SOP 2.5.7 Blood Collection for Biochemistry

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Version Number 1.0

	Name	Title	Date
Author			
Authoriser			

Effective Date	
Version Number	

Purpose

This SOP describes the procedure for blood collection for biochemical analysis.

Responsibility

It is the responsibility of the research personnel carrying out this procedure to ensure that all steps are completed both competently and safely.

Equipment/reagent requirements

- Blood collection system
- Personal protective equipment; gloves, laboratory coat, protective glasses
- Blood collection tube: PST with lithium heparin or a plain tube with lithium heparin. SST or plain tube.
- A polystyrene container with ice to maintain temperature at 4°C for processing and /or transport to processing laboratory, or alternatively use a water-bath with iced water to maintain the temperature at 4°C (plus a thermometer) or a pre-conditioned gel pack at 4°C
- Refrigerator (2-4°C), if overnight sample storage is required
- Centrifuge capable of generating a G force of 1,100-1,300g at the bottom of the tube

Procedure

1. Draw blood directly into the evacuated tube. Filling the tube to the black mark on the tube label indicates that the correct amount of blood has been drawn. Under-filling or overfilling of the tube can affect laboratory results due to the incorrect blood/additive

ratio.

2. Invert the tube 8–10 times immediately after collection, this helps to prevent the formation of fibrin which may affect the laboratory result.
3. The blood collection tube is labeled appropriately with a unique study identification number generated and/or a bar code label generated electronically.

4. Record the time that the sample was taken in the study specific documentation or data management system.

5. Transport directly (within 4 hours) to the Biochemistry laboratory for processing. If transport to the Biochemistry laboratory within 4 hours is not possible separate the plasma from the blood samples by following the procedure outlined from points 6-8 below.

6. Centrifuge tubes within *2 hours* of collection to separate plasma from cells. Maintain tubes at 4°C during processing. Place the blood collection tubes in a centrifuge and spin at 1,300g for 10 min at 4°C. Record the time processing was initiated in the study specific documentation or data management system.

7. Using a plastic Pasteur/transfer pipette collect plasma, being sure not to disrupt the cell layer or gel. Transfer the plasma (clear liquid) to a 0.5mL cryostorage tube maintained at 4°C which have been labeled as per point 3 above.

8. Maintain the plasma sample at 4°C and transfer to the Biochemistry laboratory within 24 hours for processing.

Note: Immediate separation of plasma/serum from cells provides optimal analyte stability at RT. Storage of un-centrifuged specimens after 24 hours has resulted in clinically significant changes in measured analytes. When prolonged contact of plasma/serum with cells is unavoidable use of serum is recommended because of the higher instability of plasma analytes (29).

Change History

SOP Number	Effective Date	Significant Change	Previous SOP No.