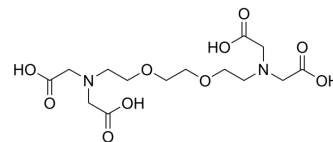


EGTA

Cat. No.:	HY-D0861		
CAS No.:	67-42-5		
Molecular Formula:	C ₁₄ H ₂₄ N ₂ O ₁₀		
Molecular Weight:	380.35		
Target:	Biochemical Assay Reagents		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H₂O : 5 mg/mL (13.15 mM; ultrasonic and warming and adjust pH to 9 with NaOH and heat to 60°C)
 DMSO : 1 mg/mL (2.63 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.6292 mL	13.1458 mL	26.2916 mL
	5 mM	0.5258 mL	2.6292 mL	5.2583 mL
	10 mM	0.2629 mL	1.3146 mL	2.6292 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

EGTA is a specific calcium ion chelator. EGTA has an apparent calcium dissociation constant (K_d) of 60.5 nM at physiological pH (7.4) and has very high specificity for Ca²⁺ over Mg²⁺ (Mg²⁺ K_d 1-10 mM). EGTA significantly inhibits the substrate adherence capacity of inflammatory macrophages^{[1][2]}.

In Vitro

EGTA, proposed as endodontic irrigant, decreases substrate adherence capacity of inflammatory macrophages in a time- and dose-dependent manner. The EGTA concentration that causes an IC₅₀ is 202 mM. Chelators react with calcium ions in the hydroxyapatite crystals to produce a metallic chelate. Removal of calcium ions from the dentine makes the dentinal tissue softer, especially the hydroxyapatite-rich peritubular dentin and increases the diameter of exposed dentinal tubules [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Theranostics. 2021 Mar 24;11(12):5650-5674.
- Front Immunol. 2021 Aug 31;12:701671.
- Food Funct. 05 Aug 2021.

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REFERENCES

[1]. Harris RA, Hanrahan JW. Effects of EGTA on calcium signaling in airway epithelial cells. Am J Physiol. 1994;267(5 Pt 1):C1426-C1434. doi:10.1152/ajpcell.1994.267.5.C1426

[2]. Segura-Egea JJ, Jiménez-Rubio A, Rios-Santos JV, Velasco-Ortega E, Calvo-Gutierrez JR. In vitro inhibitory effect of EGTA on macrophage adhesion: endodontic implications. J Endod. 2003;29(3):211-213.

Caution: Product has not been fully validated for medical applications. For research use only.

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