

## Blood Collection Procedure

**NOTE:** Venipuncture should be performed wearing gloves.

1. Peel apart package and remove set.
2. **WITH MULTIPLE SAMPLE LUER ADAPTER:** Thread the Luer Adapter into Holder (Figure 1).  
A BD Vacutainer™ Needle Holder or a Adapter of an appropriate size must be used with this product to ensure proper function. Check to ensure that the Female Luer (A) is securely attached on the Male Luer (B).  
**WITH FEMALE LUER:** Remove tip cap (Figure 1A). Assemble syringe (Figure 2A).

**NOTE:** Filling the tubes from a hypodermic syringe while the stopper is in place is not recommended. Forcefully depressing the syringe plunger without removing the stopper can create positive pressure in the tube causing the stopper and specimen to fly out with explosive force.

3. Utilizing tourniquet, if appropriate, identify site for venipuncture.
4. Prepare venipuncture site with appropriate antiseptic. Allow site to dry.
5. Remove needle sheath (Figure 2 or 2A) and perform venipuncture by holding wings as shown (Figure 3 or 3A). Do not grasp the yellow safety shield to insert device.
6. **WITH MULTIPLE SAMPLE LUER ADAPTER:** Collect into an evacuated tube by placing tube into holder, then puncture the stopper by pushing the tube and replace with additional tubes as appropriate. (See order of draw). Do not leave tourniquet in place for more than 2 minutes. Remove as soon as blood appears in the first tube. A draw loss of approximately 0.5 ml will result when collecting the initial tube. Tubes containing additives should be mixed as soon as they are filled.

**WITH FEMALE LUER:** Use BD Safety-Lok™ Blood Collection Set according to the Standard Operating Procedures of your institution. If syringe is used for blood collection, see instructions for use of Blood Collection Tubes and NCCLS Approved Standard H3-A3, Vol. 11, No. 10, Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture.

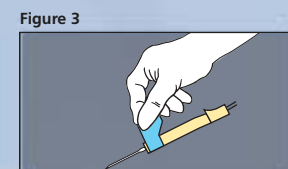
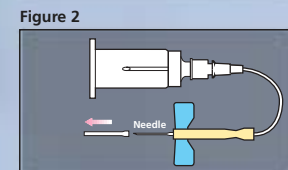
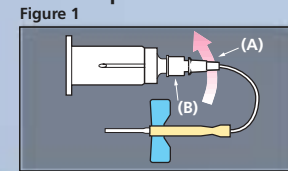
7. **Withdrawing BD Vacutainer™ Safety-Lok™ Blood Collection Sets:** When final tube is filled, remove the BD Vacutainer™ Safety-Lok™ Blood Collection set by:
  - Grasping the translucent yellow safety shield grip area with the thumb and index finger while at the same time grasping the tubing (Figure 4), or
  - Grasp either one wing or both wings and withdraw (Figure 4A). Apply digital pressure to site using sterile gauze pad.

8. **BD Vacutainer™ Safety-Lok™ Shield Activation:**
  - **One-Hand Technique.** Hold tubing in hand and advance translucent yellow safety shield with thumb and index finger (Figure 5) until a click is heard indicating that the needle is completely retracted and safety shield is locked in place over needle tip (Figure 8), or...
  - **Modified One-Hand Technique.** Apply pressure to site using your fingers as shown (Figure 4 or 4A). Withdraw blood collection set by grasping the translucent yellow safety shield grip area with the thumb and index finger. With opposite hand, grasp tubing between thumb and index finger while pushing the yellow safety shield forward (Figure 6) until a click is heard indicating that the needle is completely retracted and the safety shield is locked in place (Figure 8), or...
  - **Two-Hand Technique (Figure 7).** Grasp either wing with one hand (A) and grip area of the yellow safety shield base with the other hand (B). Slide the wings back into the rear slot of the safety shield, until a click is heard indicating that the needle is completely retracted and locked into place over needle tip (Figure 8).

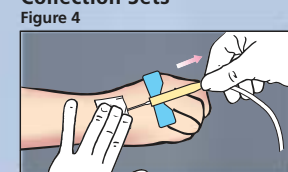
Do not grasp safety shield by body; this will interfere with safety shield activation.

9. Label all specimens.
10. **BD Vacutainer™ Safety-Lok™ Blood Collection Set Disposal:** Dispose of the holder and Blood Collection Set into the nearest sharps container according to state and local regulations. If separating holder from Blood Collection Set, use caution as the Multiple Sample Luer Adapter is unprotected. Dispose of all used materials in appropriate container and wash hands.

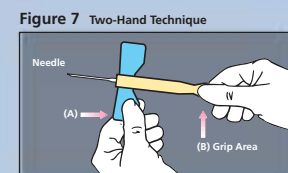
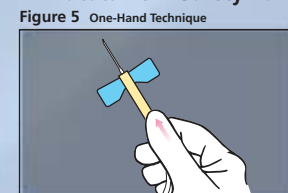
### Sets With Multiple Sample Luer Adapter



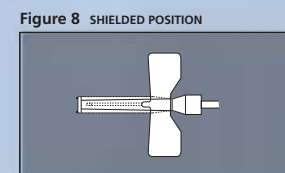
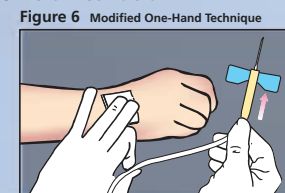
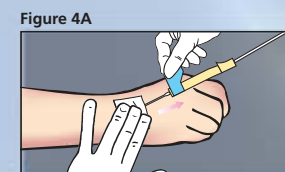
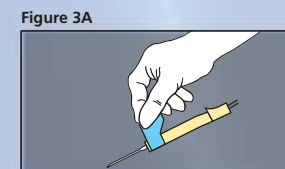
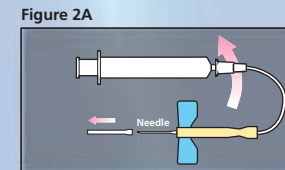
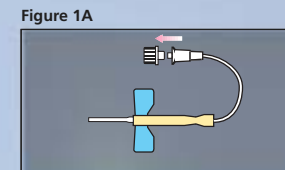
### Withdrawing BD Vacutainer™ Safety-Lok™ Blood Collection Sets



### BD Vacutainer™ Safety-Lok™ Shield Activation



### Sets With Female Luer



BD Vacutainer Systems  
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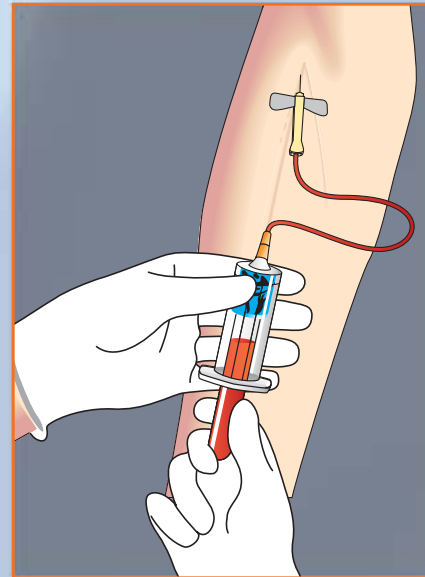
# BD Vacutainer™ CPT™

## Mononuclear Cell Preparation Tube Recommendations For Use



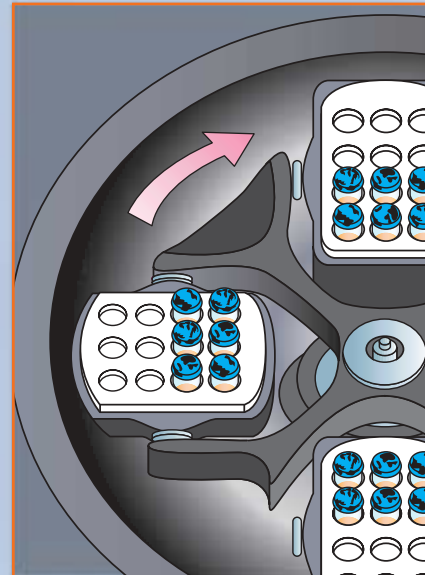
Indispensable to  
human health

## BD Vacutainer™ CPT™ Mononuclear Cell Preparation Tube



### 1. Blood Collection

- A** Using a blood collection needle device (see back of folder), draw blood into the BD Vacutainer™ CPT™ tube.
- B** For more details on venipuncture techniques, please refer to the general venipuncture procedure described in the CPT product insert and your institution's recommended procedures: (NOTE: Gloves should be worn for venipuncture procedure.)



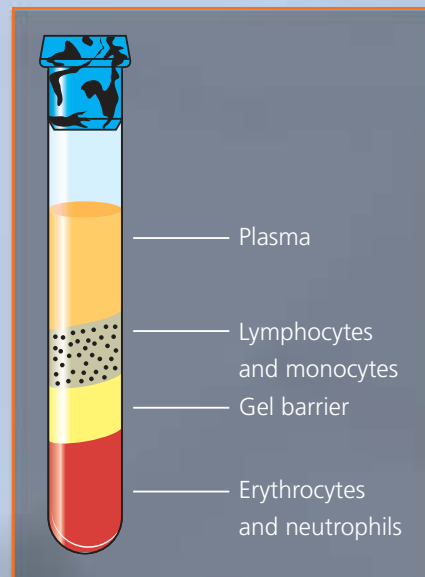
### 2. Centrifugation

- A** Remix the blood sample immediately prior to centrifugation by gently inverting the Tube 8 to 10 times. Also, check to see that the CPT Tube is in the proper centrifuge carrier/adaptor.

NOTE: Ensure the CPT Tube does not touch the center rotor in the "swing-out" position. Please refer to attached centrifuge ruler for additional recommendations.

- B** Centrifuge the CPT tube at room temperature (18-25°C) in a horizontal rotor, swing-out bucket centrifuge (for a minimum of 20 minutes at 1,500 to 1,800 RCF (Relative Centrifugal Force)).

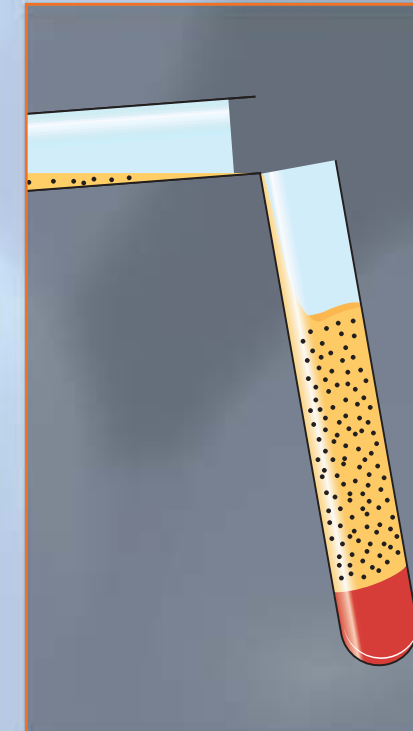
NOTE: Blood samples centrifuged within 2 hours of collection will enhance Mononuclear cell recovery.



### 3. Post Centrifugation

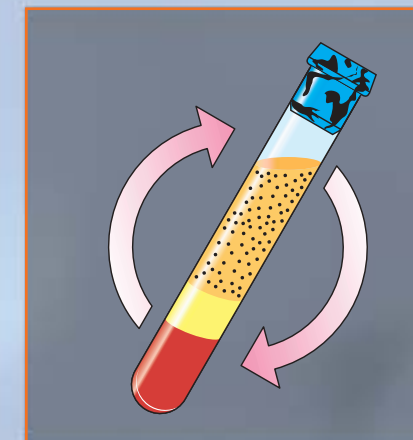
- A** After centrifugation, remove the tube from the centrifuge.
- B** There should be four distinct layers containing the following (from bottom to top layer): Erythrocytes and Neutrophils, Gel barrier, Lymphocytes and Monocytes, and Plasma.
- C** The mononuclear cells and platelets will be in the buffy layer just under the plasma layer and above the stable gel barrier (3rd layer from the bottom).

## BD Vacutainer™ CPT™ Mononuclear Cell Preparation Tube



### 4. Suggested Cell Washing Steps

- A** Aspirate approximately half of the plasma without disturbing the cell layer. Collect the cell layer with a Pasteur pipette and transfer to 15 mL size conical centrifuge tube with cap. Collection of cells immediately following centrifugation will yield best results.
- B** Add PBS to bring volume to 15 mL. Cap Tube. Mix cells by inverting tube 5 times.
- C** Centrifuge for 15 minutes at 300 RCF. Aspirate as much supernatant as possible without disturbing cell pellet.
- D** Re-suspend cell pellet by gently vortexing or tapping tube with index finger.
- E** Add PBS to bring volume to 10 mL. Cap Tube. Mix cells by inverting Tube 5 times.
- F** Centrifuge for 10 minutes at 300 RCF. Aspirate as much supernatant as possible without disturbing the cell pellet. Re-suspend the cell pellet in the desired medium for subsequent procedure.



### 5. Sample Storage and Transport

- A** After centrifugation, re-suspend the cells into the plasma by inverting the unopened BD Vacutainer™ CPT™ Tube gently 5 to 10 times.
- B** The re-suspended sample can be stored up to 24 hours at 18-24°C after centrifugation.
- C** To collect the cells, open the BD Vacutainer™ CPT™ Tube and pipette the entire contents of the tube above the gel into a separate vessel.
- D** Follow suggested cell washing steps (above) starting with Step 4B.

[www.vmdp.com](http://www.vmdp.com)

**For further assistance please contact:**  
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