SOP Reference: BCNTB/SOP/005

Standard Operating Procedure for

Collection and processing of blood samples

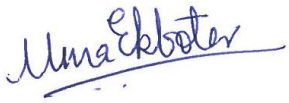
Version number: 3 Date created: 04 February 2013

Date of last review: 25 February 2014 Date of next review: 05 August 2017

Effective date: 05 August 2016

Author: Dr Balwir Matharoo-Ball

Authorised by:

	Name	Designation	Signature	Date approved
BCNTB Ops Group	Ms Uma Ekbote	Chair		26/07/2016
BCN	Dr Simon Vincent	Director of Research		05/08/2016
BCNTB TBAC	Prof. Wayne Phillips	Chair		05/08/2016

Document review history

Review Date	Name of Reviewer	Changes made (Yes/No)	Date approved
04 February 2013	Dr Balwir Matharoo-Ball	Yes	25 February 2014
03 December 2015	Operations Group	Yes	26/07/2016

1.0 PURPOSE AND SCOPE

1.1 Blood reflects the many processes that the body undertakes. In diseases blood can be used to monitor, screen and diagnose.

1.2 This SOP covers laboratory processing of blood and blood products.

1.3 This SOP applies to the Institutes defined in section 2.4

2.0 DEFINITIONS

2.1 The Breast Cancer Now Tissue Bank shall be referred to as the Tissue Bank.

2.2 Material refers to any Tissue within the Tissue Bank.

2.3 Tissue refers to any tissue or fluid taken from the human body.

2.4 The Institutes are the University of Leeds, University of Nottingham, Nottingham University Hospital NHS Trust, Barts Cancer Institute, Queen Mary University of London, the University of Sheffield and the University of Southampton.

3.0 REFERENCES

3.1 Human Tissue Act 2004

3.2 Human Tissue Authority, Codes of Practice 2009

3.2.1 Codes of practice 1: Consent

3.2.2 Codes of practice 9: Research

3.3 BCNTB/SOP/009: Approach to Consent

3.4 Control of Substances Hazardous to Health (COSHH) and Risk Assessments will be site specific according to national guidelines.

4.0 HAZARDS AND PRECAUTIONS

4.1 Staff should have Hepatitis B vaccination under the guidance of Occupational Health Service.

4.2 **Blood:** Infection risk, appropriate protective equipment should be worn.

4.3 **Needles:** Needles must be disposed of in appropriate sharps bin and never re-used or re-capped.

4.4 **Liquid Nitrogen:** This poses serious burns and asphyxiation risk. Protective equipment must be used.

5.0 PROCEDURE

5.1 Blood collection should be carried out by a suitably trained registered nurse, doctor, phlebotomist or other suitably trained staff.

5.2 The blood collection procedure should be followed as per site-specific practices but should take into account if possible the volume of collection and the order of the blood draw as outlined below.

5.3 Bloods drawn for diagnostic purposes should be prioritised.

5.4 Order of draw of blood:

Blood should be collected as clotted (red top) first followed by Lithium Heparin (green top) and then finally Potassium EDTA (ethylenediaminetetraacetic acid, lavender or purple top).

5.5 One blood should be collected in the following tubes from a registered manufacturer

5.5.1 4 - 8ml clotted tube with or without clot activator (red top)
5.5.2 4 - 8ml Lithium heparin tube, (green top)
5.5.3 4 - 8ml K_2EDTA (lavender or purple top)

5.6 Blood tubes should be labelled with patient name, hospital number, time sample taken or addressograph label or sample barcode

5.7 Once the samples are logged in the System, any patient personal identifiers or addressographs on the vacuettes should be removed in order to anonymise the samples. Only unique number or barcode should be used to identify the sample

5.8 Blood should be processed as soon as possible but within 4hrs and the time of drawn and processed to be noted

6.0 PROCESSING

6.1 **Clotted Tubes (red top)**
Sample must be mixed gently and left for minimum of 30 minutes to allow the blood to clot at room temperature.
Samples should be spun at RCF 850 to 1000 *g* for 10 minutes at room temperature. The serum should then be split equally in aliquots of 500 µl approximately, in 1.8ml screw top cryovials using a sterile Pasteur pipette or an automated pipette with sterile tips. Each vial should be labelled with a unique BCNTB barcode and can be placed on dry ice as an intermediate step before placing the tubes for storage in a -80°C freezer.

6.2 **Lithium Heparin (green top)**
Spin samples at RCF 850 to 1000 *g* for 10 minutes at room temperature. The plasma should then be split equally in aliquots of 500 µl approximately, in 1.8ml screw top cryovials using a sterile Pasteur pipette or an automated

pipette with sterile tips. Each vial should be labelled with a unique BCNTB barcode and can be placed on dry ice as an intermediate step before placing the tubes for storage in a -80°C freezer.

6.3 **K_2EDTA (purple top)**

Spin samples at RCF 850 to 1000 *g* for 10 minutes at room temperature. The plasma should then be split equally in aliquots of 500 µl approximately, in 1.8ml screw top cryovials using a sterile Pasteur pipette or an automated pipette with sterile tips. Each vial should be labelled with a unique BCNTB barcode and can be placed on dry ice as an intermediate step before placing the tubes for storage in a -80°C freezer.

Once plasma has been harvested place a unique BCNTB barcode on the red cell tube (which will be retained for DNA extraction) or transfer the red cells and Buffy Coat to a smaller, barcoded vial and can be placed on dry ice as an intermediate step before placing the tubes for storage in a -80°C freezer. Black out any patient identifiable details.

6.4 **Booking & Logging of blood samples**

6.4.1 Blood samples are booked and logged in accordance with local guidelines: All sites use barcodes for blood samples

6.4.2 Once the samples are logged in the System, any patient personal identifiers or addressographs on the vacuettes should be removed in order to anonymise the samples. Only unique number or barcode should be used to identify the sample

N.B: site specific blood sample worksheet will be available on request.

6.5 **Temporary Storage & Transfer:**

6.5.1 For sites where transfer of samples is required for long-term storage, samples must be moved in batches, on dry ice, using an appropriate container.

6.5.2 The sample location must be updated in the sample database.