

cf-DNA Preservative Tubes
Product # 63950, 63960

Product Insert

Norgen's **Cell-Free DNA (cf-DNA) Preservative Tubes** are closed, evacuated plastic tubes for the collection and the preservation of cell-free circulating DNA in human whole blood samples. Norgen's cf-DNA Preservative is a formaldehyde-free preservative reagent that stabilizes nucleated blood cells, thus preventing apoptosis and the release of genomic DNA into the plasma. Blood samples collected on Norgen's cf-DNA Preservative Tubes are stable for up to 30 days at room temperature (15-25°C) and for up to 8 days at 37°C. The content of the cf-DNA Preservative Tube will not dilute the collected blood sample and therefore no dilution factor correction is required. The tubes are used to collect cf-DNA for the purpose of isolating cf-DNA using Norgen's Plasma/Serum Cell-Free Circulating DNA Purification Kits or other cf-DNA purification methods, including both manual and automated methods. The purified cf-DNA is suitable for any downstream analytical assay.

Product Use Limitations

Norgen's cf-DNA Preservative Tubes are for **RESEARCH USE ONLY** and are not intended for human or diagnostic use.

Storage Conditions and Product Stability

Norgen's cf-DNA Preservative Tubes should be stored at room temperature (15-25°C) for up to 1 year without showing any reduction in performance. See tube label for expiry date. Tubes are sterile.

Quality Control

In accordance with Norgen's ISO 9001 and ISO 13485-certified Quality Management System, each lot of Norgen's cf-DNA Preservative is tested against predetermined specifications to ensure consistent product quality.

Product Warranty and Satisfaction Guarantee

NORGEN BIOTEK CORPORATION guarantees the performance of all products in the manner described in our product manual. The customer must determine the suitability of the product for its particular use.

Safety Information

Ensure that a suitable lab coat, disposable gloves and protective goggles are worn when working with chemicals. For more information, please consult the appropriate Material Safety Data Sheets (MSDSs). These are available as convenient PDF files online at www.norgenbiotek.com.

To avoid the risk of infection (e.g., from HIV or hepatitis B viruses) or injury when working with biological and chemical materials, always wear a suitable lab coat, disposable gloves, and protective goggles.

The cf-DNA Preservative Solution and blood mixture from Norgen's cf-DNA Preservative Tube can be disinfected using 1 volume of commercial bleach solution (5% sodium hypochlorite) per 9 volumes of the cf-DNA Preservative solution and blood mixture.

Blood collection sharps should be discarded in biohazard containers approved for their disposal. Do not use Norgen's cf-DNA Preservative Tube after the expiration date printed on the tube label. Do not transfer a sample from a syringe to the cf-DNA Preservative Tube. Since Norgen's cf-DNA Preservative Tube contains a chemical preservative, a blood collection set must be used for blood collection to prevent possible backflow from the tube. cf-DNA Preservative Tubes are for single use only.

Label Legend

			
Use by	Batch Code	Catalogue Number	Temperature limitation

Prevention of Backflow

- Most evacuated blood collection tubes contain chemical preservatives. Therefore it is important to avoid possible backflow from the tube, due to the possibility of adverse patient reactions. To prevent backflow from tube into patient's arm, observe the following precautions:
 1. Place patient's arm in a downward position.
 2. Hold tube with the cap upright.
 3. Release tourniquet as soon as blood starts to flow into tube.
 4. Make sure tube contents do not touch cap or end of the needle during venipuncture.

IMPORTANT NOTES BEFORE USE

- Norgen's cf-DNA Preservation Tubes utilize a novel method to preserve cf-DNA and stabilize nucleated blood cells, thus preventing apoptosis and the release of genomic DNA. Collected and preserved blood may appear different than blood collected and preserved in standard EDTA tubes, citrate tubes or other commercially available preservative tubes due to the unique mechanism of preservation.
- It is critical to the preservation and subsequent processing of the blood samples that:
 - Each tube is gently inverted 10 times immediately after blood collection to ensure that the preservative is mixed with the blood.
 - If collecting multiple blood tubes, gently invert after each tube is filled and DO NOT wait until all tubes are collected to mix the samples
 - Failure to invert the tubes gently 10 times immediately after blood collection may result in clotting or other inaccurate results
- DO NOT mix or invert the tubes prior to plasma separation as this may lead to hemolysis

A. Collecting and Storing Blood in Norgen's cf-DNA Preservative Tubes

Follow your laboratory's procedures for drawing blood from individuals into blood collection tubes containing liquid reagents. Observe the appropriate safety practices when collecting blood. Refer to the product documentation of your blood collection set for specific instructions on venipuncture technique and blood collection. We recommend using the Greiner **VACUETTE**[®] Safety Blood Collection Sets. If using the Greiner **VACUETTE**[®] Safety Blood Collection Set, please refer to the Instructions for Use on the Greiner Bio-One website (<https://www.gbo.com>)

1. Ensure that Norgen's cf-DNA Preservative is at 15-25°C prior to use and properly labeled with patient identification
2. Using a blood collection set and a holder, collect blood into Norgen's cf-DNA Preservative Tube using your institution's recommended procedure for standard venipuncture technique. To prevent possible backflow during blood collection, please refer to the **Prevention of Backflow** section.
3. Fill the tube with blood until the blood flow stops (Note: the tube is evacuated to collect 8.3mL of whole blood.

4. **IMPORTANT!** Immediately after the cf-DNA Preservative Tube is filled with blood, stabilize the cf-DNA by gently inverting the contents 10 times to ensure that the cf-DNA Preservative makes uniform contact with the sample. One inversion is a complete turn of the wrist 180 degrees and back.

Failure to mix Norgen's cf-DNA Preservative with the blood leads to inadequate stabilization of the cf-DNA and the formation of microclots that can potentially clog the purification spin-columns or cause hemolysis that will lead to the contamination of the plasma with gDNA.

5. Store Norgen's cf-DNA Preservative Tubes upright at room temperature (15-25°C) for up to 30 days.
6. Transport tubes within the recommended temperature range.

B. Plasma Preparation for cf-DNA Purification

IMPORTANT! DO NOT MIX the contents of the cf-DNA Preservative Tube (blood / preservative) prior to plasma preparation. Mixing the tube contents may result in hemolysis and the contamination of the recovered plasma with cellular genomic DNA.

1. To separate plasma, centrifuge the contents of the cf-DNA Preservative Tube at 425 xg for 20 minutes at room temperature.
2. Carefully transfer the upper plasma layer by pipetting to a fresh tube. Avoid the transfer of any cells during the transfer of the plasma
3. Isolate the plasma cf-DNA immediately or store at -70°C.

Technical Assistance

NORGEN's Technical Service Department is staffed by experienced scientists with extensive practical and theoretical expertise in sample and assay technologies and the use of NORGEN products. If you have any questions or experience any difficulties regarding Norgen's cf-DNA Preservative Tube or NORGEN products in general, please do not hesitate to contact us.

NORGEN customers are a valuable source of information regarding advanced or specialized uses of our products. This information is helpful to other scientists as well as to the researchers at NORGEN. We therefore encourage you to contact us if you have any suggestions about product performance or new applications and techniques.

For technical assistance and more information, please contact our Technical Support Team between the hours of 8:30 and 5:30 (Eastern Standard Time) at (905) 227-8848 or Toll Free at 1-866-667-4362. or call one of the NORGEN local distributors (www.norgenbiotek.com) or through email at techsupport@norgenbiotek.com.

Norgen's preservation technology is patented and/or patent pending. See www.norgenbiotek.com/patents

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