INTEND USE (RECOMMENDED)

The TUD K2 EDTA Gel-Preparation Preparation Tube (TUD K2 EDTA Gel Tube) is a plastic vacuum tube for the collection of venous blood which upon centrifugation separates undiluted EDTA plasma and a hematological (blood) blood cell fraction.

The TUD K2 EDTA Gel Tube contains sodium EDTA (Ethylene Diamine Tetraacetic Acid, sodium salt), an anticoagulant. EDTA acts as a chelating agent, which removes divalent calcium from blood, thus separating plasma from blood cells.

PRECAUTIONS

1. Since blood volume to be collected is determined by vacuum in the blood collection tube, the blood collection tube is collected by factors such as subject’s hematocrit, temperature, venous pressure, manufacture, mix, concentration of blood collection tube, blood collection technique, etc.

2. Correct ratio between blood volume and additive is required for blood collection tube with additives. During collection, the blood should be collected to the indication line marked on the tube itself, and thus the collection time may be a little longer. If the conditions (e.g., high altitude) where you have severe influences on the accuracy of collection volume, please contact our Technical Department for better technical support.

3. Blood collection tube with EDTA is recommended if serum or plasma shall be separated from blood specimen for determination of items such as DHEA, GLU, K+, A+, etc., that are easy to be affected by blood cells, and centrifugation shall be applied to this tube as soon as possible after blood collection to separate the serum or plasma from blood cells. (EDTA separation tube is used, centrifugation should be applied after blood coagulation completely.) In this way, chemical composition of serum or plasma can be obtained.

4. If the collection volume is below 1.6 mL, common evacuated tube may not meet your need. In such cases, please contact our Technical Department for better collection and packaging.

5. It’s not recommended to use TUD K2 EDTA blood collection tube with additives for collection of other body fluids such as urine, amniotic fluid, and pleural and peritoneal effusion.

6. For the centrifugation of evacuated blood collection tube containing blood specimen on a temperature-controlled table, the maximum tangential centrifugal force shall not be higher than 2000g; for the centrifugation on an angular centrifuge, the maximum centrifugal force shall not be higher than 1500g; for the centrifugation of automatic balancing horizontal centrifuge, the centrifugal force can be increased 150a.

Calculation formula: centrifugal force [g]: 150a = 150 × (r/R)2, where r is the speed of rotation from the distance between the collection tube and the bottom of the blood collection tube. (For calculation of centrifugal force, please find the below table shows optimum centrifugal speed for different centrifugal radius.)

Table of Centrifugal Radius and Optimum Centrifugal Speed

<table>
<thead>
<tr>
<th>Tube Type</th>
<th>Inversions (including)</th>
<th>Recommended Optimal Centrifugal Force (g)</th>
<th>Time/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUD EDTA Tube</td>
<td>5-10x</td>
<td>1800-2200</td>
<td>10-15</td>
</tr>
</tbody>
</table>

7. Do not use tubes if foreign is present.
8. Handle all biological samples and blood collection “sharps” (dermal, venous, joint aspiration, and blood collection set) according to the policies and procedure of your facility.
9. Obtain appropriate medical attention in the case of any exposure to biological samples (for example, through a puncture injury), since they may transmit HIV/AIDS, viral hepatitis, or blood borne pathogens.
10. Discard all blood collection “sharps” in biohazard containers approved for their disposal.
11. If blood is collected through a supernatant (UV) line, ensure that the line has been cleared of any air and then apply it to the line of blood collection tubes, but be sure to avoid entering a blood collection tube before it has been clogged with a filter film.
12. Do not use tubes containing blood sample before they become coated with saliva film along the tube walls.
13. All liquid preservatives and anticoagulants are dead cell solutions (except for EDTA tubes contain a yellow liquid), do not use if you are suspected to contain bacteria.
14. Do not use tubes after their expiration date.

TROUBLESHOOTING HEMOLYSIS IN THE CLINICAL LABORATORY

Hemolysis causes a serum or plasma sample to take a pink or red tinged, due to the presence of the hemoglobin from the red cell.

A hemolyzed sample can be a tremendous concern for the laboratory. The hemolysis can cause a false elevation in some analytes, such as potassium and lactate dehydrogenase (LD), due to their high concentration in the red cell. The red or pink color of a hemolyzed sample can also interfere with some test methodologies, such as spectrophotometric methods. The amount of analyte interference will depend on the degree of hemolysis and the methodology being used. Hemolysis can be a reason for specimen rejection, thus the patient sample to be refused. Hemolysis can be caused by many vehicle, including a traumatic venipuncture, improper handling and processing of blood collection tubes, and adverse conditions when samples are being transported to the laboratory.

GEL

The function of the gel is to provide a physical and chemical barrier between the serum or plasma and the cells. Ideally, gel is made of gel matrix, which is composed of a polyacrylamide (Acrylamide) polymer, which is capable of providing barrier properties because of their response to applied forces.

When blood is drawn into the evacuated gel tube, and once centrifugation starts, the plasma applied to the gel causes its viscosity to decrease, enabling it to move or flow. Mixed with those flow characteristics are often called thromboplastins. Once centrifugation starts, the gel becomes an impenetrable barrier between the supernatant and the cells. When first introduced, separator tubes contained a plasma gel, but these were unstable after distribution. Gels are generally composed of more than one component. They consist of a primary organelle phase, referred to as a resin, an organic polymer, and a network of colloids. The consistency of a gel is determined by the density of the gel that is between the densities of the serum or plasma and the cells.

STORAGE

Store tubes at 22°C to 25°C (72°F to 77°F) Astable; avoid exposure to direct sunlight. Exceeding the maximum recommended storage temperature may lead to improvement of the tube quality (e.g., vacuum loss, drying out of liquid additives, colour change, etc.).

RECOMMENDED ORDER OF DRAW

1. Blood Culture tube
2. Additive tubes
3. Calibrators
4. Vacutainer®
5. EDTA
6. Glucose

*When drawn first then only suitable for routine tests (LP, PT and APTT).

NOTE: In cases where blood culture tubes are not required, TUD recommends no additive tubes. NOT: Always follow your facility’s protocol for order of draw.

PACKING LIST

- SPEC (mm): 11x100, 13x100
- Glassware: 11x100, 13x100
- Plasticware: 11x100, 13x100
- Container: 11x100, 13x100

LABEL INFORMATION

- Rainproof: Yes
- Fragile: No
- Upright: Yes
- Sunproof: Yes
- Single use only: Yes
- Expiry Date: Yes
- LOT: Yes
- No: No
- Manufacturer: Yes

TECHNICAL SUPPORT

Please contact tech@tud.com for any technical assistance.