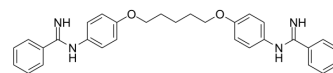


IK1 inhibitor PA-6

Cat. No.:	HY-112544		
CAS No.:	500715-03-7		
Molecular Formula:	C ₃₁ H ₃₂ N ₄ O ₂		
Molecular Weight:	492.61		
Target:	Potassium Channel		
Pathway:	Membrane Transporter/Ion Channel		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (253.75 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.0300 mL	10.1500 mL	20.3000 mL
		5 mM	0.4060 mL	2.0300 mL	4.0600 mL
10 mM		0.2030 mL	1.0150 mL	2.0300 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 >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	IK1 inhibitor PA-6 (PA-6), a pentamidine analogue, is a selective and potent I _{K1} (K _{IR2.x} ion-channel-carried inward rectifier current) inhibitor, with IC ₅₀ values of 12-15 nM for human and mouse K _{IR2.x} currents. IK1 inhibitor PA-6 (PA-6) elevates K _{IR2.1} protein expression and induces intracellular K _{IR2.1} accumulation. IK1 inhibitor PA-6 (PA-6) has the potential to treat atrial fibrillation and arrhythmia ^{[1][2][3]} .
IC₅₀ & Target	IC50: 12-15 nM (K _{IR2.x} currents) ^[1] .

CUSTOMER VALIDATION

- Nat Commun. 2022 Jun 21;13(1):3544.

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REFERENCES

- [1]. Takanari H, et al. Efficient and specific cardiac IK₁ inhibition by a new pentamidine analogue. Cardiovasc Res. 2013 Jul 1;99(1):203-14.
- [2]. Ji Y, et al. The inward rectifier current inhibitor PA-6 terminates atrial fibrillation and does not cause ventricular arrhythmias in goat and dog models. Br J Pharmacol. 2017 Aug;174(15):2576-2590.
- [3]. Ji Y, et al. PA-6 inhibits inward rectifier currents carried by V93I and D172N gain-of-function KIR2.1 channels, but increases channel protein expression. J Biomed Sci. 2017 Jul 15;24(1):44.
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Caution: Product has not been fully validated for medical applications. For research use only.

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