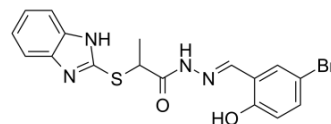


KH7

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:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (238.49 mM)
 H₂O : < 0.1 mg/mL (insoluble)
 * "≥" means soluble, but saturation unknown.

	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

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution
- 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 >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (5.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

KH7 is a soluble adenylyl cyclase (sAC)-specific inhibitor, with IC₅₀s of 3-10 μM toward both recombinant purified human sAC_t protein and heterologously expressed sACt in cellular assays^[1]. KH7 is also a cAMP inhibitor^[2].

IC₅₀ & Target

IC₅₀: 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 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^[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.
- 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.

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

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