E.D.T.A. (di-sodium) 5%

R019

Intended use

EDTA (di-sodium) 5% is used as an in-vitro anticoagulant for diagnostic purposes.

Composition**

Ingredients

E.D.T.A. di-sodium salt	5.0 gm
Distilled water	100.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

1. Dispense EDTA (di-sodium) 5 % into test tube.
2. Add blood and mix gently by inversion of the stoppered tube.

Principle And Interpretation

Ethylene diamine tetraacetic acid is a calcium chelating agent. It has colourless crystalline nature which decomposes at 24°C and is slightly soluble in water and insoluble in common organic solvents. It can be neutralized by alkali-metal hydroxides to form a series of water-soluble salts containing one to four alkali metal cations. It has many uses and applications in various aspects. In the biological field, it is mainly used as an anticoagulant of blood, where the calcium in blood is bound in a unionized and soluble complex with EDTA. Ethylenediamine tetraacetic acid (EDTA) is a polyprotic acid containing four carboxylic acid groups and two amine groups with lone-pair electrons that chelate calcium and several other metal ions. Calcium is necessary for a wide range of enzyme reactions of the coagulation cascade and its removal irreversibly prevents blood clotting within the collection tube. Historically, EDTA has been recommended as the anticoagulant of choice for hematological testing because it allows the best preservation of cellular components and morphology of blood cells.

Type of specimen

Clinical specimen: Blood

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Excess of EDTA affects both red cells and leucocytes, causing shrinkage and degenerative changes.
2. EDTA in excess of 2mg/ml of blood may result in a significant decrease in PVC by centrifugation and increase in mean cell haemoglobin concentration (MCHC).
3. Excess of EDTA causes platelets to swell and then disintegrate, leading to an artificially high platelet count because the fragments are large enough to be counted as normal platelets.
4. Blood films made from EDTA may fail to demonstrate basophilic stippling of red cells in lead poisoning.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Quality Control

- **Appearance :** Colourless liquid.
- **Solubility :** Slightly soluble in water and insoluble in common organic solvents.
- **Clarity :** Clear with no insoluble particles.
- **Concentration :** 4.80 - 5.20%

Storage and Shelf Life

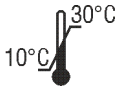
Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Banfi G1, Salvagno GL, Lippi G," The role of ethylenediamine tetraacetic acid (EDTA) as in vitro anticoagulant for diagnostic purposes"; Clin Chem Lab Med. 2007;45(5):565-76.
2. Lapage S., Shelton J. and Mitchell T., 1970, Methods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academic Press, London.
3. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins, Baltimore.
4. Dacie and Lewis Practical Haematology; Tenth edition ; S. Mitchell Lewis, BarbaraJ. Bain, Imelda Bates.



Storage temperature

Do not use if package is damaged

IVD

In vitro diagnostic medical device

CE Marking

HiMedia Laboratories Pvt Limited
C-40,21/Y, MIDC, Wagle Ind Area,
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EC REP

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