

SOP # **400-11**Subject **Preparation of Blood Samples**Sheet **1** of **3**

Rev		Effective Date	Author
9/08/2017 Ver 6	SOP for the UACC Biospecimen Repository	Jan 2008	Kepler

**1. PURPOSE & SCOPE**

To ensure proper collection, handling and preservation of blood samples which are entered into the UACC Biospecimen Repository.

**2. DEFINITIONS**

TissueMetrix (AIM) is the biospecimen information management system administered through the University of Arizona Cancer Center.

**3. REFERENCES**

- Desktop SOP 400-5: Steps to Enroll Subjects and Bank Biospecimens
- Desktop SOP 400-9: Information Management

**4. RESPONSIBILITIES**

- 4.1. TACMASR Laboratory research personnel who preparing samples for banking are responsible for following the procedures in the SOP and confirming that each step has been executed properly
- 4.2. Deviations are to be documented on the Collection Event Form
- 4.3. Unexpected events are to be reported to the Lab Manager or Lab Director

**5. SAFETY AND CAUTIONARY NOTES**

- 5.1. Universal precautions and sterile technique should be followed. At minimum this should include the use of gloves, eye protection and lab coat. All processing of specimens should take place under a laminar flow hood.
- 5.2. Any spills or drops of blood should be immediately cleaned up by first spraying the spill area with 10% bleach, followed by 70% ethanol.
- 5.3. All spent tubes and pipet tips are to be discarded in a red biohazard container.
- 5.4. Blood should be allowed to sit for 30 minutes to allow for the serum red top tube to completely clot.
- 5.5. After 30 minutes blood can be processed. If processing is to be delayed, store blood in the specimen refrigerator in room 0915. If needed blood can be left overnight in the refrigerator and processed the following morning. This is not preferred however.
- 5.6. Complete the corresponding collection event form.

**6. MATERIALS AND EQUIPMENT**

- 6.1. Serum Vacutainer tubes, red top, plastic, 6 ml tubes: BD367863 (VWR).
- 6.2. K2 EDTA Vacutainer tubes, lavender top, plastic, 6 mls, BD367815 (VWR).
- 6.3. 2.0ml Round Bottom, self-standing, cryogenic vials: VWR #89094-810.
- 6.4. Blue cryovial cap inserts.
- 6.5. Red cryovial cap inserts VWR
- 6.6. Yellow cryovial cap insert VWR
- 6.7. Saf-T-Zip bag 6 x 9" Pack of 100 CAT# 11217-516 (Fisher).
- 6.8. P-1000 Pipettors and sterile P-1000 filter pipette tips.
- 6.9. Sorvall Legend RT Tabletop refrigerated centrifuge located in Room 3957.
- 6.10. Biohazard containers

## 7. BLOOD COLLECTION

- 7.1. Obtain the TissueMetrix Collection Event form and the sequential Specimen ID barcodes that are linked to the PTID. Refer to *SOP 400-9: Information Management* for details regarding the TissueMetrix labeling system.
- 7.2. The Biorepository requests two 6ml tubes of blood from consented study participants, K2 EDTA lavender top tube and a red top serum tube.
- 7.3. Pre-op is alerted by Biorepository personnel the evening before of the next day's consented patients.
- 7.4. The Biorepository is responsible for stocking Pre-op with blood collection kits. Each kit (biospecimen bag) includes one red top tube, one lavender top tube and a Tissue Bank index card with the Biorepository phone number (626-7319) and pager number ~~8577~~ 531-5974 on it.
- 7.5. When paged, Biorepository personnel proceeds to Pre-op and retrieve the blood. Pre-op puts the blood in a basket labeled tumor bank on the main desk.
- 7.6. Record the patient information on the collection event form: name, MRN, DOS, DOB, sex, race/ethnicity, attending physician.
- 7.7. Record the time and date of blood collection as well as the date and time of processing.

## 8. WHOLE BLOOD PROCESSING

Refer to *SOP 400-9 Information Management*, for details regarding the TissueMetrix labeling system.

- 8.1. With a marking pen, label 3 cryovials with sequential collection ID numbers designated in the collection kit. The collection number suffix for whole blood is 01, 02, and 03. For example R160XXX 01, R160XXX 02, R160XXX 03.
- 8.2. Place the corresponding cryolabel on the tube so that it does not cover up the marking pen labeling.
- 8.3. Insert BLUE colored cryocap inserts into the top of each cryovial used.
- 8.4. Invert the EDTA tube 10 times to insure proper mixing of blood.
- 8.5. Carefully remove the cap from the Vacutainer tube and using a P-1000 pipet and a P-1000 filter tip, transfer 400ul of whole blood to each labeled cryovial.
- 8.6. Dispose of used tip in the biohazard container located in the back of the laminar flow hood.
- 8.7. Place the cap back on the Vacutainer tube.

## 9. PLASMA PROCESSING

- 9.1 Centrifuge the remaining blood in the EDTA tube at 3000 RPM, 4°C, for 10 minutes. The Sovall Legend RT tabletop refrigerated centrifuge is located in room 0915. Tubes should be placed in biosafety aerosol canister and each canister balanced prior to spinning.
- 9.2 With a marking pen, label two cryovials with sequential collection ID numbers designated in the collection kit. The collection number suffix for EDTA plasma is 06, and 07. For example, R160XXX 06, R160XXX 07.
- 9.3 Insert yellow colored cryocap inserts into the top of each cryovial used.
- 9.4 Place the corresponding cryovial label on the tube so that it does not cover up the marking pen labeling.
- 9.5 Carefully remove the cap from the Vacutainer tube and using a P-1000 pipet with a filter tip, transfer 1000ul of plasma into each pre labeled cryovial. Depending on the amount of plasma in the tube, aliquots may be less than 1000ul.
- 9.6 Place the cap back on the Vacutainer tube and dispose of it and the pipet tip in the biohazard container located in the back of the laminar flow hood.

**10. SERUM PROCESSING**

10.1 After red top Vacutainer has been allowed to clot for 30 minutes, centrifuge it at 3000 RPM, 4°C, for 10 minutes. The Sovall Legend RT tabletop refrigerated centrifuge is located in room 3957. Tubes should be placed in biosafety aerosol canister and each canister balanced prior to spinning.

10.2 With a marking pen, label two cryovials with the sequential collection ID numbers designated in the collection kit. The collection number suffix for serum is 04 and 05. For example, R160XXX 04, R160XXX 05.

10.3 Insert red colored cryocap inserts into the top of each cryovial used.

10.4 Place the corresponding cryovial label on the tube so that it does not cover up the marking pen labeling.

10.5 Carefully remove the cap from the Vacutainer tube and using a P-1000 pipet with a filter tip, transfer 1000ul of serum into pre labeled cryovial. Depending on the amount of serum in the tube, aliquots may be less than 1000ul.

10.6 Place the cap back on the Vacutainer tube and dispose of it and the pipet tip in the biohazard container located in the back of the laminar flow hood.

**11. STORAGE**

11.1 Filled cryovials may be temporary stored in the -20°C freezer until transfer to their permanent box in the -80°C freezer.

11.2 When time allows, place cryovials on dry ice and transfer to their permanent box in the -80°C.

11.3 Record the box and slot number of each vial on the collection event form.