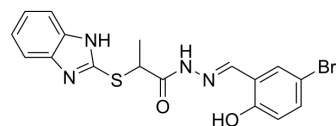


KH7

Cat. No.:	HY-103194
CAS No.:	330676-02-3
Molecular Formula:	C ₁₇ H ₁₅ BrN ₄ O ₂ S
Molecular Weight:	419.3
Target:	Adenylate Cyclase
Pathway:	GPCR/G Protein
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 250 mg/mL (596.23 mM; Need ultrasonic)				
	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.3849 mL	11.9246 mL	23.8493 mL
	5 mM		0.4770 mL	2.3849 mL	4.7699 mL
	10 mM		0.2385 mL	1.1925 mL	2.3849 mL
	Please refer to the solubility information to select the appropriate solvent.				
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (5.96 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.96 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.96 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	KH7 is a soluble adenyl cyclase (sAC)-specific inhibitor, with IC ₅₀ s of 3-10 μM toward both recombinant purified human sAC _t protein and heterologously expressed sAC _t in cellular assays ^[1] . KH7 is also a cAMP inhibitor ^[2] .
IC₅₀ & Target	IC ₅₀ : 3-10 μM (recombinant sAC _t) ^[1] .
In Vitro	KH7 (10 μM) blocks this capacitation-induced cAMP increase. At higher concentrations (50 μM), 5- to 10-fold above its IC ₅₀ 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 ^[1] . KH7 prevents the generation of CaSF ^[2] .

In the presence of KH7, the myocytes exerts a negative inotropic effect (NIE) of approximately 20%, suggesting that sAC is involved in the normal generation of basal cardiac contractility^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Mol Cell. 2020 Apr 2;78(1):42-56.e6.
- Cell Rep. 2021 Sep 21;36(12):109726.
- J Cell Physiol. 2020 Dec;235(12):9510-9523.
- J Cell Mol Med. 2020 Apr;24(8):4736-4747.

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REFERENCES

- [1]. 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.
- [2]. 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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Caution: Product has not been fully validated for medical applications. For research use only.

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