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ProductInformation

Ethylene glycol-bis(β-aminoethyl ether)-N,N,N',N'-tetraacetic acid tetrasodium salt

Product Number **E 8145**
Store at Room Temperature

Product Description

Molecular Formula: $C_{14}H_{20}N_2O_{10}Na_4$
Molecular Weight: 468.3
CAS Number: 13368-13-3
Synonym: EGTA

EGTA is a reagent that is used to chelate Ca^{2+} in the presence of Mg^{2+}.[1] EGTA chelates Ca^{2+} at a ratio of 1:1. The log (stability constants) for several cations are as follows:[2]

Mg^{2+} = 5.2
Ca^{2+}= 11.0
Mn^{2+} = 12.1
Fe^{2+} = 11.8
Co^{2+} = 12.3
Ni^{2+}= 11.8
Cu^{2+} = 17.7
Zn^{2+} = 12.9

A protocol for the determination of free calcium in calcium-EGTA solutions has been reported.[3] A procedure for making a calibration standard for calcium ion concentration, with detection accurate to 10 μM in a mixture of EGTA, HEDTA, and NTA has been reported.[4]

EGTA can be used as an anti-coagulant when dissolved at 1 g per 100 ml of blood. EDTA is more commonly used for the same purpose; either agent chelates the calcium ion from blood.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (110 mg/ml), yielding a clear, colorless solution.

References

1. Schmid, R.W., and Reilley, C.N., New complexon for titration of calcium in the presence of magnesium. Anal. Chem., **29**, 264 (1957).
2. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 404-405.
3. Bers, D.M., A simple method for the accurate determination of free [Ca] in Ca-EGTA solutions. Am. J. Physiol., **242**, C404-408 (1982).
4. May, P.M., et al., Calibration of ionized calcium and magnesium with ligand mixtures for intracellular ion-selective electrode measurements. Anal. Chem., **57**, 1511-1517 (1985).

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