Pinacidil monohydrate

Cat. No.: HY-14290A

CAS No.: 85371-64-8

Molecular Formula: $C_{13}H_{21}N_5O$

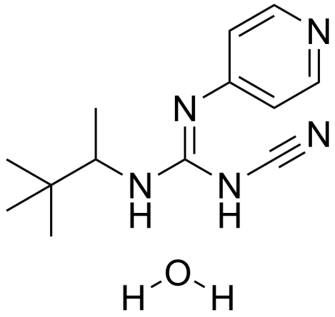
Molecular Weight: 263.34

Target: Potassium Channel

Pathway: Membrane Transporter/Ion Channel

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 : 100 mg/mL (379.74 mM; Need ultrasonic)

Ethanol : 50 mg/mL (189.87 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7974 mL	18.9869 mL	37.9737 mL
5 mM	0.7595 mL	3.7974 mL	7.5947 mL
10 mM	0.3797 mL	1.8987 mL	3.7974 mL

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

In Vivo

1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.49 mM); Clear solution
2. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.49 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.49 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.83 mg/mL (6.95 mM); Clear solution
5. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.83 mg/mL (6.95 mM); Clear solution
6. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.83 mg/mL (6.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	Pinacidil (P-1134) monohydrate, an antihypertensive agent, is a potassium channel activator.
In Vitro	Pinacidil monohydrate is a potassium channel activator[1]. Pinacidil hydrate is an antihypertensive drug of the class of agents called "potassium channel openers"[2]. Pinacidil hydrate activates the ATP-modulated potassium channels of guinea pog bladder and heart with K_i values of 104 and 251 nM, respectively[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Bone Res. 2022 Mar 8;10(1):25.
- Dev Cell. 2022 May 11;S1534-5807(22)00287-8.

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REFERENCES

[1]. Buckle DR, et al. Relaxant effects of the potassium channel activators BRL 38227 and pinacidil on guinea-pig and human airway smooth muscle, and blockade of their effects by glibenclamide and BRL 31660. Pulm Pharmacol. 1993 Mar;6(1):77-86.

[2]. Bareggi SR, et al. Pharmacodynamics and pharmacokinetics of pinacidil in normotensive volunteers after repeated doses of a new slow-release tablet formulation. Arzneimittelforschung. 1999 Jan;49(1):21-5.

[3]. Gollasch M, et al. Pinacidil relaxes porcine and human coronary arteries by activating ATP-dependent potassium channels in smooth muscle cells. J Pharmacol Exp Ther. 1995 Nov;275(2):681-92.

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

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