

EGTA tetrasodium salt *10 mM aqueous solution*

Ordering Information:

Product Number: #21008 (10 mL)

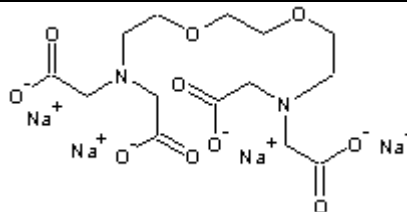
Storage Conditions:

Keep in 4°C
Expiration date: 12 months upon receipt

Chemical and Physical Properties

Molecular Weight: 468.28

Solvent: soluble in water



Biological Applications:

EGTA is a water-soluble and cell-impermeable calcium chelator. It is useful for the determination of calcium in the presence of magnesium.

Storage Conditions:

Store at 4°C. Expiration date is 12 months from the date of receipt.

Sample Protocol for Calcium Measurement:

Titrate the concentration of free Ca^{2+} in solution by mixing different amounts of K_2EGTA and CaEGTA . The reactions of these solutions with Fluo-3 or Fluo-8 dye will be at room temperature, pH 7.2 and 100 mM KCl. Under these conditions, the K_d for EGTA is 150 nM. Measurements of Fluo-8 fluorescence using a fluorescent microplate reader at Ex/Em = 490/525 nm.

1. Begin by mixing the relative volumes of K_2EGTA and CaEGTA according to the following table.

Tube number	Volume K_2EGTA , ul	Volume CaEGTA , ul	Calculated free Ca^{2+} , uM	RFU
zero (blank)	1000	0	0	0
1	900	100		
2	800	200		
3	700	300		
4	600	400		
5	500	500		
6	400	600		
7	300	700		
8	200	800		
9	100	900		

2. Calculate the concentration of free Ca^{2+} in each solution using the formula

$$[\text{Ca}^{2+}]_{\text{free}} = K_d^{\text{EGTA}} \times \{ [\text{CaEGTA}] / [\text{K}_2\text{EGTA}] \} \text{ (Note: the } K_d \text{ of EGTA is 150 nM).}$$

3. Add 1 ul of 1 mM Fluo-3 or Fluo-8 to each solution including the blank .

4. Read the fluorescence of each solution using a fluorescent microplate at Ex/Em = 490/525 nm.

Disclaimer: This product is for research use only and is not intended for therapeutic or diagnostic application. Please contact a technical service representative for more information.

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