

EGTA tetrasodium salt *UltraPure Grade* and *10 mM aqueous solution*

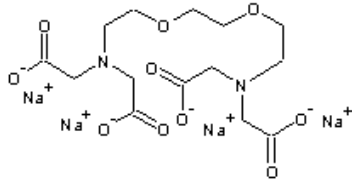
Ordering Information

Product Numbers: 21007 (1 g), 21008 (10 mL)

Storage Conditions

Store at room temperature
Expiration date is 12 months from the date of receipt

Chemical and Physical Properties

<p>Molecular Weight: 468.28</p> <p>Solvent: water</p>	
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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.

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 should be at room temperature, pH 7.2 and 100 mM KCl. Under these conditions, the K_d for EGTA is 150 nM. Measure the Fluo-8 fluorescence intensity with a fluorescence microplate reader at $\text{Ex/Em} = 490/525$ nm.

- Mix the relative volumes of K_2EGTA (Cat. # 21008) and CaEGTA according to the following table.

Sample #	Volume K_2EGTA , μL	Volume CaEGTA , μL	Calculated free Ca^{2+} , μM	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		

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

$$[\text{Ca}^{2+}]_{\text{free}} = K_d^{\text{EGTA}} \times \{[\text{CaEGTA}]/[\text{K}_2\text{EGTA}]\}$$
 (Note: the K_d of EGTA is 150 nM).
- Add 1 μL of 1 mM Fluo-3 or Fluo-8 into each solution including the blank.
- Read the fluorescence intensity of each solution with a fluorescent microplate reader at $\text{Ex/Em} = 490/525$ nm.

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