

VAHTS Blood Collection Tube for Cell-Free DNA Preservation

Catalog # N901



Version 9.3

Vazyme biotech co., ltd.

Introduction

VAHTS Blood Collection Tube for Cell-Free DNA Preservation is a blood collection and storage tube intended for separating cell-free DNA (cfDNA) from plasma. The cfDNA and genomic DNA (gDNA) of leukocyte in the collected blood are stable in the tube for 7-14 days. The obtained cfDNA can be used for PCR detection or library preparation. This product is for research use only. Not for use in diagnostic procedures.

Package Information

Specifications

N901

VAHTS Blood Collection Tube

10 ml Tube

Reagent Contents

The product contains the anticoagulant EDTA.2K and a cell preservative without free aldehyde in a liquid medium.

Storage

Stored at 18°C to 30°C through expiration date. **DO NOT** freeze.

cfDNA and cellular genomic DNA in blood samples collected are stable for up to 14 days at temperatures between 6°C to 30°C.

Cautions

1. The blood collection tube (BCT) is made of glass and should be handled with care.
2. The volume of blood collected should be at least 8 ml.
3. Don't use blood collection tube (BCT) when there are foreign contents or precipitates.
4. Don't use BCT out of expiration date.
5. The BCT is disposable and should be disposed with medical waste and destroyed.
6. All biological specimens and materials coming in contact with them are considered biohazards and should be treated as if capable of transmitting infection. Avoid contact with skin and mucous membranes.
7. When collecting blood, keep liquid in tube below the puncture site to avoid blood flow backwards.
8. Remove the BCT rubber plug by gently grasping with a simultaneous twisting and pulling action. A "thumb roll" procedure for plug removal is NOT recommended to avoid tube breakage or blood spill.

Protocol

1. Keep patient's arm in the downward position during the collection procedure. Choose the proper puncture site and use tourniquet. Disinfect the puncture site using proper methods.
2. Remove blood collection needle sheath and process venipuncture when the arm is kept downward position.
3. Push the tube in and make the needle pierce through the membrane of the plug at the other end. When piercing the plug, make sure the collection tube is placed at the middle of the rubber plug to prevent side wear and avoid early loss of negative pressure.
4. Release tourniquet once blood starts to flow in the tube.
5. When collection is filled with blood of expected volume and blood flow is stopped, remove the needle from the tube.
6. Mix the collected blood by gently inverting the tube 180 degree, a complete turn of the wrist, for 8 to 10 times, as shown below in Fig.1. Place the tube upward with the cap on the top.

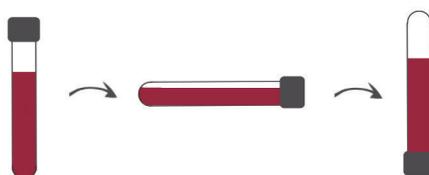


Fig.1. Standard inversion method of blood collection tube.



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Application 1: Extraction of Cell-Free DNA (cfDNA)

1. Mix the whole blood by gentle inversion, apply to a centrifuge tube and centrifuge at $300 \times g$ for 20 min at room temperature.
2. Transfer the plasma supernatant to a new tube.
3. Centrifuge the plasma again at $6000 \times g$ for 5 min to completely remove cells and cell fragments. Transfer the plasma supernatant to a new tube.
4. Isolate cell-free DNA from plasma supernatant using a commercial plasma cell-free DNA extraction kit (i.e. VAHTS Serum/Plasma Circulating DNA Kit, Vazyme, #N902-01).

Note: For optimal isolation results, a treatment with Proteinase K should be included during extraction procedure.

Application 2: Extraction of Cellular Genomic DNA (gDNA)

1. Lyse the red blood cells for 10 min-15 min and centrifuge to discard the supernatant.
2. Isolate genomic DNA from precipitated blood cells using a commercial blood cell DNA extraction kit.

Note: For optimal isolation results, a treatment with Proteinase K should be included during extraction procedure.

