BAPTA tetrapotassium

Cat. No.: HY-100168B

CAS No.: 73630-08-7

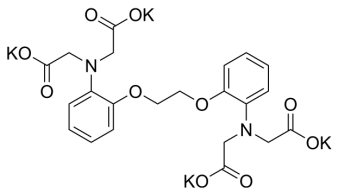
Molecular Formula: $C_{22}H_{20}K_4N_2O_{10}$

Molecular Weight: 628.79

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 125 mg/mL (198.79 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5904 mL	7.9518 mL	15.9036 mL
	5 mM	0.3181 mL	1.5904 mL	3.1807 mL
	10 mM	0.1590 mL	0.7952 mL	1.5904 mL

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

BIOLOGICAL ACTIVITY

Description

BAPTA tetrapotassium is a selective chelator for calcium. BAPTA, as calcium indicator, has high selectivity against magnesium and calcium. BAPTA tetrapotassium is widely used as an intracellular buffer for investigating the effects of Ca^{2+} release from intracellular stores or influx via Ca^{2+}-permeable channels in the plasma membrane. BAPTA tetrapotassium can also inhibit phospholipase C activity independently of their role as Ca^{2+} chelators[1][2][4].

In Vitro

BAPTA (0.3-30 μM; 1 h) can be used for the prevention of [Ca^{2+}]-induced cell damage, but disturbe calcium signalling in isingle differentiated NH15-CA2 neuroblastoma and glioma hybrid cells[3].
BAPTA (0-10 mM) inhibits phospholipase C (PLC) activity in a dose-dependent manner, and is unrelated to Ca^{2+}[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci Immunol. 2019 Jun 28;4(36):eaau6426.

- Mil Med Res. 2023 Nov 25;10(1):56.
- Adv Sci (Weinh). 2021 May 27;e2100363.
- J Thromb Haemost. 2021 Aug 19.
- Sci Total Environ. 2020 Feb 10;703:134702.

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REFERENCES

[1]. R Y Tsien, et al. New calcium indicators and buffers with high selectivity against magnesium and protons: design, synthesis, and properties of prototype structures. Biochemistry. 1980 May 27;19(11):2396-404.

[2]. Roger C Hardie, et al. Inhibition of phospholipase C activity in Drosophila photoreceptors by 1,2-bis(2-aminophenoxy)ethane N,N,N',N'-tetraacetic acid (BAPTA) and di-bromo BAPTA. Cell Calcium. 2005 Dec;38(6):547-56.

[3]. M B Collatz, et al. Intracellular calcium chelator BAPTA protects cells against toxic calcium overload but also alters physiological calcium responses. Cell Calcium

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