB\Tumour CRA docs\Letters)
- Pathology blood request form printed on green paper
- TB SOP 05.03 Blood Sample Processing

5. METHOD

5.1 The LTFU secretaries will email the TB CRA each invitation to attend an upcoming LTFU clinic.

5.2 The TB CRA is to check the TB database to see whether the patient or patient's parents have given consent for TB, and if the TB has a suitable blood sample stored.

5.3 If there is no consent, the TB CRA is to follow patient consent guideline [ref SOP 02.03.007] to consent patient at the upcoming clinic in person. Alternatively, send out the TB consent information pack.

5.4 LTFU patients who have reached the age of majority, that is 18 years and over and who require control blood sample to be collected must be re-consented

5.5 A number of patients may have their routine blood collections done the day of the clinic. This information can be found on LTFU clinic list distributed via an e-mail from LTFU clinical staff. If there is an existing consent, complete green blood request form a day before the clinic and leave it with the front desk receptionist in Pathology Collection room. Blood samples can be then collected form Tumour Bank designated red box located in Pathology.

5.6 The TB CRA or Research Assistant will process the blood as per TB SOP 05.03.

6. SAFETY

Not applicable

05.07 Obtaining patient peripheral blood samples from the clinical Haematology Department

Document Number: TB 05.07 **Version:** 006	**Issue Date:** 10/10/2012
Author: Amanda Rush **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
14/03/2011	New Document		
01/12/2011	Annual review	05.07.001	AR
10/10/2012	Annual Review	05.07.002	AR
09/12/2013	Annual Review – minor amendments to Section 5.1 and 5.2	05.07.003	OM
31/03/2017	Annual Review – updated Pathology Request Form (see Appendix 1)	05.07.004	NG
20/7/2017	Minor Amendment	05.07.005	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when obtaining blood samples from the clinical Haematology department.

2. SCOPE

This protocol covers all patients with a suspected malignancy at the Children's Hospital at Westmead (CHW), who has consented to be part of the bank and have agreed to donate blood.

3. RESPONSIBILITIES

The Tumour Bank (TB) Clinical Research Associate (CRA), Research Officer and Research Assistants must ensure that these protocols are adhered to at all times when retrieving samples from CHW departments.

4. MATERIALS, EQUIPMENT AND FORMS

- Appropriate rack for blood tubes
- Completed Request Form for each patient with suspected malignancy (Appendix 1)

5. METHOD

5.1 Searching for Suitable Bloods

5.1.1 The TB CRA is sent details of any patient with a suspected malignancy (either leukaemia or solid tumour).

5.1.2 Upon receiving an email notification of a new suspected malignancy, the TB CRA will check the patient's details in PowerChart to ascertain if and when they have had blood taken for a full blood count and differential. This is done by:

5.1.3 Clicking the 'Results' tab on the list of hyperlinks on the left-hand side of PowerChart

5.1.4 Clicking 'FBC' from the pale blue list on the left-hand side of PowerChart

5.1.5 Using the bottom scroll bar to find any full blood counts that have been performed at the Haematology Department within the last 3 days

5.1.6 Full blood EDTA samples are kept in Haematology Department for a maximum of 7 days after collection after which time they are routinely discarded.

5.2 Retrieving bloods from the Clinical Haematology Department

5.2.1 If there is a suitable blood to collect from the clinical Haematology Department, double click on the full blood count result to display a macro window.

5.2.2 From the window, record the following information on a Pathology Request Form (see Attachment 1 for an example):

- MRN
- Name
- DOB
- Sex
- Collection date
- Lab accession number

5.2.3 Take the request form to the clinical Haematology Department at approximately 14:30 (this is a less busy time of the day), and explain that you are TB staff and would like to retrieve a patient sample if they have completed clinical testing.

5.2.4 If the sample is available, process as per TB SOP 05.03 and if relevant TB SOP 07.02, ensuring that the snap delay time is recorded in Labmatrix.

6. SAFETY

- Transport the samples in a suitable rack.
- All local chemical and sharps policies must be adhered to.

7. APPENDIX

Appendix 1

the children's hospital at Westmead

The Sydney children's Hospitals Network

Result enquiries:
Tel +61 2 9845 3277
Fax +61 2 9845 3332

Corner Hawkesbury Road and Hainsworth Street
Locked Bag 4001
Westmead NSW 2145
Sydney Australia
schn.health.nsw.gov.au
ABN 53 188 579 090

Pathology Request Form

PATIENT DETAILS:

MRN: _____

Surname: _____

First Name: _____

DOB: _____ Gender: M / F

Address: _____

PATIENT MEDICARE ASSIGNMENT:

Medicare No: ☐☐☐☐ ☐☐☐☐☐ ☐☐

Medicare Assignment (Section 20A of the Health Insurance Act 1973)
I offer to assign my right to benefits to the approved pathology practitioner who will render the requested pathology service(s) and any eligible pathologist determinable service(s) established as necessary by the practitioner.

Patient Signature: _____ Date: __/__/__

"Privacy Note: The information provided will be used to assess any Medicare benefit payable for the services rendered and to facilitate the proper administration of government health programs, and may be used to update enrolment records. Its collection is authorised by the provisions of the *Health Insurance Act 1973*. The information may be disclosed to the Department of Health or to a person in the medical practice associated with this claim, or as authorised by law."

Collection Date	Collection Time	Collector's Initials

Specified APP: Y / N APP Name: _____

HOSPITAL DETAILS:

Clinic/Ward: _____

AMO: _____

Provider No.: _____

REQUESTING PRACTITIONER DETAILS:

Name: _____

Drs Signature: _____

Return Address: _____

Email: _____

Phone: _____ Fax: _____

Copy of Report to Dr: _____

PATIENT STATUS AT TIME OF SERVICE:

- ☐ Public PATIENT in a recognised Hospital
- ☐ Registered OUTPATIENT of a recognised Hospital
- ☐ Private PATIENT in a recognised hospital
- ☐ Private referred, non-registered OUTPATIENT
- ☐ Research PATIENT
- ☐ Ineligible PATIENT (Overseas)
- ☐ Other, Please specify: _____

TESTS REQUESTED:

Your treating practitioner has recommended that you use Pathology at The Children's Hospital at Westmead. You are free to choose your own pathology provider. However, if your doctor has specified a particular pathologist on clinical grounds, a Medicare rebate will only be payable if that pathologist performs the service. You should discuss this with your treating practitioner.

RESIDUAL BLOOD FOR TUMOUR BANK

Lab accession #

For enquiries please page Tumour Bank on #6692

SPECIMEN TYPE:

Peripheral blood, ETDA tube

CLINICAL NOTES:

RCPA NATA Accredited for compliance with NPAAC Standards and ISO 15189 Accreditation no. 2254

05.08 Banking Fresh Frozen Tissue (Tumour)

Document Number: TB 05.08 **Version:** 006	**Issue Date:** 16/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

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Date	Amendment Details	Superseded version	Revised by
07/04/2011	New Document		AC
03/04/2012	Revision of text	05.08.001	KJ
08/10/2012	Annual Review	05.08.002	AC
23/10/2013	Annual Review-revision of text	05.08.003	AY
16/03/2017	Annual Review-Revision of text/protocol	05.08.004	AY
20/07/2017	Minor Amendment	05.08.005	LZ

1. PURPOSE

The purpose of this document is to outline standardised procedures to follow when collecting fresh tissue/tumour samples throughout the hospital, or from an external hospital/laboratory, and processing and storing them.

2. SCOPE

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

3. RESPONSIBILITIES

The Tumour Bank (TB) Clinical Research Associate (CRA), TB Research Officer, and TB 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 blue lid cryovials with insert
- Carbon Steel Surgical Blade (Swann-Morton size 20)
- Surgical Blade handle (size 4)
- Appropriate racks to hold tubes while processing
- Sartorius micro-balance (4 decimal place) in chemical/radiation room (Chemical Room, Level 4)
- Stainless steel tongs
- Freezer storage boxes
- Liquid nitrogen
- Dry ice
- 90 mm petri-dish (Lab 8 cabinet)
- Label using Brady LabXpert printer
- Dewar
- Metal cup for aliquoting liquid nitrogen into
- Personal protective equipment - gowns, gloves and safety glasses

5. METHOD

Fresh tissue or tumour will be collected by a surgical team at Children's Hospital at Westmead (CHW) or from an external hospital/laboratory.

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

If there is abundant sample (visually looks greater than 100mg), attempt to aliquot about 3-4 mm^3 or more (depending on size and availability).

5.1 Sample to be banked as a whole

5.1.1 Place the tissue in a cryovial.

5.1.2 Using tongs, snap freeze by immersing cryovial into liquid nitrogen for approximately 15 seconds or until the sample has frozen.

5.1.3 Weigh the cryovial containing tumour sample using the 4-decimal place balance in the chemical room. Record the total weight of the cryovial and subtract from the following to determine the approximate weight of the tissue in the cryovial.

- blue lid cryovial with white cap insert = 2.1048g
- blue lid cryovial without white cap insert = 1.1913g

5.1.4 Label the side of the cryovial with the following information using a label printer:

- Subject Code
- Biomaterial Name (type of specimen) i.e. Tissue (TI)
- Date of collection
- Amount and Unit

5.1.5 Check for next available freezer box space in TB freezer, and store specimens in row and column order, record box number and position on request sheet.

5.2 Sample to be split

5.2.1 Place fresh tissue/tumour sample on a 90mm petri-dish. Using a sterile surgical blade cut the tissue (while covering it with the petri-dish lid).

5.2.2 Place each piece of tissue in a separate cryovial.

5.2.3 Snap freeze cryovial containing sample as per step 5.1.2 and continue to step 5.1.3, 5.1. 4 and 5.1. 5.

5.3 Sample Recording

Record the following details of sample into the TB database (Labmatrix):

- Patient MRN
- Surname and first name
- Date of birth
- Sex
- Mortality Status
- Consent status
- Episode information (index, type, date)
- Facility
- Timepoint
- Biomaterial type
- Disease status
- Date of sample collection
- Date of processing the sample
- Derivative
- Preservation
- Cryopreservation
- Cryopreservation delayed
- Number and weight/volume of sample
- Freezer box number and position (storage location)
- 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.

7. REFERENCES

http://webapps.schn.health.nsw.gov.au/epolicy/policy/3295/download

05.10 DNA EXTRACTION FROM OG-575 SALIVA SELF-COLLECTION KIT

Document Number: 05.10 **Version:** 003	**Issue Date:** 31/10/2013
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
17/10/2012 30/10/2013	New Document Annual Review - Text change	 05.10.001	GN ARo
21/6/2017	Annual Review	05.10.002	LZ

1. PURPOSE

The purpose of this document is to outline how to extract the DNA from Saliva Self-Collection Kits that have been returned to the Tumour Bank (TB).

2. SCOPE

This protocol covers the process of all DNA extractions from returned Saliva Self-Collection Kits and the long-term storage of DNA within the TB. As a part of the operation of the TB, it is sometimes difficult to collect samples for DNA from patients when in the hospital. To address this issue, sometimes it is appropriate to send out Saliva Self-Collection Kits (OG-575 supplied by DNA Genotek) when the sample is required for studies (appropriateness to be assessed by the Clinical Research Associate).

3. RESPONSIBILITIES

The TB Research Assistants must ensure that these protocols are adhered to at all times when extracting DNA using Saliva Self-Collection Kits (or other sources).

4. MATERIALS, EQUIPMENT AND FORMS

- Microcentrifuge capable of running at 15,000 x *g*

- 1.5 mL microcentrifuge tubes (autoclaved) capable of handling 15,000 x *g*
- Water bath at 50°C
- 95-100% ethanol at room temperature
- 70% ethanol at room temperature (made up with Milli-Q water)
- DNA storage buffer: TE (1.0 mM Tris-HCl, 1 mM EDTA, pH 8.0) or similar. As EDTA can make it difficult to perform some downstream applications a buffer such as FG3 from the QIAGEN Flexigene DNA Kit (1.0 mM Tris-HCl) would be preferred.
- PT-L2P buffer
- Ice in small esky/foam container
- Pipettes (1000µL and 5-40µL sizes) and blue and yellow pipette tips.
- Paper towels/Kimwipes
- Cryovials
- Permanent Marker

5. METHOD

5.1 Make sure that the water bath is turned on and is stable at 50°C for 10 minutes before proceeding with methods.

5.2 Label the tube from the Saliva Self-Collection kit that contains the patient saliva with the MRN using a permanent marker in 2 places.

5.3 Gently mix the sample in the collection tube by inversion and shaking for a few seconds to ensure viscous samples are properly mixed.

5.4 Incubate the sample tubes at 50°C in the water bath for at least 1 hour. Make sure that the fluid within the tube is submerged under the water, but also make sure the top of the tube is above the water line to make sure no water can leak into the sample. The heat treatment is essential to ensure that DNA is adequately released and nucleases are permanently inactivated. The sample may be incubated at 50°C overnight.

5.5 Label 1.5 mL microcentrifuge tubes with patient MRN using a permanent marker. Generally, with the OG-575 three 1.5 mL tubes are sufficient but it will depend on the amount of saliva collected.

5.6 Aliquot 500µL sample from the original collection tube into labelled 1.5 mL microcentrifuge tubes.

5.7 To 500µL samples add 20µL PT-L2P and mix by vortexing for a few seconds. If sample volume in tubes is less than 500µL then add the appropriate volume of PT-L2P (1/25th the volume of sample aliquot in tube).

5.8 Incubate on ice for 10 minutes.

5.9 Centrifuge at room temperature for 15 minutes at 15,000 x g. If time is short the centrifugation step may be reduced to as low as 5 minutes, but the 15-minute spin is beneficial for reducing the turbidity and achieving purer DNA.

5.10 While samples are being centrifuged label fresh 1.5 mL microcentrifuge tubes with patient MRNs (equal number of tubes as used in steps 5-7).

5.11 Carefully transfer the clear supernatant from centrifuged samples into the fresh labelled 1.5 mL microcentrifuge tubes. Be careful not to disturb the pellet while transferring. If the pellet is disturbed you will need to re-centrifuge the samples (step 9). Otherwise discard pellets.

5.12 To the 500µL of supernatant add 600µL of room temperature 95-100% ethanol. If less than 500µL of supernatant add the appropriate amount of 95-100% ethanol using 5 parts supernatant: 6 parts ethanol. Mix gently by inversion 10 times.

5.13 Centrifuge the 1.5 mL microcentrifuge tube at room temperature for 2 minutes at 15,000 x *g*. Make sure you know the orientation of the tube so that you know where the pellet will form (in case it is too small to see).

5.14 Carefully remove the supernatant and discard it. Take care not to disturb the DNA pellet.

5.15 Carefully add 250µL of room temperature 70% ethanol to wash the pellet. Add ethanol slowly so as to not disturb pellet and incubate at room temperature for 1 min. If you disturb the pellet when washing then re-centrifuge at 15,000 x g at room temperature for 5 minutes.

5.16 Remove the ethanol from the pellet. If the pellet is secure invert the tube onto a paper towel and allow ethanol to evaporate for 7 minutes.

5.17 Add 100µL of TE buffer (or buffer used) to dissolve the DNA pellet (if the pellet is smaller than usual than you can dissolve in smaller volumes to increase concentration).

5.18 Incubate DNA solution at 50°C for 1 hour with occasional vortexing to ensure complete hydration of DNA in buffer. May be incubated for longer, including overnight.

5.19 While DNA is hydrating (dissolving) in buffer at 50°C, label two cryovials with yellow tops for each patient.

- MRN
- "DNA Saliva"
- Date
- Buffer (i.e. "TE buffer" etc.)

5.20 After DNA has dissolved combine all the aliquots from a patient together and mix gently by inversion. Once mixed take a 12µL aliquot for quality control (see Tumour Bank SOP 05.12, "DNA Quality Assessment") which should be stored at 4 °C. The rest of the DNA can be aliquoted evenly between the two cryovials.

5.21 Fill in the details of the patient and samples into the Tumour Bank specimen folder. In the notes section write that the sample is from a Saliva Self-Collection kit and the buffer the DNA is dissolved in. Place the cryovials into the correct position in the freezer box and place in the Tumour Bank -80°C freezer.

6. SAFETY

- All local Chemical and Sharps policies must be adhered to.
- Empty blood tubes, pipette tips etc. should be disposed of in accordance with local regulations for handling of potentially infectious biological material.
- Saliva should be considered potentially harmful and appropriate personal protective equipment should be used including gloves, laboratory coat and safety glasses.

Note: This SOP is adapted from the PrepIT^{TM}•L2P Manual purification protocol handbook from DNAgenotek (http://www.dnagenotek.com/ROW/pdf/PD-PR-006.pdf). It contains many comments and hints that may help if experiencing difficulty with this SOP or if a kit other than the OG-575 is used.

05.11 DNA QUANTIFICATION USING NANODROP 2000

Document Number: 05.11 **Version:** 002	**Issue Date:** 22/06/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
21/10/2012 01/11/2013	New Document Annual Review – No changes made		GN ARo
22/6/2017	Annual Review	05.11.002	LZ

1. PURPOSE

The purpose of this document is to outline how to quantify DNA extracted using commercial kits.

2. SCOPE

This protocol covers the process of quantifying DNA extracted using commercial kits. As a part of the operation of the Tumour Bank (TB), it is sometimes necessary to extract and store DNA rather than storing the original tissue sample. Before freezing and storing long term it is essential to check the quantity and quality of the DNA extracted so that its usefulness for researchers is known without having to repeatedly thaw samples. This SOP is designed to be used to assess the quality of any DNA sample dissolved in a known buffer.

3. RESPONSIBILITIES

The TB Research Officer must ensure that these protocols are adhered to at all times when quantifying DNA.

4. MATERIALS, EQUIPMENT AND FORMS

- 2µL sample of DNA (or less if DNA concentration is sufficient)

- Buffer that DNA is dissolved in, minimum 2µL (e.g. TE buffer or QIAGEN's FG3 buffer)
- Pipettes (0.5-10µL size)
- Pipette tips
- Ice in small foam container
- USB thumb drive or lab book (both is better)
- Kimwipes
- Milli-Q Water

5. METHOD

5.1 The first step in assessing the quality of extracted DNA is to quantify it. This is done using the Nanodrop 2000 on level 3. Keep DNA on ice during this process**.** Turn on computer attached to Nanodrop and open the "Nanodrop 2000" software using the shortcut on the desktop.

5.2 Wipe the two measurement pedestals using a kimwipe dampened with Milli-Q water as shown below and then lower the sampling arm.

5.3 Select the 'Nucleic Acid' button on the home screen of the Nanodrop 2000 software.

5.4 Press "OK" at the "Wavelength verification" prompt if you have lowered the sampling arm already**.** Next make sure the "Add to Report" option is ticked near the top left of the screen (otherwise you will need to write down the results as you go).

5.5 Pipette 2µL of the buffer used to dissolve the DNA onto the lower measurement pedestal as shown below.

5.6 Select “Blank” near top left corner of the screen.

5.7 After the blank has been sampled (the machine will make noises for a few seconds and then stop), lift up the sampling arm and wipe away the blank buffer using a kimwipe.

5.8 Type in the name of the sample (MRN or other identifier) into the “Sample ID” field in the top right of the screen. Also make sure that the “DNA” option is selected in the “Type” field.

5.9 Pipette 2µL of the sample onto the lower measurement pedestal and select “Measure” near the top left of the screen.

5.10 Save the file/report in a known location (either on a USB thumb drive or a labelled folder on the C: / drive) and note the results of the concentration, the A260/280 and A260/230 readings, and then wipe the Nanodrop clean.

5.11 Repeat the steps h-k for all samples to be analysed.

5.12 If the sample is to be analysed for quality of DNA using agarose gels then proceed to SOP 05.12, “Quality Control of Genomic DNA using Agarose Gel Electrophoresis”, leaving the DNA on ice (or keep at 4 °C overnight).

6. SAFETY

- All local Chemical and Sharps policies must be adhered to.
- This method should be considered potentially harmful and appropriate personal protective equipment should be used including gloves and laboratory coat.

05.12 DNA QUALITY ASSESSMENT USING AGAROSE GEL

Document Number: 05.12 **Version:** 003	**Issue Date:** 22/06/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
21/10/2012 31/10/2013	New Document Annual Review – Minor text changes	 05.12.001	GN ARo
22/6/2017	Annual Review	06.12.002	LZ

1. PURPOSE

The purpose of this document is to outline how to assess the quality of extracted DNA where the concentration of DNA is known.

2. SCOPE

This protocol covers the process of assessing the quality of DNA. As a part of the operation of the Tumour Bank (TB), it is sometimes necessary to extract and store DNA rather than storing the original tissue sample. Before freezing and storing long term it is essential to check the quantity and quality of the DNA extracted so that its usefulness for researchers is known without having to repeatedly thaw samples. This SOP is designed to be used as a continuation of SOP 05.11, “DNA Quantification using Nanodrop 2000”, but can be used to assess the quality of any DNA sample of known concentration.

3. RESPONSIBILITIES

The TB Research Officer must ensure that these protocols are adhered to at all times when assessing the quality of DNA.

4. MATERIALS, EQUIPMENT AND FORMS

- Agarose I
- Milli-Q Water
- Laboratory bottle (500 mL)
- Ethidium Bromide-contaminated conical flask
- Microwave
- Agarose Gel casting equipment (Gel caster, combs and mini or wide gel tray; see diagram in Appendix 1)
- Agarose gel electrophoresis equipment (power pack, correct size agarose gel electrophoresis tank for gel used and lid)
- 1x TAE Buffer (50x recipe: Appendix 1)
- 6x Loading buffer (recipe: Appendix 1)
- Ethidium Bromide
- Large heat proof gloves
- Cytogenetic waste bin and sharps bin
- Pipette and pipette tips (0.5-10µL)
- 1.5 mL microcentrifuge tubes
- Invitrogen 1Kb Plus DNA ladder (Catalogue Number 10787-018)
- Ethidium Bromide-contaminated container for transporting agarose gels

5. METHOD

5.1 Determine the total number of samples to be assessed. If 14 or less a “mini” agarose gel can be used, if more than a “wide” agarose gel must be used.

5.2 Make up the required volume of 0.7% agarose solution by combining 0.42g of Agarose I with 1x TAE buffer to a final volume of 60 mL for a “small” agarose gel, or 1.54g of Agarose I with 1x TAE buffer to 220 mL for a “wide” gel, in a 500mL laboratory bottle.

5.3 Place the 500mL laboratory bottle into the microwave and unscrew the lid. Leave the lid sitting on the top of the bottle. Set the microwave on high and run for 2 minutes (or longer if required). The solution will need to approach boiling before the agarose will dissolve so it will be necessary to adjust the length of time the agarose is in the microwave until the agarose has dissolved. Remove the bottle from the microwave using the large black heat resistant gloves next to the microwave and allow cooling in a safe place for at least 20 minutes.

5.4 While the agarose solution is cooling set up the gel casting equipment (see Appendix 2). This is done by placing the gel tray within the gel casting tray and sealing before adding the 2 gel combs required (which will depend on the number of samples). For a mini gel, it should be 2 x 8 well combs and for a wide gel 2 x 15 well combs.

5.5 When the agarose solution has cooled (but not started to set) add the Ethidium Bromide. **Caution: Ethidium Bromide is a carcinogen and all work with Ethidium Bromide should be performed within a fume hood using full Personal Protective Equipment.** Working in the fume hood, slowly pour the agarose solution into the Ethidium Bromide-contaminated conical flask (found labelled next to the agarose gel electrophoresis equipment). While pouring it is safer to use the black heat resistant gloves as the agarose may still be hot despite the cooling period.

5.6 Pipette the required volume of Ethidium Bromide into the solution and mix by gentle swirling. For a mini gel with volume of 60 mL add 3µL and for a wide gel with a volume of 220 mL add 11µL. Dispose of pipette tip into cytogenetic sharps waste bin.

5.7 Place the setup agarose gel casting equipment into the fume hood and make sure it is level. Gently pour in agarose solution, but make sure it doesn't get above the level of the wells on the combs, and allow setting for 40 minutes. Any agarose not used should be poured into a weigh boat and allowed to set in the fume hood. Once set, the weight boat containing the agarose should be disposed of in a cytogenetic waste bin.

5.8 While gel is setting prepare the DNA for electrophoresis. Label 1.5 mL microcentrifuge tubes with MRN or another sample identifier. Load 0.5µg of DNA and adjust volume to 10µL using Milli-Q water. Add 2µL of 6x gel loading buffer to the sample.

5.9 Once the gel is set remove the combs from the gel gently to expose the wells. The gel can now be removed from fume hood and placed in the agarose electrophoresis tank. The wells need to be closer to the black electrode as DNA will move through the gel from the black (negative) electrode to the red (positive) electrode. Fill the electrophoresis tank with TAE buffer until at the level indicated.

5.10 Load the first lane of both combs with 1µL of Invitrogen 1Kb Plus DNA ladder (if 2 rows of wells are required). Load DNA samples into other wells slowly so as to not mix DNA samples (one well per sample).

5.11 Electrophorese at 40V for 3 hours. This step can be sped up by increasing voltage to near 100V. It is imperative to not let the dye front travel off the gel or through the wells of the second comb so it is important to keep an eye on the gel throughout the electrophoresis. Once complete dispose of TAE buffer according to local chemical policies.

5.12 Once gel has finished running, visualise on the UV transilluminator on level 3, lab 2, known as the Alpha Imager. Take down the gel (still on its gel tray) using the Ethidium Bromide-contaminated container for transporting gels (located next to microwave on level 4, lab 8).

5.13 To scan the gel, place it in the Alpha Imager. Open the "Alpha Imager" software from the desktop of the attached computer **(always use gloves while using this computer)** and select "acquire". Focus the camera onto your gel manually. Close the Alpha Imager, turn on the UV transilluminator and select "expose preview". If happy with the focus and quality of the displayed image then select "acquire image". On the captured image, it is then possible to edit the contrast, gamma readings etc. to make the bands more defined. Once the image is ready, save the image and print out a copy.

5.14 Turn off the UV transilluminator and dispose of the gel into the cytogenetic waste. Wipe down the bench with 70% Ethanol and Kimwipes.

6. SAFETY

- All local Chemical and Sharps policies must be adhered to.
- Ethidium Bromide is a known carcinogen. Always handle with care and familiarise yourself with the MSDS before using Ethidium Bromide. In particular, don't add Ethidium Bromide to agarose when it is still hot and steam is being produced.
- This method should be considered potentially harmful and appropriate personal protective equipment should be used including gloves, laboratory coat and safety glasses. Fume hoods should be used for Ethidium Bromide work.

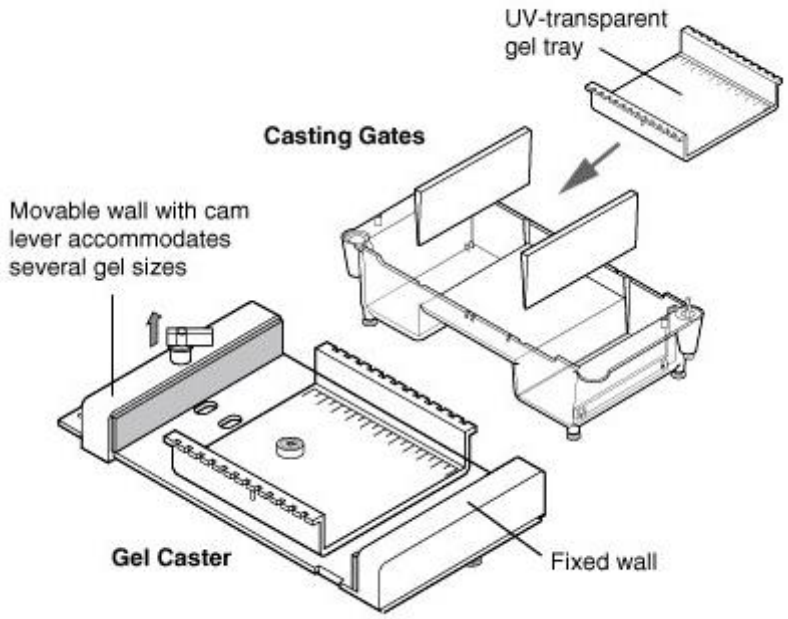
7. APPENDIX

Appendix 1 - Reagent Recipes

Reagent	Recipe
50 x TAE Buffer	242 g Tris base

	57.1 mL Glacial acetic acid 100 mL EDTA, pH 8.0 Make up to 1 L with Milli-Q water and store at room temperature
6 x Gel Loading Buffer	0.25% Bromophenol Blue (25 mg) 0.25% Xylene Cyanol FF (25 mg) 40% (w/v) sucrose (4 g) Make up to 10 mL using Milli-Q Water

Appendix 2 – Diagram of gel casting equipment



(Adapted from http://www.bio-rad.com/prd/en/AU/LSE/PDP/bec92fc8-9963-42b2-82cd-9381accea8a3/Mini-Sub-Cell-GT-Systems)

05.13 Banking Clinical Trial Samples

Document Number: TB SOP 05.13 Version: 003	Issue Date: 18/5/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
11.06.2013	Original document		Amanda Rush
18.05.2017	Annual review-modified to reflect processing of all clinical trial samples (including oncology)	001	Aysen Yuksel
20/07/2017	Minor Amendment	002	Li Zhou

1. PURPOSE

The purpose of this document is to describe procedures to take receipt of, track, process and ship biological samples pertaining to clinical trials.

2. SCOPE

This protocol covers all clinical trial samples handling by The Tumour Bank (TB) across The Children's Hospital at Westmead.

3. RESPONSIBILITIES

The TB Clinical Research Associate (CRA), Research Officer, and Research Assistant (RA) must ensure that supplied laboratory protocols are adhered to at all times when taking receipt of, processing, storing and shipping biological samples. The TB staff must ensure that all sample information is entered into the TB database and relevant spread sheets in an accurate and timely fashion.

The Tumour Bank is not responsible for:

- Collection of the specimen from the patient
- Ordering the required tests
- Patient appointments
- Performing analytical tests on samples
- Collection or dissemination of clinical data

4. MATERIALS, EQUIPMENT AND FORMS
    - Disposable plastic transfer pipettes
    - 2 mL cryovials
    - Appropriate racks to hold tubes while processing
    - Freezer storage boxes and racks
    - Personal protective equipment
    - Dry ice
    - Packaging for shipping
    - Centrifuge
    - Labels and pen
    - Appendix 1: Blank Clinical Trial Services List
    - Appendix 2: Tumour Bank Costings Spreadsheet
    - Appendix 3: Sample Submission Form for Clinical Trials
    - Appendix 4: Sample Retrieval Form for Clinical Trials
    - SOP 06.02. “Shipping and Transporting Samples to Researchers (As Dangerous Goods)

5. METHOD

5.1 Clinical trial set up

5.1.1 Ensure that the Clinical Trial Services List (Appendix 1) is completed by either TB staff or clinical trial coordinator for each new trial.

5.1.2 If the Tumour Bank is charging for their services, ensure that the TB costings_Clinical Trial Support_INMRTB staff copy spreadsheet (G:\data\TumourB\Clinical Trials\INMR) has been set up for each new trial.

5.1.3 Ensure that TB staff has assigned a new Project number within the Tumour Bank database for each new trial.

5.1.4 Ensure that clinical trial coordinators are familiar with the Tumour Bank Sample Submission and Sample Retrieval Forms.

5.1.5 Ensure that the appropriate clinical trial laboratory protocol is filed at G:\data\TumourB\Clinical Trials

5.2 Sample and vial receipt

5.2.1 Where ever possible, the clinical trial coordinator will email Tumour Bank staff to inform them of the details of upcoming sample collection and shipping dates.

5.2.2 Tumour Bank staff will check that delivered biological samples and vials are labelled correctly.

5.2.3 Ask the deliverer to complete, Appendix 3: Sample Submission Form for each set of patient samples being delivered to the Tumour Bank.

5.2.4 The Tumour Bank will contact the designated clinical trial coordinator for any sample or shipping details for which they are unsure.

5.3 Sample Processing and Labelling

5.3.1 Tumour Bank staff will process the specimens according to the supplied clinical trial laboratory protocol.

5.3.2 Samples must be labelled before being stored in the Tumour Bank -80°C freezer.

5.4 Data management

5.4.1 A TB staff member will use the information from Appendix 3: Sample Submission Form to enter details of each sample into the TB database.

5.4.2 The consent status for each sample will be recorded as 'clinical trial service provision'.

5.4.3 Non-oncology based trial patients will be entered into the database using their study code as surname, and unique patient identifier (subject number) for the trial as their first name. The MRN will be the study code with the unique patient identifier for the trial (e.g. DMD1234-0001). The diagnosis will be recorded as "Non-Malignancy". The study selected for the sample will be the name of the study code, which can be selected from the drop-down menu.

5.4.4 If the Tumour Bank is charging for their services, sample details will also be recorded in Appendix 2: Clinical Trials Costings.

5.5 Sample shipping

5.5.1 Samples shall be shipped according to dates and specifications supplied by the clinical trial coordinator or in the designated protocol.

5.5.2 Samples shall be shipped according to IATA Guidelines (refer to SOP 06.02 "Shipping and Transporting Samples to Researchers (As Dangerous Goods)").

5.6 Sample audit

5.6.1 The Tumour Bank will undertake an annual audit of clinical trial samples to ensure that their freezer contents reflect tracking in the Tumour Bank database.

5.6.2 Clinical trial coordinators will be notified of samples that have been stored in the freezer for longer than 6 months.

6. SAFETY

- Adhere to all local chemical and sharps policies.
- Dispose empty bone marrow tubes, pipette tips and soiled gloves in accordance with local regulations for handling of potentially infectious biological material.

7. APPENDICES

Appendix 1: Clinical Trial Services List

The tumour bank

Clinical Trial Services List

Clinical trial name/code	
Study coordinator name	
Study coordinator email/phone	
Department/ disease type	
Lab schedule e.g. D1, D14, W4 … (D=day, W=week)	
No. of visits/patient	
Expected length of trial for an individual patient	
Expected first patient first sample date	
Expected last patient last sample date	
Target number of patients at CHW	
Equipment required (e.g. refrigerated centrifuge)	
Temperature/calibration monitoring required?	
Services required (tick all that apply): ☐ Review of protocol for lab requirements ☐ Sponsor visits for training/lab assessment ☐ Collection of sample from coordinator/pathology ☐ Centrifuging/labelling samples ☐ Packaging for shipment to another lab ☐ Dry ice provision ☐ 4°C sample storage ☐ -20°C sample storage ☐ -80°C sample storage	
Cost centre for journal transfers	
Courier name	
Courier contact details	
Shipping address	
Comments	

Appendix 2: Tumour Bank Costings Spreadsheet

This spreadsheet is located in:

G:\data\TumourB\Clinical Trials\INMR\TB costings_Clinical Trial Support_INMRTB staff copy.xlsx

Appendix 3: Sample Submission Form for Clinical Trials

The tumour bank

Sample Submission Form for Clinical Trials

Clinical trial name/code	
Date received in Tumour Bank	
Patient name	
MRN	
DOB	
Patient trial identifier	
Study coordinator	
Sample type	
Volume and number of samples e.g. 2 x 5 mL tubes	
Sample collection date	
Other information	

Appendix 4: Sample Retrieval Form for Clinical Trials

The tumour bank

Sample Retrieval Form for Clinical Trials

Clinical trial name/code	
Date retrieved from Tumour Bank	
Patient name	
MRN	
DOB	
Patient trial identifier	
Study coordinator	
Sample type	
Volume and number of samples e.g. 2 x 5 mL tubes	
Sample collection date	
Other information	

05.15 CHW Histopathology Archived Case Access

Document Number: TB 05.15 **Version:** 002	**Issue Date:** 24/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
03/06/2016	New Document		AY
24/03/2017	Annual Review - Revision of text	001	AY

1. PURPOSE

The purpose of this document is to outline standardised procedures to be followed when locating, collecting, assessing and approving formalin-fixed paraffin-embedded (FFPE) tissue specimen collected from The Children's Hospital at Westmead (CHW) Histopathology Department for use in approved projects or constructing tissue microarrays (TMA).

2. SCOPE

This protocol covers all TMA's constructed by the Tumour Bank (TB) and all FFPE cases used for approved projects. All FFPE cases used for TMA construction or approved projects must have prior approval for use by a qualified member of the Histopathology Department.

3. RESPONSIBILITIES

Head of Tissue Bank is responsible for ensuring this protocol is adhered to by the TB's Histopathology Research Assistant (RA).

4. MATERIALS, EQUIPMENT AND FORMS

- Diagnostic/donor tissue block together with matching Haematoxylin and Eosin (H&E) stained slide and biopsy report
- Superfrost plus slides
- Automated H&E stainer
- Microtome

- Water bath
- Incubator
- Histopathologist Block Screening form - for RA and pathologist to complete and sign (see Appendix 1)
- To be approved list form – for RA to complete (see Appendix 2)

5. METHOD

5.1 Collect from the archive, case of interest i.e. blocks, slides and a copy of biopsy report.

5.2 Place a cardboard "place holder" in the archive drawer when a block/slide is removed. Clearly indicate on place holder:
- Accession number
- Surname
- Block ID
- Date of removal
- Statement "TB is in possession of the block/slide."

5.3 If the blocks do not match the H&E slide due to previously been cut for other clinical or research purposes, a fresh H&E slide must be obtained to ensure that the slide is representative of the block. Sampling the correct site from the donor blocks is critically important for constructing tissue arrays.

5.4 Complete the "Histopathologist Block Screening form" and "To be approved list form".

5.5 Place the completed "Histopathologist Block Screening form" together with the case.

5.6 Deliver case to a Histopathologist to review all the slides and they will mark areas of interest. Areas to be sampled (tumour - red, normal - green) should be identified. It is useful to mark multiple areas from more than one block, as blocks may be depleted. Donor blocks must be at least 1 mm thick to be suitable for constructing tissue arrays. However, we recommend donor tissue blocks with 3-4 mm thickness for best results.

5.7 Histopathologist will also complete the "Histopathologist Block Screening form" and advice RA of completion of assessing process.

5.8 Transfer all comments and details pertaining to assessed case onto "To be approved list form" and electronic spread sheet.

5.9 Return assessed blocks and H&E slides to archival filing drawers - remove place holder - and file paperwork accordingly.

5.10 Repeat steps 5.1-5.9 with rest of possible cases to be used.

5.11 If the retrieved cases are for TMA construction and a TMA layout/design has been finalised, re-collect from the archive assessed/approved blocks and H&E slides to be used to construct TMA and repeat step 5.2.

5.12 Construct TMA (see SOP 05.05 CONSTRUCTING TISSUE MICROARRAYS).

5.13 Take note of number of cores used from each block and update electronic spread sheet (e.g. "Ewing sarcoma" excel spread sheet).

5.14 Return blocks and H&E slides to archival filing drawers and remove place holder.

6. SAFETY

- All local chemical and sharps policies must be adhered to.

- Safety equipment required includes latex gloves, lab gown, safety glasses and oven mitt.

7. APPENDICES

Appendix 1 - Histopathologist Block screening form

Histopathology Department and Tumour Bank

[redacted]

…. for potential inclusion of specimens in tissue microarrays.

Tissue Microarray Project

Patient Details
Surname:
First Name:
MRN:
DOB:
Gender:

Specimen Details
AP Accession Number:
Collection Date:
Specimen Category (e.g. diagnosis/resection/metastasis):
Treatment Stage (e.g. pre or post chemo):
Diagnosis:

Block Details				
Block ID:	Biopsy Site:	Block Diagnosis: (e.g. tumour, normal)	Permission to sample: (Y/N)	No. of 1mm cores permitted:

Comments/Notes:

Histopathologist
Initials:
Date:

Tumour Bank Office Use
Entered into DB (Y/N):
Date:
Initials:

Histopathologist block screening form Version 3 31-Mar-17

Appendix 2 - To be approved list form

Histo Number	MRN	Surname	First Name	Specimen Collection Date	Approved (Y/N)	Approved By	Blocks of Interest	Number of Cores Approved

05.16 Assessing quality of tissue samples

Document Number: TB 15.16 **Version:** 001	**Issue Date:** 29/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date Revised	Amendment Details	Superseded version	Author
29/03/2017	New Document		AY

1. PURPOSE

Quality assurance is fundamental to the successful operation of a tissue biobank offering tissue specimens for research purposes. A high standard of tissue quality is essential to avoid introducing inconsistencies and variables into research studies. Biobanks should be confident that they are providing tissue samples with the appropriate quality to meet the research needs of investigators. Testing procedures should be in place to monitor and assess the quality of the samples.

2. SCOPE

This standard operating procedure (SOP) outlines the minimum assessment required to evaluate the quality of tissue samples stored in the biobank in order to provide investigators with a product that is consistent with their needs. This SOP does not cover an assessment of molecular quality.

3. RESPONSIBILITIES

This SOP applies to TB Research Assistant that is responsible for conducting and assisting with quality assurance procedures of tissue samples. The Histopathologist is responsible for conducting morphological characterization of tissue samples.

4. MATERIALS, EQUIPMENT AND FORMS

- Harris Haematoxylin & Eosin (H&E) stain
- Microscope
- Slides (such as Superfrost Plus)
- Solvent resistant markers, ink, pencils, and pens
- Microscope
- Microtome blades
- Fine tipped paint brush
- Fine tipped tissue separator
- Tray to hold slides
- Cryostat
- Dry ice
- Slide storage trays
- Optimal Cutting Temperature Compound (OCT)

5. METHOD

5.1 General Considerations for Morphological Review

5.1.1 At a minimum, assessment must consist of morphologic review of all collected tissue [frozen and formalin fixed paraffin embedded (FFPE)] samples (including archival material).

5.1.2 Use researcher feedback about sample quality to refine collection and storage practices and guide evolution of Quality Control procedures.

5.2 Quality Assessment – Pathology Review

5.2.1 The review must be performed by a qualified individual (Histopathologist).

5.2.2 Basic quality control practice must include a morphologic review of the following:

- H&E stained slide for each relevant frozen tissue
- H&E stained slide for each relevant FFPE block

5.2.3 It is suggested that the review confirm and assess:

- Anatomic site of procured tissue
- Tissue type and assessment of diagnosis
- Tumour type, grade
- Presence of tumour
- Percent cellularity of tumour and stroma
- Percent necrosis or signs of degradation
- Presence of inflammatory cells

5.2.4 Ideally, a digital image of slide (with the stained tissue sample) should be stored in the biobank database.

5.2.5 Record Results of review in biobank database.

6. SAFETY

Users must be aware of local regulations and correct procedures at site when handling and disposing of hazardous material.

7. APPENDICES

None

05.17 SECTIONING OF TISSUE SAMPLES	
Document Number: TB 05.17 **Version: 001**	**Issue Date:** 27/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History			
Date	Amendment Details	Superseded version	Revised by
27/03/2017	New Document		

1. PURPOSE

The purpose of this document is to outline standardized procedures for the Tumour Bank to follow when sectioning tissue preserved in paraffin or Optimal Cutting Temperature (OCT).

2. SCOPE

This standard operating procedure (SOP) describes how tissues preserved in paraffin and OCT should be sectioned. The SOP also outlines minimum assessment that should be in place to evaluate the quality and integrity of paraffin and frozen tissue sections.

3. RESPONSIBILITIES

This SOP applies to TB Research Assistant that is responsible for conducting and assisting with quality assurance procedures of tissue samples. The Histopathologist is responsible for conducting morphological characterization of tissue samples.

4. MATERIALS, EQUIPMENT AND FORMS

- Harris Haematoxylin & Eosin (H&E)
- Microscope
- Slides (such as Superfrost Plus)
- Solvent resistant markers, ink, pencils, and pens
- Microtome

- Hot water bath
- Microtome/cryostat blades
- Fine tipped paint brush
- Fine tipped tissue separator
- Tray to hold slides
- Tray of ice
- Oven
- Cryostat
- Container with dry ice for OCT blocks
- Slide storage boxes and/or slide shippers
- Optimal Cutting Temperature Compound (OCT)

5. METHOD

5.1 Sectioning Formalin Fixed Paraffin Embedded (FFPE) Tissue

5.2 Treat all tissue as potentially infectious.

5.3 Sectioning is performed by the Research Assistant trained to use a microtome and cut histological sections.

5.4 Have materials and equipment ready. Have as many slides as needed labelled and ready.

5.5 Pre-cool paraffin blocks, tissue side down, on a tray of ice. In some cases, this may facilitate sectioning. Using a steel disposable blade cut sections that are 4-5 Microns for histological sections, and 10-20 microns for nucleic acid extraction and up to 20-30 microns for protein extraction purposes.

5.6 For histological sections label slides serially and record the date the section is cut.

5.7 Dry histological sections in a 60° C oven for 1 hour.

5.8 Remove the sections from the oven and allow cooling at room temperature.

5.9 The sections are stored for shipping in slide mailers or stored in slide holder boxes most often at room temperature. Extended storage (usually more than 4 weeks) of unstained FFPE slides should be avoided as this may result in the loss of antigens. Slides dipped in paraffin wax and frozen may help preserve some unstable antigens.

NOTE: For nucleic acid or protein extraction sections, allow the individual sections to roll up naturally and place them directly into cryovial tubes ready for extraction. When cutting sections for DNA, RNA or protein extraction, all instruments and equipment must be pre-cleaned and wiped down with 70% ethanol before and between each specimen. Gloves must be worn.

5.10 Sectioning OCT Embedded Tissue

NOTE: During the sectioning procedure avoid allowing the OCT blocks to warm up. In particular, avoid cycles of heating and cooling.

Treat all tissue as potentially infectious.

5.10.1 Frozen sections are cut by personnel specifically trained to perform the task of sectioning OCT embedded tissue in a cryostat. Vials containing frozen tissue are transferred to the cryostat on dry ice.

5.10.2 Set the section thickness at 5-6 microns for immunohistochemistry, *in situ* hybridization or H&E and 10-20 microns for nucleic acid extraction and up to 20-30 microns for protein extraction samples. Since OCT may interfere with the further manipulation of nucleic acids, it is recommended that if the sections are to be extracted for nucleic acids, care should be taken to avoid OCT contamination of the sample.

5.10.3 Sections are mounted on room temperature slides by inverting the slide on a slight angle over the section as it lies on the knife back. The section will be attracted to the slide electrostatically. However, the slide should be placed at -20° C after 30 minutes at room temperature. Alternatively, the section can be fixed immediately in cold 95% ethanol immediately after electrostatic adherence to the slide and processed immediately.

5.10.4 Frozen sections on slides not requiring a fixation step can go directly into pre-cooled plastic slide boxes or slide mailers sealed with Parafilm for storage in a -80° C freezer.

5.10.5 When cutting sections for DNA, RNA or protein extraction, all instruments and equipment must be pre-cleaned and wiped down with 70% ethanol as well as between each specimen. Gloves must be worn.

5.10.6 For nucleic acid or protein extraction, simply allow the tissue sections to roll naturally and place them into pre-labelled, pre-cooled cryovial tubes. Samples can be stored at -80°C and processed at a later date.

5.10.7 When sectioning is done, remove the block carefully from the chuck. Then trim off excess OCT and immediately place it back in cryovial and on dry ice for return to cryostorage.

5.11 Quality Assessment – General Considerations for Section Review

5.11.1 At a minimum, assessment must consist of morphologic review of tissue sections.

5.11.2 Use researcher feedback about section quality to refine practices and guide evolution of Quality Control procedures.

5.12 Quality Assessment – Issues Concerning Quality of Sections

5.12.1 Make sure that representative tissue remains in the block after sections are cut for an assay. Do not completely deplete paraffin blocks.

5.12.2 Make sure there is sufficient material on a histological section for the intended assay without compromising representative material in the tissue block.

5.12.3 Ensure that the block used for tissue sectioning is appropriate for the purpose of the intended assay. (e.g., for a study of invasive cancer, representative invasive cancer cells need to be present in sufficient quantity on all sections provided for the study).

5.12.4 Ensure that sections are not scored or torn by the microtome knife as this will obscure microscopic observation and may cause uneven staining or bias assay results.

6. SAFETY

- All local chemical and sharps policies must be adhered to.
- Safety equipment required includes latex gloves, lab gown, safety glasses and oven mitt.

6.00 MATERIAL RELEASE

06.01 Responding to Requests for Specimens from the Children's Hospital at Westmead Tumour Bank

Document Number: TB 06.01 **Version:** 010	**Issue Date:** 18/4/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
01/05/2009	New Document		AC
07/07/2010	Annual Review	06.01.001	AR
07/07/2012	Update to "Materials, Equipment & Forms"	06.01.002	AR
01/12/2011		06.01.003	KJ
19/09/2012	Addition to "Project Progress Reports"	06.01.004	AC
11/12/2013	Annual Review	06.01.005	LZ
	Annual Review – No changes made		
18/04/2017	Annual Review	06.01.006	LZ
20/7/2017	Minor Amendment	06.01.007	LZ
9/8/2017	Minor Amendment	06.01.008	LZ
14/8/2017	Minor Amendment	06.01.009	LZ

1. PURPOSE

The purpose of this document is to outline the Tumour Bank's(TB) response to a researcher's request to obtain specimens from the TB, and to assure researchers from Australia and overseas with appropriate ethics and scientific approvals can access specimens, as the Tumour Bank is aiming at supporting paediatric cancer research with its precious specimens.

2. SCOPE

This protocol covers all tumour, bone marrow, blood and cerebrospinal fluid (CSF) samples collected from patients at The Children's Hospital at Westmead (CHW), for whom the Haematology and Histopathology departments have residual specimens.

3. RESPONSIBILITIES

The TB Research Officer has to ensure that these protocols are adhered to at all times when responding to a researcher's request to obtain samples.

4. MATERIALS, EQUIPMENT AND FORMS

- SCTBN Application Form V2 290816 (Appendix 1)
- SCTBN Project Update V2 290816 (Appendix 2)
- Request Form Version 3 Sept 2012 (Appendix 3)
- SCTBN Conditions of Use V1(Appendix 4)

5. METHOD

Research Applications

5.1 Initial Contact

5.1.1 Via active or passive communication with researcher, the Tumour Bank Research Officer will capture the research interest of the research interest of the researcher and do the initial search to establish the number of samples the TB has in storage which are suitable for the researcher.

5.1.2 Send a reply email to the researcher detailing the number and type of samples held by the TB.

5.1.3 Provide details of the application process to the researcher and attach the current tumour bank application form (Appendix 1).

5.2 Receipt of Tumour Bank Application

5.2.1 Check application form to see that all components of the application form are attached. These include the following

- Application form
- Ethics approval or evidence of equivalent process from overseas
- Evidence of funding
- Any additional scientific information

5.2.2 Submit the application to TB committee for online review

5.2.3 Tabulate any issues or concerns raised by the committee.

5.3 Applications Not Approved

5.3.1 If an application is rejected by the TB Committee, forward the outcome letter (generated by the SCTBN committee) to the applicant outlining the concerns raised by the TB Committee and why their application was rejected.

5.3.2 In the email, indicate that the TB will be happy to review an amended application that addresses the issues and concerns raised.

5.4 Applications Approved

5.4.1 When an application is approved, notify the applicant by email with approval letter attached.

5.4.2 Perform an updated search of the TB database after the application gets approved to see if a significant amount of time has elapsed.

5.4.3 TB Research Officer is to forward the electronic list of samples to TB CRA for consent verification.

5.4.4 TB CRA is to cross-reference consent status information with Labmatrix. Only biomaterials with either Written Consent or HTA Exempt status are eligible for proceeding further.

5.4.5 TB CRA is to notify the TB Research Officer of any discrepancies in consent status. TB CRA shall endeavour to pursue the obtainment of consent for any subject with outstanding Written Consent status, so far as reasonably practicable.

5.4.6 TB CRA to sign-off and date the verified list in electronic format and file together with relevant project documentation in the following location G:\data\TumourB\Applications\Research\Approved

5.4.7 Under no circumstance shall samples be dispatched to research if their consent status is Pending or has not been confirmed.

5.4.8 TB Research Officer asks the researcher to sign the SCTBN Conditions of Use V1and forward details of their World Courier account number to facilitate delivery of the samples (if applicable).

5.4.9 If the applicant is a local researcher, arrange for samples to be collected directly from the CHW TB.

5.4.10 If the samples are to be shipped internationally by World Courier, make arrangements to have the World Courier come to the TB and collect samples for shipment (usually done on dry-ice).

5.4.11 Shipment should preferably be done on Monday or Tuesday to ensure the sample does not arrive at the destination on the weekend (also check for any national public holidays in the relevant destination country).

5.4.12 TB Research Assistant or Research Officer will de-identify the samples and pack them according to researchers' request.

5.4.13 Send an email to the receiver acknowledging that the samples have been sent and asking to inform the TB when they are received (with the WC tracking number).

5.5 Requests for Clinical Data

5.5.1 If clinical data is requested by researchers via email, the TB Research Officer will collate the data.

5.5.2 Prior to sending the data to the relevant researcher, the data will be sent to another TB staff for checking for quality assurance purposes.

5.6 Project Progress Reports

5.6.1 After 12 month of samples shipment, a reminder email with project update form attached will be sent to the researcher (Appendix 2).

5.6.2 Completed update forms are to be returned via email or post to the TB Research Officer within 28 days after receipt of the form

5.6.3 Track issuing and receiving completed update forms using the research applications tracking sheet. (G:/Tumour B/ TB Management/ Research applications tracking sheet).

5.6.4 The TB Research Officer is to co-ordinate project updates.

5.6.5 Any unused specimens are to be returned to the Tumour Bank.

Clinical Requests

5.7 Initial Contact

5.7.1 A clinician from the CHW or their representative contacts the TB Research Officer or CRA to request for samples stored at the TB.

5.7.2 The Research Officer or CRA is to than triage the sample urgency according to the purpose of the request.

5.7.3 The requests can be for diagnosis and treatment decisions which are treated as urgent or for quality assurance (QA) purposes which are not treated as urgent.

5.8 Diagnosis and Treatment Decisions

5.8.1 These sample requests are urgent.

5.8.2 The CRA has to ensure the clinicians have filled in a TB Request Form (Appendix 3) retrospectively.

5.8.3 The Research Officer has to check for availability of the sample in the TB storage.

5.8.4 If the sample is available, the CRA contacts the clinician and sends them the sample as soon as possible.

5.8.5 The completed forms are used to update the TB database and filed in the filing cabinet.

5.9 Quality Assurance Purpose

5.9.1 Samples which are requested for QA purposes are not treated as urgent.

5.9.2 The CRA is to ensure the clinicians have filled in a Tumour Bank Request Form prior to checking for availability of samples.

5.9.3 Once the form is received, the CRA has to check for availability of the sample and send them to the clinician when it is available.

5.9.4 The completed forms are used to update the TB database and filed in the filing cabinet.

6. SAFETY

Not applicable

06.02 SHIPPING AND TRANSPORTING SAMPLES TO RESEARCHERS - AS DANGEROUS GOODS	
Document Number: TB 06.02 **Version:** 005	**Issue Date:** 21/06/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
01/05/2009	New Document		
01/05/2010	Annual Review	06.02.001	KJ
01/12/2011	Annual Review	06.02.002	KJ
19/09/2012	Annual Review	06.02.003	AC
01/11/2013	Annual Review – Addition of approved shippers of approved shippers for dangerous goods	06.02.004	ARo
21/6/2017	Annual Review	06.02.005	LZ

1. PURPOSE

The purpose of this document is to outline a standardised procedure to follow when shipping samples to researches nationally and internationally in such a way that the samples meet the needs of the end users, and for quality control purposes.

2. SCOPE

This protocol covers all samples that are to be shipped to researchers both nationally and internationally. Human Biological Materials are a precious and delicate resource and care should be taken to maintain and protect sample integrity at all times. An established and tested shipping procedure is essential, as inadequate shipping procedures may lead to the loss of the samples and additional costs for repeat shipments.

3. RESPONSIBILITIES

Shipments can only be prepared and authorised by approved Dangerous Goods shippers. Currently the approved shippers in the Tumour Bank are Li Zhou and Aysen Yuksel.

4. MATERIALS, EQUIPMENT AND FORMS

- Customs Declaration form
- United States Center for Disease Control and (for US shipments only)

5. METHOD

5.1 Procedure

The safe and legal transport of patient specimens is based on the following mandated activities:

- Classification and naming of the material to be shipped.
- Selection of packaging that will contain the contents if the package is damaged.
- Packing the shipment correctly.
- Placing appropriate markings and labels onto the outer package.
- Documenting relevant aspects of each package and its contents.

5.2 Appropriate Packaging and Shipping Conditions

5.2.1 Packaging must be appropriate for the transportation of perishable goods. Contents of the package may be categorised as being dangerous or biohazardous and so packaging must conform to International Airway Transportation Authority (IATA) regulations.

IATA has defined a “patient specimen” as material collected directly from human or animals for diagnostic, treatment, prevention, investigational or research purposes. Patient specimens have to be categorized as Biological Substance, Category A or Category B, or Exempt Specimens.

A **Biological Substance, Category A** substance is "an infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, or life threatening or fatal disease to otherwise healthy humans or animals".

A **Biological Substance, Category B** substance is "an infectious substance which does not meet the criteria for inclusion in Category A". Typical clinical or patient specimens being shipped for routine culturing or other testing for a non-Category A infectious microorganism or suspected of containing a non-Category A infectious microorganism are examples of Category B substances.

Exempt human or animal specimens are those for which there is "minimal likelihood there are pathogens present".

5.2.2 Ship all frozen products in cryovials and frozen sections (in slide shippers) on dry ice.

Dry ice is classified as a dangerous substance and needs to be sent in a double-insulated shipper (styrofoam container in fitted cardboard box). Dry ice must NEVER be placed into a tightly sealed container (explosion hazard); the packaging must allow the release of CO2.

5.2.3 Ship all refrigerated products on frozen gel packs in insulated shippers.

5.2.4 Ship paraffin blocks and slides with paraffin sections at room temperature.

5.2.5 To prevent damage during shipping and ensure leak-proof conditions, cryovials must be inserted in cardboard or plastic vial shippers. Glass slides must be inserted in slide shipping cassettes to prevent breakage and damage.

5.2.6 The quantity of samples to be shipped will affect the size of the packaging. Add sufficient refrigerant to maintain the desired temperature throughout the shipping cycle.

5.2.7 Use sufficient dry ice to ensure that the sample will remain frozen even if delayed in transit for 48-72 hours.

5.2.8 Tape and seal the packaging securely to prevent condensation of refrigerant and provide additional security for the contents.

5.2.9 Affix appropriate labels required to comply with shipping regulations and to ensure timely and proper shipping protocol, e.g. dry ice declaration sticker, “Keep Frozen” sticker, etc.

5.2.10 The service provided by World Courier takes care of all dry ice, packaging and labelling requirements.

5.3 Appropriate Supporting Documentation

5.3.1 Contact the courier to establish what supporting documentation is needed to ship the sample to the specified destination. For international shipments, research any new regulations that may have been adopted, or special permits.

5.3.2 Complete a Customs Declaration (to provide contact information and to declare nature of contents to customs and regulatory agencies) and an itemised list of contents (Tumour Bank Transport Receipt form).

For shipments to the United States, include a letter to the USDA to declare the presence or absence of possible contamination with any pathogenic agents if relevant.

5.3.3 Dry Ice is a Class 9 Dangerous Good, and requires completion of a shipper's declaration. (This is usually completed by World Courier).

5.4 Appropriate Courier

World Courier is our chosen courier for International Shipments and **TNT** is generally our chosen Courier for Domestic Shipments.

We use these companies based on the following characteristics -

- Reliability
- Experience with and ability to routinely ship human biological materials.
- Ability to provide online tracking of shipments.
- Knowledge about relevant transportation regulations and permits.
- Existence of established, standardised paperwork accompanying shipments.
- Efficient customer service ensuring that unforeseen delays and deviations are tracked and communicated to relevant personnel.
- Customer service agents capable of troubleshooting and expediting shipments in accordance with temperature and time sensitivity of the samples.
- Willingness to “top up” dry ice in the package in the event of a delay in transit.

5.5 Shipping Procedure

(When using TNT as the chosen courier, refer to TB SOP 06.03, “TNT Shipment of Biological Samples on Dry Ice”, for specific details)

5.5.1 The day before the shipment is to go out, contact shipper to schedule package pick-up. Request that World Courier provide all required packaging components, including dry ice, as well as a consignment note.

Verify that all shipping information, contacts and required documents are accurate and complete.

5.5.2 It is optimal to specify to whose attention the shipment is being delivered. This measure should prevent the shipment from arriving and being held in the receiving department for too long.

5.5.3 When the World Courier representative arrives in the laboratory, retrieve samples from storage.

5.5.4 Use appropriate safety procedures when handling dry ice or when retrieving samples from liquid nitrogen containers.

5.5.5 Once samples have been dispatched, record this information in Biogenix.

5.5.6 Contact (call or e-mail) consignee to provide them with the tracking number and inform them that the package has been shipped. Give them an estimated delivery time so that they can anticipate arrival of the sample.

5.5.7 Track delivery using the online tracking capability of the courier to monitor shipment and expedite sample if delayed by customs or regulatory agencies.

<u>Timing of shipping (to prevent delays in-transit):</u>

- Schedule pick-up early in the day so that the package goes out on the earliest flight available.
- Schedule pick-up for early in the week (Monday or Tuesday) to prevent delays in shipment or delivery due to weekend schedules.
- Do not ship just before a holiday long weekend as it usually translates into delays in transit. Be aware of public holidays in the province or country of destination to plan for optimal shipping dates.

6. SAFETY

Not applicable

06.03 TNT Shipment of Biological Samples on Dry Ice

Document Number: TB 06.03 **Version:** 006	**Issue Date:** 21/6/2017
Author: Li Zhou **Title:** Research Officer **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
06/07/2009	New Document		
07/07/2010	Annual Review	06.03.001	AC
01/012/2011	Annual Review – Addition of appendix	06.03.002	AC
03/04/2012	Revision of text	06.03.003	KJ
21/09/2012	Annual Review	06.03.004	AC
01/11/2013	Annual Review – No changes made	06.03.005	ARo
21/06/2017	Annual Review	06.03.006	LZ

1. PURPOSE

The purpose of this document is to outline a standardised procedure to follow when shipping biological samples that are classed as Biological Substance, Category B (UN3373), to a domestic location in Australia on dry ice using TNT.

2. SCOPE

This protocol covers all samples that are to be packaged and sent on dry ice, using the domestic courier services of TNT, through the hospital's Transport Department.

3. RESPONSIBILITIES

This shipment can only be authorised by an authorised Dangerous Goods shipper. Current authorised shippers in the Tumour Bank are Li Zhou and Aysen Yuksel.

4. MATERIALS, EQUIPMENT AND FORMS

- Large foam box with a cardboard box of equal size (e.g. Invitrogen Box)
- Labels (consignee + shipper) – Appendix 1
- Hazardous material Class 9 (Miscellaneous) Label (for Dry Ice)
- UN3373 Label (for Biological Substance, Category B materials)
- Hospital Cost Code account number
- Authorised shipper with current licence

5. METHOD

5.1 Samples to be transported are to be packed as per the current Dangerous Goods regulations.

5.2 Place the sample within a primary and secondary container with absorbent material in between.

5.3 Bury the samples in 3-4 kg of dry ice (obtained from Level 3 freezer).

5.4 Place dry ice in a large foam box with lid.

5.5 Place a hole in the top of the lid to allow any build-up of carbon dioxide gas to be released.

5.6 Place the foam box in a cardboard box with a breathing hole.

5.7 Record the weight of the box.

5.8 Label the box with shipper and consignee details, and UN3373 and Class 9 (Miscellaneous Goods) labels see (Appendix 1).

6. SAFETY

The box containing dry ice should have ventilation holes.

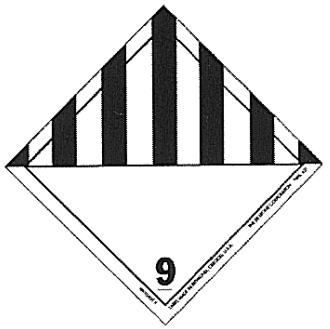
7. APPENDIX

Appendix 1

UN3373 BIOLOGICAL SUBSTANCE, CATEGORY B

UN1845, DRY ICE, Net Weight _____ kg

SHIPPER:
Children's Cancer Research Unit
The Children's Hospital at Westmead
Loading Dock 5, Redbank Road
NORTHMEAD NSW 2152
Contact Person: Dr Albert Chetcuti
Contact Phone: 02 98453028



CONSIGNEE:
1st Name Surname
Department
Institute
1 Noname Street
Town State ????
Phone: area-code ???-????
Fax: area-code ???-????

7.00 PROJECT SPECIFIC OPERATIONS

8.00 EQUIPMENT USE

08.01 ScanScope Virtual Microscope Use

Document Number: TB 08.01 **Version:** 006	**Issue Date:** 17/03/2017
Author: Aysen Yuksel Title: Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** Title: Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
06/07/2009	New Document		
07/07/2010	Annual Review	08.01.001	AC
01/12/2011	Annual Review-Addition of appendix	08.01.002	AC
21/09/2012	Annual Review	08.01.003	AC
23/10/2013	Annual Review-Booking now online	08.01.004	AY
17/03/2017	Annual Review-change to Leica	08.01.005	AY

1. PURPOSE

The purpose of this document is to outline a standardised procedure on how to scan a microscope slide using the Tumour Banks' (TB) Leica ScanScope CS virtual microscope and how to access the images using the eSlide Manager server.

2. SCOPE

This protocol covers all microscope slides that are to be scanned at very high resolution. Slides can be scanned at 20X or 40 X magnifications. The high-resolution images can be used to capture snapshots of tissue histology and can be used for performing digital quantitative analysis.

3. RESPONSIBILITIES

4. MATERIALS, EQUIPMENT AND FORMS
    - Stained and coverslipped microscope slides
    - Leica ScanScope CS and workstation

5. METHOD

5.1 Booking the Scanner

You will be provided with log in details after account creation and a training session on use of scanner. To use the scanner, a booking must be made via https://www.cmri.org.au/PPMS/asp/login.asp?pf=2

Once you are in the web site

5.1.1 Enter user name or find your name in the 'list of PPMS accounts'.

5.1.2 Enter password and login

5.1.3 Select “Aperio ScanScope CS (Tumour Bank)” in the “Systems available for booking:” dropdown menu.

5.1.4 Click on the day and time you wish to use the system.

5.1.5 Click on “Book the selected sessions”.

This also allows the TB to keep track of use of scanner.

5.2 Switching the Scanner On

5.2.1 Ensure that the doubler is pulled out (20X) before the scanner is turned on.

5.2.2 Turn on the scanner (before the computer) via the small switch on the back of the scanner near the power cord.

5.2.3 Boot the computer by pressing the round button on the front of the computer tower.

5.2.4 Log into Windows by entering Username: Aperio, Password: Sc@nscope123

5.2.5 Turn on the external light source by the switch on the back (near power cord).

5.3 Multiple Slide Scanning Using the 5-Slide Tray

The scanner slide tray allows you to automatically scan five 2.54 cm x 7.62 cm tissue slides unattended at the touch of a button. All images are compressed as they are being scanned.

5.3.1 Push the scanner green button to eject the slide tray out the front of the device.

5.3.2 Place slides into the slide tray with the coverslip up and with the slide labels oriented to the left.

5.3.3 Push the scanner green button again to initiate auto scanning.
    - Pressing the scanner red button while scanning halts the scan process, then moves the slide tray out to the “load” position.
    - Pressing the scanner green button after a “halt” causes the scanner to go to the next slide and continue the scan process.

5.4 Using the ScanScope Console

The Console software provides an interactive scanning experience. You use it to connect to the scanner and direct the scanning operation.

5.4.1 Double click on the SSConsole icon on the desktop.

5.4.2 Click on the 'Start' tab.

5.4.3 Right click on the highlighted slides and click 'Get snapshots'.

5.4.4 Click the 'Scan Area' tab.

5.4.5 Reduce the size of the green boarder to scan the area of interest (click on the edge of the green line).

5.4.6 Place the blue calibration/blue diamond on a clear area (no tissue) of the slide.

5.4.7 Select the magnification required (20X with doubler pulled out, 40X with doubler pushed in).

5.4.8 Click the 'Focus Points' tab.

5.4.9 Click the 'Auto Select' button.

5.4.10 Click the 'Auto Focus' if possible.

5.4.11 Click the 'Calibrate' tab and click the 'Calibrate' button.

5.4.12 Click the 'Scan' tab and click 'Start Scan'.

5.5 Accessing Images on the eSlide Manager Server

5.5.1 To access the images on eSlide Manager, obtain a user name and password from the eSlide Manager Administrator (TB).

5.5.2 The scanned images on eSlide Manager server can be accessed at URL: http://129.78.67.30/

5.6 Data Backup Process

The scanned images are stored for 1 month and then deleted unless otherwise arranged with eSlide Manager Administrator (TB).

6. Refer to the following manuals for further technical instructions
    - Aperio ScanScope Manual 2007
    - Aperio ScanScope Tips Techniques
    - ScanScope Console User's Guide

7. SAFETY

Not applicable

08.02 Immunohistochemistry Staining using the Leica Bond-Rx™ system

Document Number: TB 08.02 **Version:** 003	**Issue Date:** 20/03/2017
Author: Aysen Yuksel **Title:** Research Assistant **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
21/11/2012	New Document		
23/10/2013	Annual Review – No changes made		AY
08/10/2015	Annual Review – Change to Bond-RX™	001	AY
20/03/2017	Annual Review – Change of online booking web address	002	AY

1. PURPOSE

The purpose of this document is to describe the procedure for immunohistochemistry (IHC) staining of specimens mounted on microscope slides using the Leica Bond-RX™ system. The Bond-RX™ system is a fully automated advanced staining process including IHC and in situ hybridization (ISH).

2. SCOPE

This protocol is applicable to an immunohistochemistry technique on sections obtained from a variety of normal and tumour tissues.

The adopted procedure is to identify the location of the target receptor within the tissue together with an indication of receptor density. The current SOP is based on the use of a polymer detection system supplied by Leica Microsystems (the system is biotin-free).

3. RESPONSIBILITIES

It is the responsibility of person(s) performing this procedure to be familiar with Leica Bond-RX™ system and use of laboratory safety procedures. The interpretation of results must be done by a person trained in the procedure and familiar with such interpretation.

4. MATERIALS, EQUIPMENT AND FORMS

Ancillary Reagents/Consumables;

- Bond Wash Solution (Cat. No. AR9590)
- Bond Epitope Retrieval Solution 1 (Cat. No. AR9961)
- Bond Epitope Retrieval Solution 2 (Cat. No. AR9640)
- Bond Dewax Solution (Cat. No. AR9222)
- Bond Universal Covertiles (Cat. No. S21.2001.110)
- Bond Open Containers 7 mL (Cat. No. OP79193)
- Bond Open Containers 30 mL (Cat. No. OP309700)
- Bond Universal Slide Labels (Cat. No. S21.2011.110)
- Bond Universal Printing Ribbon (Cat. No. S21.1912.110)
- Bond Slide trays (Cat. No. S21.0304.110)
- Bond Reagent trays (Cat. No. S21.1003.110)
- Bond Polymer Refine Detection (Cat. No. DS9800)
- Bond Primary Antibody Diluent (Cat. No. AR9352)
- Primary Antibody of choice (source: mouse or rabbit)
- Coverslips
- Mounting Media
- Ethanol
- Xylene

Equipment;

- Bond-RX™ Processing Module
- Computer
- Handheld ID scanner
- Slide labeller (TLP3742)

Personal protective equipment - gown, gloves, safety glasses

5. METHOD

5.1 Booking the BOND-RX

5.1.1 Online booking web address is https://www.cmri.org.au/PPMS/asp/login.asp?pf=2

5.1.2 Enter username or find your name in the “List of PPMS accounts”. Enter password and login.

5.1.3 Select “BOND-MAX (Tumour Bank)” in the “Systems available for booking:” dropdown menu.

5.1.4 Click on the day and time you wish to use the system.

5.1.5 Click on “Book the selected sessions”.

5.2 Log into the BOND system on PC monitor (desktop)

5.2.1 Double click on “Bond” icon to open software.

5.2.2 Initial checks and loading reagents

5.2.3 Check the bulk reagents and top up if needed.

5.2.4 Check the bulk waste and empty into drum if needed.

5.3 Check the mixing station

5.3.1 Place the reagent containers into reagent trays.

5.3.2 Place the reagent tray in the reagent platform of the Processing Module.

5.3.3 Make sure all reagents have been read by reviewing the reagent area in the System status screen.

5.4 Set up slides

5.4.1 Create a study on the “Slide setup” screen of the Bond software.

5.4.2 Enter details of the slides for each study;

5.4.3 Click on “Add study”, fill in the required fields and click on “OK”.

5.4.4 Click on “Add slide”, fill in the required fields and click on “Add slide”.

5.4.5 Print slide labels and apply them to the slides.

5.4.6 Place the slides on slide trays and place a Covertile on each slide.

5.4.7 Insert the trays into the Processing Module.

5.5 Run protocols (CHW – System status screen)

5.5.1 Press the Load/Unload button.

5.5.2 When the slide labels have been imaged, check that the correct details are displayed in the slides section of the System status screen.

5.5.3 Click Start (→) to run protocols on the loaded slides.

5.6 Unload the slides and reagents when run has finished

5.6.1 Press the Load/Unload button.

5.6.2 Remove the slide tray.

5.6.3 Remove the Covertiles from the slides and place in a small bucket containing 0.5% bleach for 30 minutes.

5.6.4 Remove the slides and place in a container containing tap water and slide rack.

5.6.5 Remove the reagent tray(s) and store the reagents.

5.7 Do end of run clean

5.7.1 Wipe clean the slide and reagent trays.

5.7.2 Clean Covertiles (0.5% bleach for 30 minutes, several rinses in tap water, air dry).

5.7.3 If necessary, clean around the slide staining assemblies with 70% alcohol.

5.7.4 Check the Covertile clamp springs.

5.7.5 Check bulk containers, top up if needed.

5.8 Dehydrate, clear and mount stained slides

5.9 Interpretation

5.9.1 Interpretation is based on nuclear, cytoplasmic or membranous staining (or any combination thereof) of the individual cells.

6. SAFETY

- Users must be aware of local regulations and correct procedures at site when handling and disposing of hazardous material.

- Some of the reagents used in IHC and ISH are hazardous, for example, some chromogen reagents are potential carcinogens. When working with the Processing Module or components, including reagents or reagent containers, use precautions appropriate for handling of potential biohazards including the wearing of protective gloves, gown and eye wear.

7. REFERENCES

BOND System User Manual

08.03 Labmatrix Log-In Procedure

Document Number: TB 08.03 **Version:** 001	**Issue Date:** 29/3/17
Author: Oksana Markovych **Title:** Clinical Research associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
29/03/2017	New Document		

1. PURPOSE

The purpose of this document is to outline the procedures to access Labmatrix database.

2. SCOPE

This protocol is to be followed for successful and secure access to Labmatrix database.

3. RESPONSIBILITIES

All existing and new Tumour Bank staff.

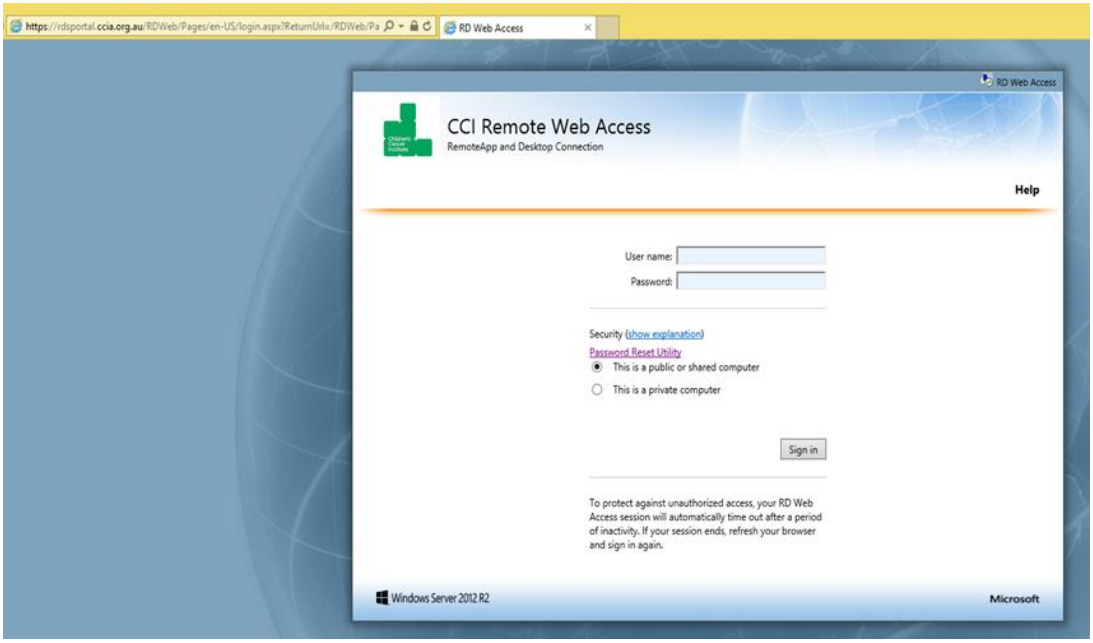
4. MATERIALS, EQUIPMENT AND FORMS

- PC with Internet Access
- University of Sydney Internet Explorer Application
- Google Chrome
- Children's Cancer Institute (CCI) Remote Web Access user name and password (issued by the Systems Administrator locally)
- Labmatrix username and password (issued by the Systems Administrator locally)

5. METHOD

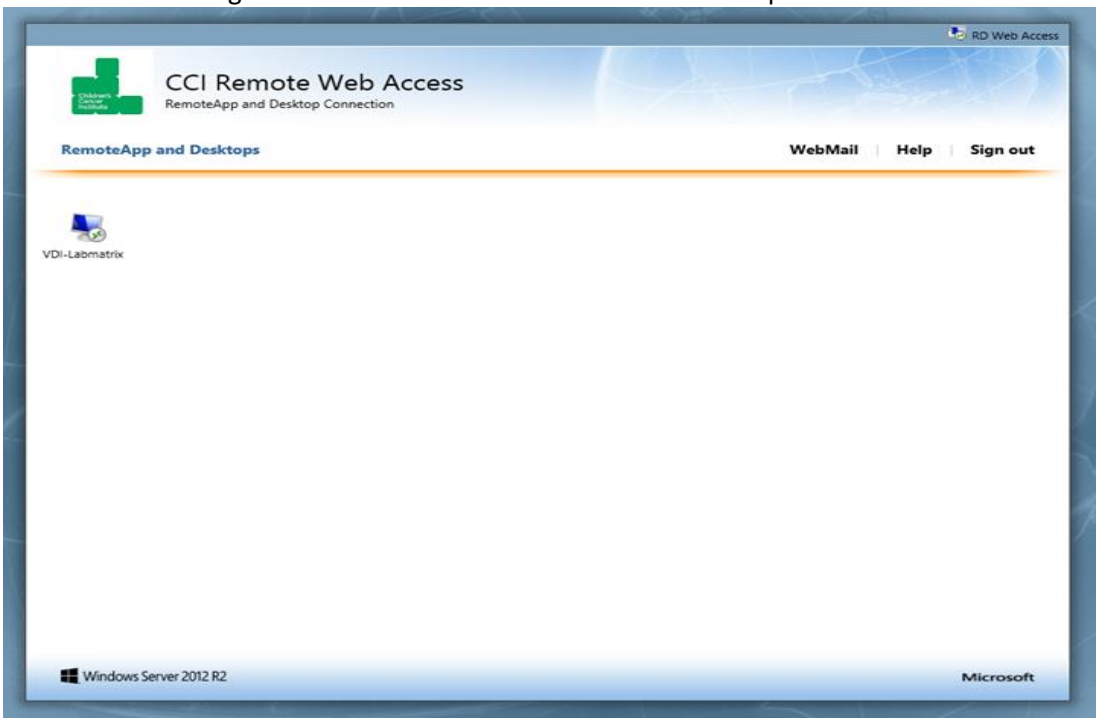
5.1 Access Internet Explorer Usyd from SCHN-CHW Applications window.

5.2 Use the following URL to open CCI Remote Web Access page: https://rdsportal.ccia.org.au/RDWeb/Pages/enUS/login.aspx?ReturnUrl=/RDWeb/Pages/en-US/Default.aspx

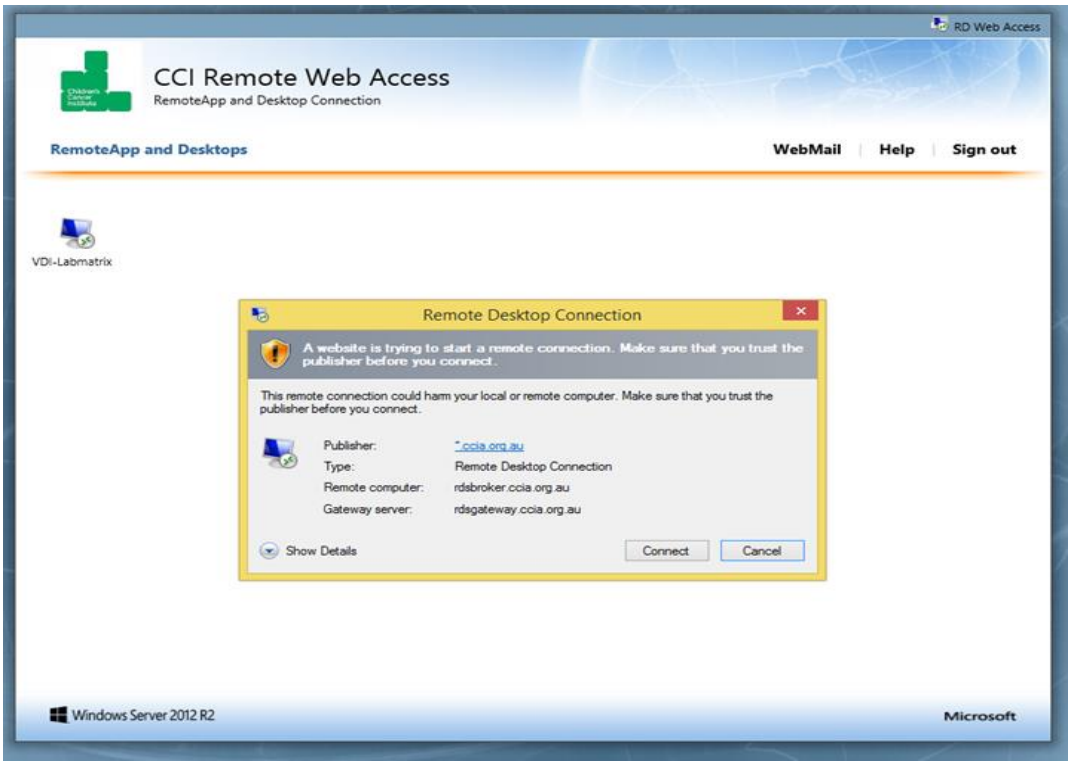


5.3 Ensure that user name contains the following prefix **cciamr**

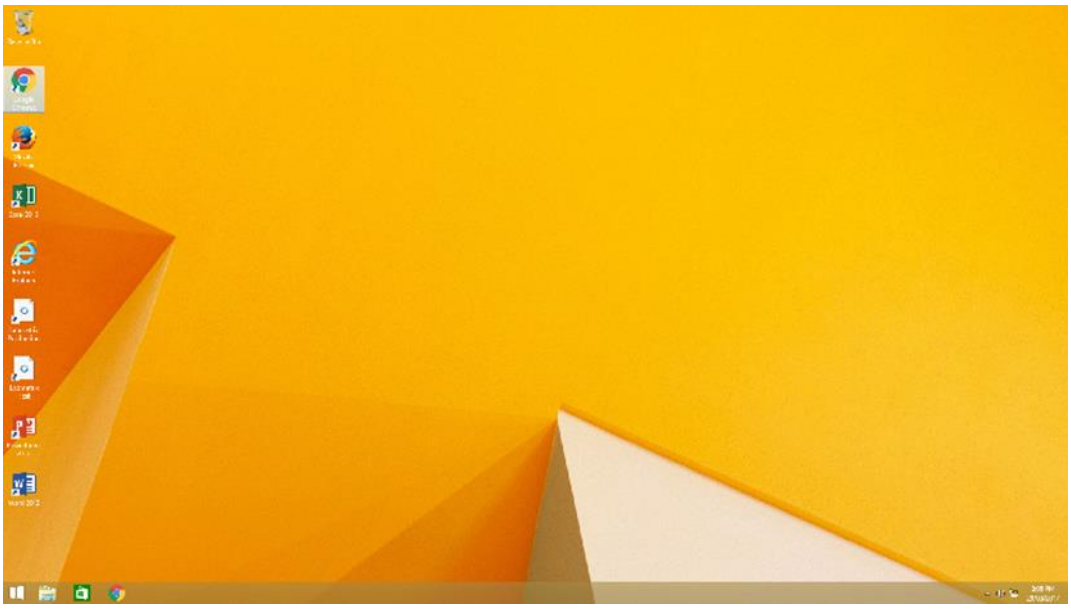
5.4 Successful sign in enables access to the CCI Virtual Desktop:



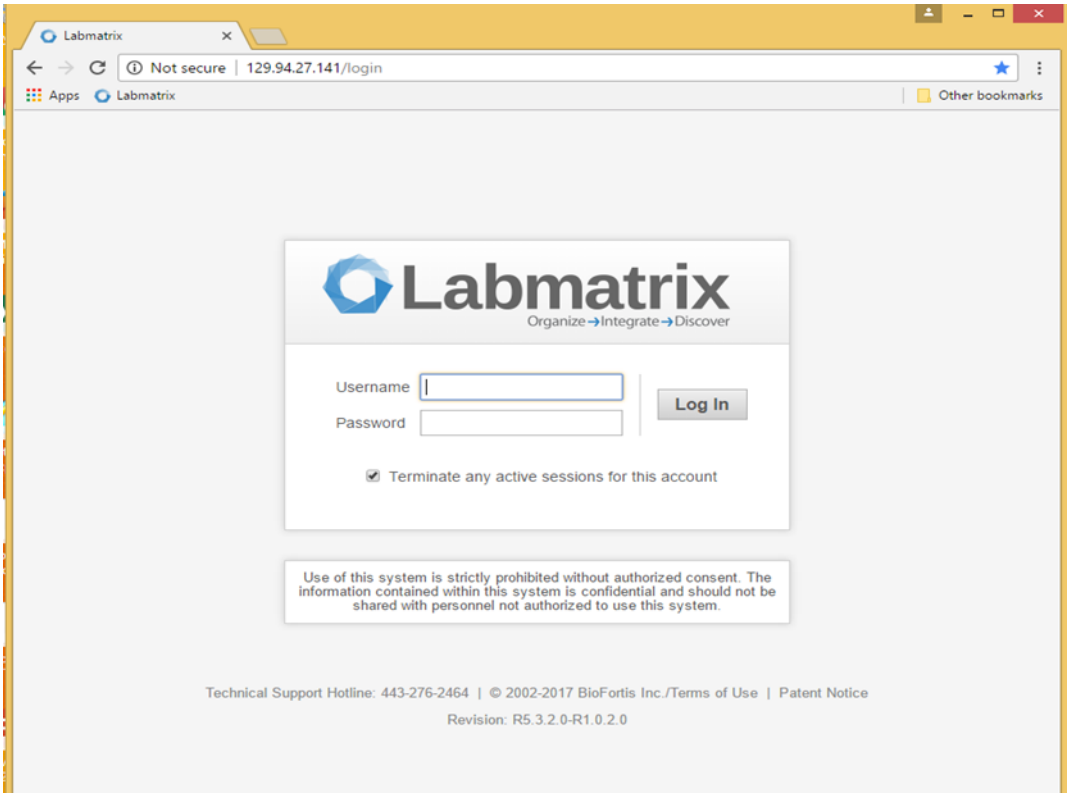
5.5 Single-click on the VD icon to establish Remote Desktop connection; click Connect:



5.6 From the Virtual Desktop open Google Chrome web browser and access Labmatrix Log- In page via the following IP address **http://129.94.27.141/login**



5.7 Use personal log-in details to access Labmatrix database. Please Note: Username DOES NOT require cciamr\ prefix



6. SAFETY

6.1 Users must take personal responsibility to keep any record of log-in details in secure location.

6.2 Under no circumstance user shall provide the log-in details to unauthorised personnel.

6.3 Any suspicion of unauthorised use of the database must be reported to local Systems Administrator who will report any issues to the Business Systems & Information Manager at the Children's Cancer Institute.

08.04 Registration of New Biomaterial for Existing Donor Subject into Labmatrix Database

Document Number: TB 08.04 **Version:** 001	**Issue Date:**
Author: Oksana Markovych **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
28/03/2017	New Document		

1. PURPOSE

The purpose of this document is to be outlined standardised procedure on data entry into biomaterial management database at the Tumour Bank.

2. SCOPE

This protocol covers all instances where biomaterial is received in the Tumour Bank to be stored for the purposes of research.

3. RESPONSIBILITIES

Any TB staffs who are involved in receipt and processing of a biomaterial procured from a patient of Children's Hospital at Westmead (CHW) must adhere to this protocol to ensure that high standards of data quality and accuracy are consistently maintained.

4. MATERIALS, EQUIPMENT AND FORMS

- Labmatrix Database
- Oncology Patient Register Database (OPR)
- Brady 51 label printer

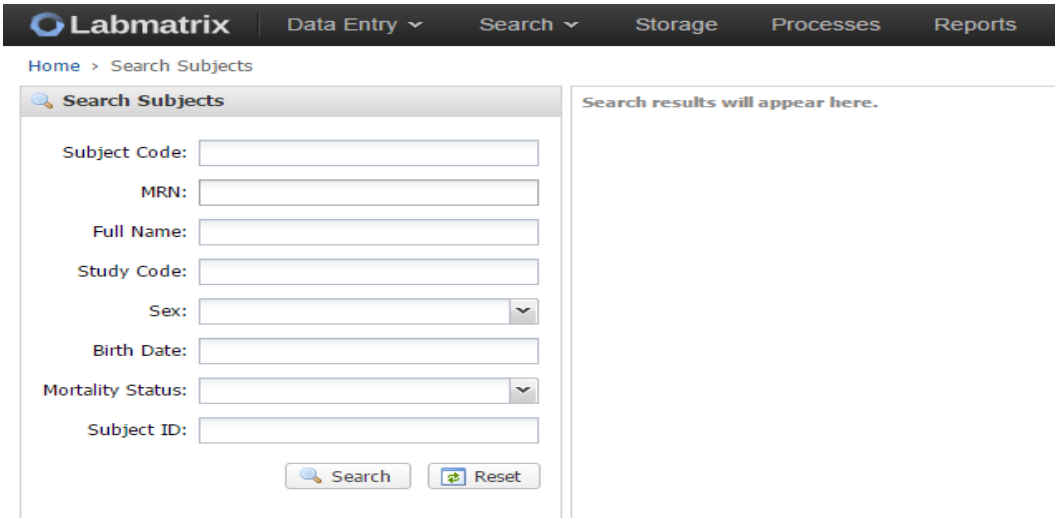
- CHW Pathology patient request forms

5. METHOD

5.1 Log-in to Labmatrix (See **SOP # 05.13** for log-in procedure)

5.2 Use completed CHW Pathology patient request form to register biomaterial data into Labmatrix.

5.3 Utilise SEARCH Tab from Labmatrix Home Page to identify Subject/Patient of interest by clicking on Subjects:



5.4 Search for subject using patient MRN provided on the CHW Pathology patient request from. Click SEARCH button to execute.

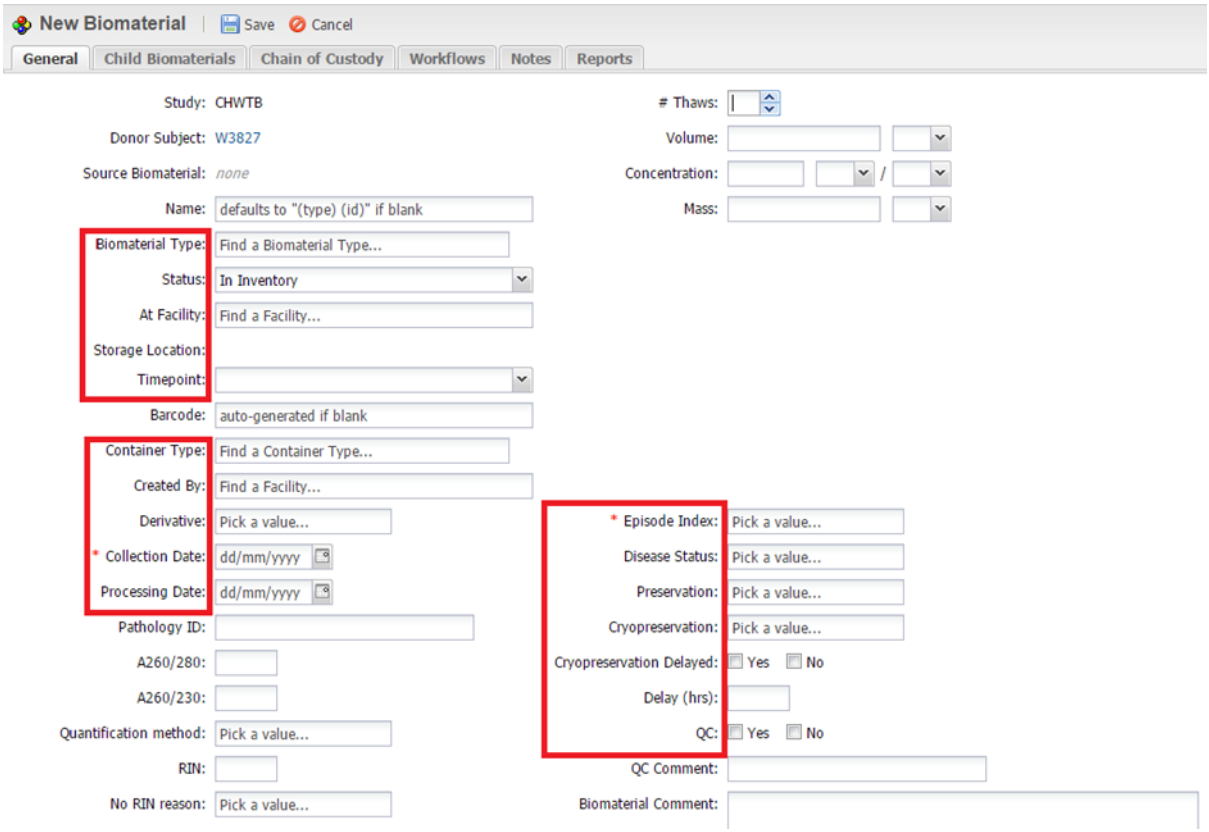
5.5 If the donor subject/patient has already been registered in the database, the search result will appear on the right-hand side of the screen. Verify search result by cross checking Full Name, Birth Date and MRN information recorded on the request form.

5.6 Click on Subject Code – Subjects i.e. the W number to open the query.

5.7 Information located under GENERAL Tab provides summary of donor/patient personal data, unique identifiers, consent status and clinical episodes.

NOTE: Please make note of the number of episodes, the last being typically most recent encounter. Log-in to Oncology Patient Register (OPR) database to verify that episode information in Labmatrix is up-to-date. Create new episode if required (See **SOP#...**on how to create a new episode)

5.8 Select BIOMATERIALS Tab New New Biomaterial



5.9 Create PARENT biomaterial by completing the following form:

5.10 To populate the highlighted fields, either use the drop-down menu or double-click in the field of interest to bring up a list of entry options or tick a box as appropriate. (See **Appendix 1** for field content explanations)

5.11 Press SAVE button once completed.

6. SAFETY

Not applicable

7. APPENDIX

New Parent Biomaterial Form

Field	**Content**
Study	Default CHWTB *(assign CHWTBTMA for TMAs)*
Donor Subject	Auto generated *W#*
Source Biomaterial	Default; *None*
Name	Auto generated upon saving. It is biomaterial number with the prefix denoting biomaterial type i.e. BMA, CSF, PB-peripheral blood or TI-tissue
Biomaterial Type	Select from the available options by double clicking

Status	Biobank inventory status. Select from the drop-down menu
At Facility	Select *CHW* by double clicking
Timepoint	Treatment timepoint/phase. Select from the drop-down menu. Leave blank if not known. If specific timepoint is not on the menu, please notify Labmatrix data manger by email to add the new option to the menu.
Barcode	Biomaterial barcode. Leave blank to be auto generated
Container Type	Parent Biomaterial – primary container type that the biomaterial was collected in and received in at the biobank.
Created by	Select *CHW* by double clicking
Derivative	For Blood, BMA and CSF Select *Whole* by double clicking
Collection Date	Biomaterial collection date
Processing Date	Date biomaterial was placed in biobank storage
Episode Index	Episode number relating to patient clinical episode. Confirm that the biomaterial collection date fits in with current clinical episode by verifying with data in OPR
Disease Status	Select relevant option by double clicking. Verify information from OPR
Preservation	Parent biomaterial preservation method relating to primary container the samples was collected in. Select option by double clicking
Cryopreservation	Method of freezing of biomaterial prior placement in biobank storage. Select option by double clicking
Cryopreservation Delayed	Tick *Yes* if biomaterial was processed and placed in storage on a different date to collection date; Tick *No* if biomaterial collection date is the same as the processing date
Delay	Record delay in hours
QC	Tick *No*, unless it has been specified that biomaterial is intended for QC use

9.00 RISK MANAGEMENT

09.01 Resolution of Complaints

Document Number: TB 09.01 **Version:** 001	**Issue Date:** 31/03/17
Author: Oksana Markovych **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
31/03/2017	New Document		

1. PURPOSE

To ensure that all complaints regarding the operations and services of the Tumour Bank are investigated to identify any gaps in biobank's quality or technical systems and initiate appropriate corrective or preventative action.

2. SCOPE

All complaints whether verbal or written received by any member of the Tumour Bank will be reviewed and investigated to identify any gaps in biobank's quality or technical systems. Complaint resolution and associated corrective and preventative actions to be reviewed by the Sydney Children's Tumour Bank Network Committee (SCTBN).

3. RESPONSIBILITIES

All Tumour Bank personnel are responsible to acknowledge the receipt of complaint and communicate it to the Head of Tumour Bank who will subsequently note it for discussion with the SCTBN Committee. The person receiving a complaint may take on immediate responsibility to initiate preventative or corrective action, or the responsibility may be delegated by the Head of Tumour bank to another Tumour Bank staff. All resultant actions are to be reviewed by the SCTBN Committee.

4. MATERIALS, EQUIPMENT AND FORMS

Complain Management Policy Directive

http://www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2006_073.pdf

Corrective Action Report

Preventative Action Report

Tumour Bank Feedback Form

Complaints Record

5. METHOD

5.1 Follow the Complaint Management Process regardless of the source of complaint as out lined in the *Appendix 7.*

5.2 Receiving verbal complaint:

- Give a calm explanation of what happened if you have knowledge of what happened
- Offer an apology if warranted
- Encourage the complainant to discuss their concerns with the relevant staff member
- Speak to the relevant staff on behalf of the complainant
- Advise the complainant of the complaint management process (*Appendix 7.2*)
- Refer the complaint on if the complaint is outside Tumour Bank's jurisdiction
- Comprehensively record the conversation and concerns, along with all necessary details. If complaint is made by a patient/tissue donor make sure to record names, addresses, MRNs
- If possible, provide a copy of the completed record to the complainant to ensure they agree that it is factually correct
- If they wish to send any written correspondence, advise of the Tumour Bank address and use Head of Tumour Bank as a contact

5.3 All complaints whether verbal or written to be acknowledged and registered in the Tumour Bank Complaints Record by the person receiving the complaint within 5 calendar days as per PD2006_073

5.4 Person receiving the complaint to communicate the information to the Head of Tumour Bank in a timely manner and as soon as practicable.

5.5 Depending on nature and severity of the complaint, Tumour Bank Head is to register complaints in NSW Health Incident Information Management System (IIMS) via the Complaint Notification Form. The assessment of severity of the complaint may be assisted by using the Severity Assessment Code (SAC) as per the Incident Management Policy (PD2006_030).

5.6 Appropriate immediate corrective action will be instituted.

5.7 Head of Tumour Bank will inform the SCTBN Committee Chair to include the complaint resolution process for discussion with the committee members.

5.8 The complaint will be investigated by Head of Tumour Bank or a Delegate to establish the root cause.

5.9 Problems indicating a fault or a gap with the Tumour Bank's Quality or Technical system will result in review of the appropriate component of the system. Corrective action documentation to be undertaken at this time.

5.10 Corrective action to be reviewed by SCTBN Committee.

5.11 Target timeframe for complaint resolution is 35 calendar days as per PD2006_076

5.12 The complainant to be notified about any corrective action taken.

6. SAFETY

The urgency and severity impact of the complaint to be established immediately using Severity Assessment Code (SAC). Any potential risk of personal safety to the Tumour Bank staff is to be dealt in according to the Children's Hospital at Westmead Incident Management Policy http://chw.schn.health.nsw.gov.au/o/documents/policies/policies/2006-8324.pdf

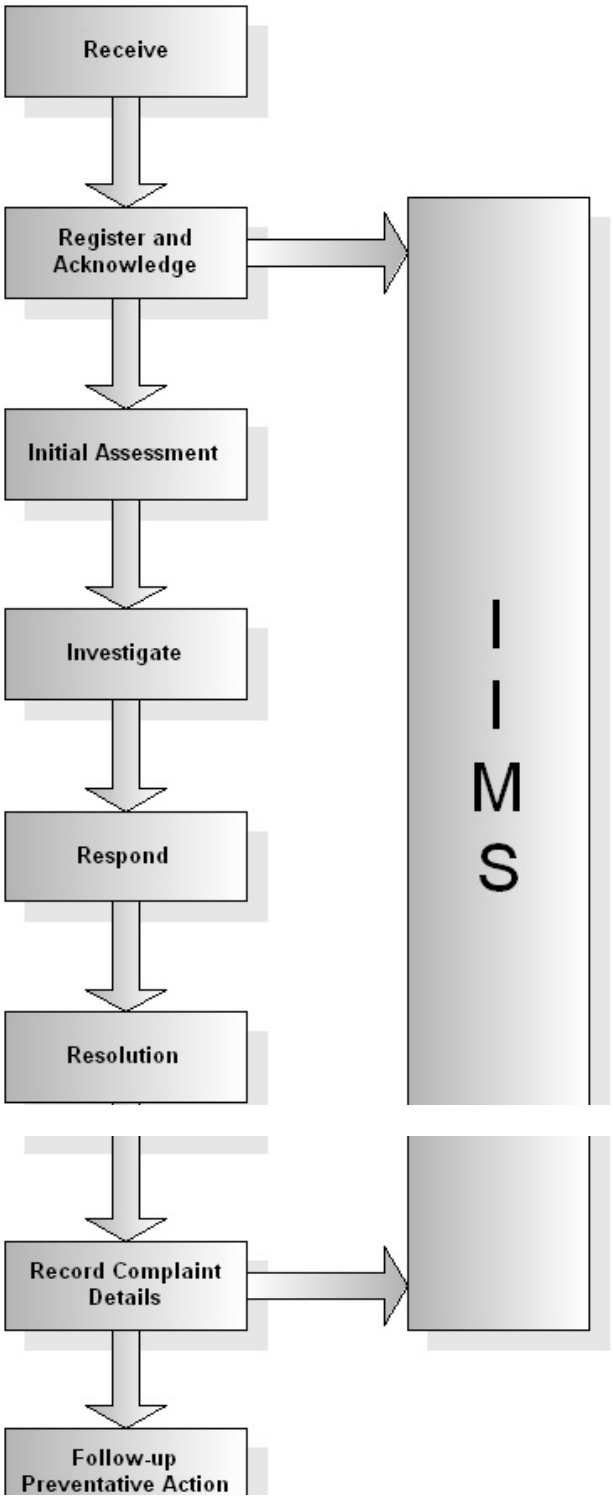
7. APPENDIX

Appendix 1
Include Feedback form

Complaints Record

Appendix 2

Complaint Management Process



09.02 Internal Audit Procedure

Document Number: TB 09.02 **Version:** 001	**Issue Date:** 28/04/2017
Author: Oksana Markovych **Title:** Clinical Research Associate **Signature** **Date**	**Approved by: Daniel Catchpoole** **Title:** Head of Tumour Bank **Signature** **Date**

Revision History

Date	Amendment Details	Superseded version	Revised by
28/04/2017	New Document		

1. PURPOSE

This procedure describes the implementation of the internal audit program, including the activities involved in scheduling, planning and recording the results of the audits to assess the continuous effectiveness of the quality and technical systems of the Tumour Bank operations. Additionally, he purpose is to evaluate the requirements for corrective and preventative action.

2. SCOPE

The requirements of this procedure apply to all Tumour Bank staff.

3. RESPONSIBILITIES

Head of Tumour Bank or a delegate is responsible for ensuring that all internal audits are scheduled, planned, conducted and recorded as per requirements of this procedure. Head of Tumour Bank or delegate are responsible for maintaining audit records.

4. MATERIALS, EQUIPMENT AND FORMS

Equipment Register

Work Procedures/SOPs

5. METHOD

5.1 Tumour Bank will undertake annual internal audit of biobank activities as part of the SOPs periodic review. The frequency of internal audits may be subject to unscheduled audits as necessitated by requirements of the quality system i.e. as part of Corrective and Preventative Action procedures.

5.2 Planning an internal audit

5.2.1 Head of Tumour bank or delegate will establish an audit schedule to ensure that all elements within the quality and technical systems are assessed and reviewed.

5.2.2 The schedule will outline the assignment of auditor and auditee responsibilities and the auditing process timeframes. An auditor should be a person who carries no direct responsibility for the process being audited.

5.2.3 Head of Tumour Bank or delegate will discuss the scope of the audit with the auditee prior to the audit

5.2.4 Head of Tumour Bank or delegate will prepare audit checklist.

5.3 Conducting an audit

5.3.1 The auditor will accompany auditee who is familiar with the elements being audited and assess that the process is being performed according to Tumour Bank SOPs. An auditor shall record any deviations to the process.

5.4 Reporting an audit.

5.4.1 An auditor will submit the audit report i.e. Continuous Improvement Form to the Head of Tumour Bank or delegate for review identifying any deviations or non-conformances to the existing SOPs

5.4.2 Head of Tumour Bank or delegate will ensure timely implementation of appropriate preventative and corrective action and that required records amendments are made.

5.4.3 Head of Tumour Bank shall report any major outcomes of an audit, particularly changes effecting SOPs, to the SCTBN committee and relevant stakeholders.

6. SAFETY

Auditor and auditee will adhere to relevant Workplace Health & Safety procedures during the audit process (e.g. ware appropriate PPE)

7. APPENDICES

None