FT-036291

EDTA and EGTA chelating agents

EDTA is a chelating agent for divalent ions (Calcium, Magnesium,Metals,...)

Products Information

Catalog #: 036292, 100g 036291, 500g 036290, 1Kg

Name: **EDTA**, UltraPure grade

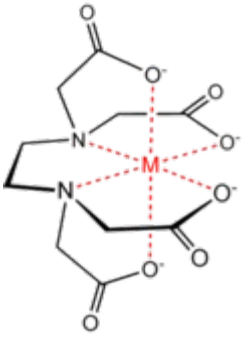
ethylenediaminetetraacetic acid

MW: 292.24 g/mol

CAS [60-00-4]

Specifications:

DNase(P/F)	none
Heavy Metals (as Pb)(%)	<=0.005 %
Identification (FTIR)(P/F)	pass
Insolubles	<=0.005 %
Iron	<=0.01 %
Loss on Drying	8.7-11.4 %
Nitrilotriacetic Acid	<=0.1 %
pH (5%, Water) @25C°	4.0-6.0
Protease(P/F)	none
Purity	>99.0 %
RNase(P/F)	none



pK1=0.0 (CO_2H)
pK2=1.5 (CO_2H)
pK3=2.00 (CO_2H)
pK4=2.69 (CO2H)
pK5=6.13 (NH+)
pK6=10.37 (NH+)

Storage: Room temperature (Z)
Protect from light and moisture

Irritant; R36, S26

*EGTA is a **chelating agent** with a much higher affinity for Ca^{2+} than for Ca^{2+} ions.*

Catalog #: 10075A, 10g

Name: **EGTA**, UltraPure grade

Ethyleneglycol Bis(2-Aminoethyl Ether)-N,N,N',N' Tetraacetic Acid

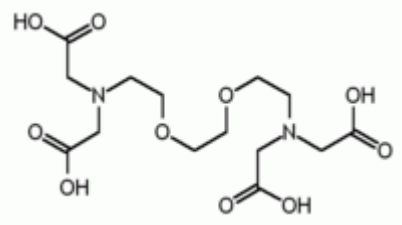
MW: 380.35

CAS [67-42-5]

Mp: 241 °C, 514 K, 466 °F

Specifications:

DNase(P/F)	none
Heavy Metals (as Pb)	<=0.001 %
Identification (IR)(P/F)	pass
Loss on Drying	<=1.0 %
Melting Range w/Decomposition	>238°C
Protease(P/F)	none
Purity	>97.0 %
RNase(P/F)	none



pK(protonated form)=11.00 (CO_2H)
Apparent pK (pH7)=6.91 (CO_2H)

Storage: Room temperature (Z)
Protect from light and moisture

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Applications

EDTA is a popular chelating agent for divalent ions, which is widely used in biochemistry, molecular biology and cell biology. EGTA is used for specific applications when Ca^{2+} specific chelation in desired, i.e. in buffers for living cell analysis. See below for more information.

Technical information – EDTA

Applications- EDTA :

EDTA is a popular chelating agent for divalent ions, that is widely used in biochemistry, molecular biology and cell biology. EDTA is an abbreviation for EthyleneDiamineTetraAcetic ac (and many other related molecules). EDTA is an amino acid widely used to sequester di- and trivalent metal ions (Ca2+ and Mg2+ for example). EDTA binds to metals via four carboxylate and two amine groups. EDTA forms especially strong complexes with Mn(II), Cu(II), Fe(III), Pb (II) and Co(III).[1].

References - EDTA

Holleman, A. F.; Wiberg, E. (2001). Inorganic Chemistry. San Diego: Academic Press. ISBN 0-12-352651-5.

Technical information – EGTA

Applications- EGTA :

EGTA is a chelating agent that is related to the better known EDTA, but with a much higher affinity for Ca2+than for Ca2+ ions. The pKa for binding of calcium ions by tetrabasic EGTA is 11.00, but the protonated forms do not significantly contribute to binding, so at pH 7, the apparent pKa becomes 6.91. pKa calculation can be found in reference [Qin et al. 1999].

EGTA is useful for making **buffer solutions to chelate calcium ions** when calcium ions are less concentrated than magnesium, as found inside living cells - usually at least a thousand fold less concentrated.

EGTA is also useful in **enzyme assays**, and in **elution buffer** for the protein purification technique known as Tandem Affinity Purification (TAP), in which recombinant fusion proteins are bound to calmodulin beads and eluted out by adding EGTA.

EGTA has also been used to **chelate poisons** – i.e. experiment for the treatment of animals with cerium poisoning and for the separation of thorium from the mineral monazite.

References - EGTA

Ning Qin, Riccardo Olcese, Michael Bransby, Tony Lin, and Lutz Birnbaumer (March 1999). "Ca2+-induced inhibition of the cardiac Ca^{2+} channel depends on calmodulin". PNAS 96 (5): 2435–2438

Related / associated products and documents

● **Chelating agents** are organic compounds that are used to trap metal ion in circular structures (chelate circles) by several coordinations bounds. Most include oxygen, nitrogen and (or) sulfur, and are base on ethylediamine, acetylacetone, and oxine. EDTA is popular because it is very stable. These chelated are used for titration (colorimetry, fluorimetry), isolation and separation of metal ions. They are also used in masking of some ions, solubilization of metals in organic solvents, gas chromatography of metal ions..

FT-036291

CHELATING AGENTS / EDTA

Name	Cat. Number	Quantity	MW		Solubility
4H(EDTA.free acid)	T31710	500 g	292.24.	Chelate titration, metal masking, metal isolation	34 mg/100ml water
2Na(EDTA.2Na)	T32140	500 g	372.24	Chelate titration, metal masking, metal isolation	11,1 g/100ml water
3Na(EDTA.3Na)	R49090	500 g	472.23	Chelate titration, metal masking, metal isolation	46,5 g/100 ml water
4Na(EDTA.4Na)	T32160	500 g	452.23	Chelate titration, metal masking, metal isolation	60 g/100 ml water
2K(EDTA.2K)	T31910	50 g	404.45	Chelate titration, metal masking, metal isolation	100 g/100 ml water
3K(EDTA.3K)	T31920	50 g	442.54	Chelate titration, metal masking, metal isolation	100 g/100 ml water
2NH4(EDTA.2NH4)	T32180	500 g	326.3	Chelate titration, metal masking, metal isolation	5 g/100ml water
Ca(II)-EDTA	T31340	50 g	410.3		
Cu(II)-EDTA	T31360	25 g	469.8		
Fe(III)-EDTA	T31370	50 g	421.09		
Mg(II)-EDTA	T31380	25 g	430.56		
Zn(II)-EDTA	T31400	25 g	471.64		

CHELATING AGENTS/ EDTA Analogs

Name	Cat. Number	Quantity	MW		Solubility
CyDTA	T30610	25 g	364.35	Metal masking	
DTPA	T31040	5 g	393.35		
EDDP	T31320	5 g	277.15	Chelate titration, metal masking, metal isolation	1 g/100ml water
EDTA-OH	T31330	5 g	278.26	Chelate titration, metal masking, metal isolation	
GEDTA (EGTA)	T31560				
HIDA	T31730	5 g	177.16	Chelating agent	1 g/100ml water
IDA	T31860	25 g	133.1	Intermediate of chelating agent synthesis	1 g/100ml water
NTA	T32240	500 g	191.14	Metal masking, metal isolation	
NTPO	T32290	5 g	365	Chelate titration, metal masking, metal isolation	2 g/100 ml water
TTHA	T33110	5 g	494.45	Chelate titration, metal masking, metal isolation	

Calmodulin VB1960 (Ca2+ binding protein)
(also available labeled by biotin FP-CC5590, Fluorescein FP-CC5580, Rhodamine FP-CC5610)

- See BioSciences Innovations catalogue and e-search tool.
  Reducing agents: DTT #UP054721, DTE #123378, TCEP #UP242214
  Desalting: gelfiltration columns #UP848742, CelluSep Dialysis products

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06

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