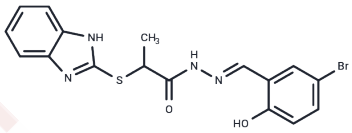
Data Sheet (Cat.No.T15658)

KH7

Chemical Properties



CAS No. : 330676-02-3

Formula: C17H15BrN4O2S

Molecular Weight: 419.3

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	KH7 is a soluble inhibitor of adenylyl cyclase (sAC)-specific. It has IC50s of 3-10 μM toward both recombinant purified human sACt protein and heterologously expressed sACt in cellular assays. KH7 is also a cAMP inhibitor.
Targets(IC50)	cAMP,Adenylate cyclase
In vitro	KH7 prevents the generation of CaSF. KH7 (10 μM) blocks this capacitation-induced cAMP increase. At higher concentrations (50 μM), 5- to 10-fold above its IC50 but still selective for sAC relative to tmACs, KH7 resulted in a significant decrease in the basal cAMP accumulation in sperm regardless of the incubation medium. The myocytes exert a negative inotropic effect (NIE) of approximately 20%, in the presence of KH7. This suggesting that sAC is involved in the normal generation of basal cardiac contractility [1,2].

Solubility Information

Solubility	H2O: < 0.1 mg/mL (insoluble), DMSO: 100 mg/mL (238.49 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (9.54 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3849 mL	11.9246 mL	23.8493 mL
5 mM	0.477 mL	2.3849 mL	4.7699 mL
10 mM	0.2385 mL	1.1925 mL	2.3849 mL
50 mM	0.0477 mL	0.2385 mL	0.477 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Hess KC, et al. The "soluble" adenylyl cyclase in sperm mediates multiple signaling events required for fertilization. Dev Cell. 2005 Aug;9(2):249-59.

Zhou J, Shi Y, Yang C, et al.γ-glutamylcysteine alleviates insulin resistance and hepatic steatosis by regulating adenylate cyclase and IGF-1R/IRS1/PI3K/Akt signaling pathways.The Journal of Nutritional Biochemistry.2023: 109404.

Han J, et al. Maresin Conjugates in Tissue Regeneration 1 improves alveolar fluid clearance by up-regulating alveolar ENaC, Na, K-ATPase in lipopolysaccharide-induced acute lung injury. 4.658J Cell Mol Med. 2020 Mar 11.

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