SOP: Phlebotomy (Plasma) Sample Collection

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1. **Purpose**
   This SOP describes the plasma collection procedure for storage in the SickleInAfrica biorepository. All plasma samples will be collected by a registered and trained nurse or sister.

2. **Background**
   Plasma will be used in genomic studies.

3. **Scope**
   To present the procedure for collecting and handling plasma samples in participants.

4. **Equipment and reagents**
   1. Gloves
   2. EDTA Blood Collection Tubes
   3. Centrifuge
   4. 15 mL polypropylene conical tubes
   5. Sterile cryovials with writing surface
   6. 2, 5, and 10 mL pipettes
   7. Disposable transfer pipettes
   8. Automatic pipette aid
   9. Small ice bucket

5. **Responsibilities**

   The registered and trained nurse or sister is responsible for collecting specimens and that the vials are labeled accordingly. All inventory should be maintained by the researcher.

6. **Procedure**

   - After blood collection (see SOP for blood collection), gently mix the blood by inverting the tube 8–10 times.
   - Store vacutainer tubes upright at 4 °C until centrifugation.
   - Blood samples should be centrifuged within 2 h of blood collection.
   - Centrifuge blood samples for 10–20 min at 1100–1300 × g at room temperature (20 °C).
   - After centrifugation, the plasma layer will be at the top of the tube.

- Mononuclear cells and platelets will be in a whitish layer, called the “buffy coat,” just below the plasma and above the red blood cells.
- Carefully collect the plasma layer with an appropriate transfer pipette without disturbing the buffy coat layer.
- Close the caps tightly and place on ice. This process should be completed within 1 h of centrifugation.
- Check that all aliquot vial caps are secure and that all vials are labeled.

7. Storage

- Place all aliquots upright in a specimen box or rack in an −80 °C or colder freezer.

8. References

- https://link.springer.com/content/pdf/bbm%3A978-1-4939-7057-5%2F1.pdf

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