## Guide for Collection Tubes

**SRI Clinical Analysis Laboratory**

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### Uses and Collection Methods

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| **RTT (Red Top Tube)** | **Sterile tube: contains no preservatives or anticoagulant** | **Chemistry Assays (Serum)**  
Minimum Volume: ~ 130 uL  
1. Refer to Client Handbook for recommended collection needle sizes.  
2. Gently invert tube 4-5 times after collection.  
3. Allow the tube to stand upright at room temperature for 20-60 minutes to facilitate complete clotting.  
4. Centrifuge the samples at speed of 1000- 1200g for 10x5 minutes, or consult manufacturer's requirements.  
5. For SST: if a complete barrier does not form between the serum and cells, re-spin the vial for 5 minutes.  
6. Transfer serum to labeled vials. (Note: Use a NEW transfer pipette for each sample to avoid cross-contamination.)  
** Refer to comment section, if submitting plasma sample for chemistry analysis. | **1. Store serum samples in refrigerator. (For fibrin testing, avoid prolonged exposure of serum samples to light.)  
2. Transport refrigerate serum samples on wet ice following DOT guidelines.  
3. If analysis is delayed, freeze the samples at -20°C to -70°C and transport with dry ice.  
**Note:** For low-volume samples, provide priority of test names. | **Recommendation for preventing serum leakage: screw-cap polypropylene or cryogenic tube with O-rings.**  
**If submitting plasma sample for chemistry analysis please contact lab for instructions on the tube requirements for blood draw.** |
| **SST (Serum Separator Tube)** | **Silicon gel and clot activator** | **Hematology Assays (Whole Blood)**  
Minimum Volume: 0.5 ml  
Must be analyzed within 24-48 hours of collection. | **1. Refrigerate (4-6°C) as soon as possible after collection.  
Note:** Whole blood must be analyzed within 24-48 hours of collection: optimal is 8 hours.  
Exception: Heinz bodies must be analyzed within 8 hours; optimal is 2 hours.  
2. Transport on wet ice following DOT recommendations. | **If submitting minimum volume of 0.5ml, use a 2.0ml LTT. Gently shake the excess EDTA out of the tube before adding the blood.** |
| **LTT or PTT (Lavender Top Tube or Pink Top Tube)** | **K<sub>2</sub>EDTA (preferred) or K<sub>2</sub>EDTA anticoagulant** | **Cardiac Assays (Whole Blood or Frozen Plasma: CK-MB**, **Troponin-I**, **Myoglobin**, **BNP**)  
Contact us two weeks in advance when requesting cardiac assays  
Minimum Volume: plasma = 400 uL, whole blood = 400uL  
"Cardiac assays are recommended for human samples." | **Whole Blood samples:**  
1. Refrigerate (4-6°C) as soon as possible after collection. (Note: must be analyzed within 8 hours: optimal is 2 hours.)  
2. Transport whole blood samples ASAP after collection on wet ice following DOT recommendations.  
**Plasma samples (preferred):**  
1. Transport plasma within one hour of collection to lab. (Note: Plasma samples must be analyzed within 24-48 hours of collection, freeze the samples at -70°C.)  
2. Transport plasma samples (preferred) on dry ice following DOT recommendations. | **If submitting minimum volume of 0.5ml, use a 2.0ml LTT. Gently shake the excess EDTA out of the tube before adding the blood.** |
| **BTT (Blue Top Tube)** | **3.2% Sodium Citrate** | **Coagulation Assays (Plasma)**  
Minimum Volume: 250 - 400 uL  
(Depends on test orders -- see comments.)  
1. Refer to Client Handbook for recommended collection needle sizes.  
2. Fill BTT as much as vacuum will allow. **  
3. Gently invert 4-5 times after collection.  
4. Centrifuge the samples at speed of 1000-1200g for 10x5 minutes, or consult manufacturer's requirements.  
5. Examine the sample for clots. (Note: If clots detected, discard and repeat the draw.)  
6. Transfer plasma within one hour of collection to labeled plastic tubes. (Note: Use a NEW transfer pipette for each sample to avoid cross-contamination. If using a syringe, transfer blood to BTT within 1 minute of collection. If using a vacuum, it is recommended to use a discard BTT prior to collection.)  
7. Write "Plasma-NaCitrate" on tubes. | **Whole Blood samples:**  
1. Refrigerate (4-6°C) as soon as possible after collection. (Note: must be analyzed within 8 hours: optimal is 2 hours.)  
2. Transport whole blood samples ASAP after collection on wet ice following DOT recommendations.  
**Plasma samples (preferred):**  
1. Freeze the plasma samples at -20°C.  
2. Transport the samples on dry ice following DOT recommendations. | ****Adhere to the 1:9 ratio of anticoagulant to blood prior to processing the blood for plasma separation.**  
**Minimum Volume Requirements:**  
PT= 50 uL  
APTT = 50 uL  
Fibrinogen = 100 uL + dead volume (200 uL)  
(Example: For PT, APTT, and Fibrinogen testing: 50uL + 50uL + 100uL = 200uL.) |
| **Sterile Urine Collection Tube (Falcon, Polypropene, or others)** | **Contains no preservative** | **Microscopic and Microscopic Urinalysis (Urine)**  
Minimum Volume: Microscopic: 1.0ml  
Microscopic: 3.0ml  
1. Collect urine samples using a clean collection tube with a leukoprep cap.  
2. If capillary tubes are used for collection, place in a secondary labeled tube.  
**Note:** Avoid excessive exposure of urine to light due to photosensitivity of bilirubin.  
**Microscopic:** Transport to testing facility ASAP due to fragility of urine particles.  
**Macroscopic:** Must be performed within 24 hours of collection.  
1. Refrigerate urine samples after collection. (Do not freeze.)  
2. Transport urine samples on wet ice at refrigerated temperature (4-6°C).  
(How: If testing is delayed up to 48 hours after collection, freeze the urine samples at -20°C. Then, transport the samples on dry ice.) | **Macroscopic:** Transport to testing facility ASAP due to fragility of urine particles.  
**Macroscopic:** Must be performed within 24 hours of collection.  
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