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Product Information

Ethylenediaminetetraacetic acid tetrasodium salt hydrate

Catalog Number **E5391**
Store at Room Temperature

Synonym: EDTA tetrasodium salt hydrate
CAS Number: 194491-31-1
64-02-8 (anhydrous)
Molecular Formula: $C_{10}H_{12}N_2Na_4O_8 \bullet xH_2O$
Molecular Weight: 380.17
pK_a:[1] 2.0, 2.7, 6.2, 10.3

Product Description

EDTA is an inhibitor of metalloproteases, at effective concentrations of 1-10 μM. EDTA acts as a chelator of the zinc ion in the active site of metalloproteases, and can also inhibit other metal ion-dependent proteases, such as calcium-dependent cysteine proteases. EDTA may interfere with biological processes which are metal-dependent.[2]

For use as an anticoagulant, disodium or tripotassium salts of EDTA are most commonly used. The optimal concentration is 1.5 mg per mL of blood. EDTA prevents platelet aggregation, and is therefore the preferred anticoagulant for platelet counts.[3] Using a 2% EDTA solution, 1-2 drops per mL of whole blood can be used as an anticoagulant.

This specific EDTA tetrasodium salt product has been used in various studies, including:

- Preparation of TE buffer[4]
- Use in media for mouse embryonic stem cell culture[5]
- Studies on buccal cells[6,7]

A procedure for a chromogenic assay of EDTA has been published.[8]

Trace elemental analyses have been performed on this EDTA tetrasodium salt product. The Certificate of Analysis (CofA) provides lot-specific results. This product is for applications which require tight control of elemental content.

Preparation Instructions

A 0.1 M solution in water at 20 °C yields a clear, colorless solution.

Storage/Stability

A stock solution of 0.5 M at pH 8.5 is stable for months at 4 °C.[2] Solutions of EDTA may be autoclaved.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses.

References

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