Vardenafil hydrochloride

Cat. No.: HY-B0442A

CAS No.: 224785-91-5

Molecular Formula: $C_{23}H_{33}ClN_6O_4S$

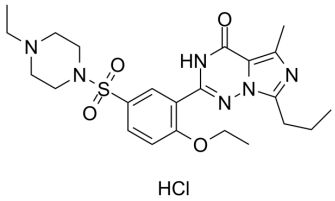
Molecular Weight: 525.06

Target: Phosphodiesterase (PDE)

Pathway: Metabolic Enzyme/Protease

Storage: 4°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 (190.45 mM; Need ultrasonic)

H_2O : ≥ 100 mg/mL (190.45 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.9045 mL	9.5227 mL	19.0454 mL
5 mM	0.3809 mL	1.9045 mL	3.8091 mL
10 mM	0.1905 mL	0.9523 mL	1.9045 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 120 mg/mL (228.55 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.76 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.76 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.76 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Vardenafil hydrochloride is a selective, orally active, potent inhibitor of phosphodiesterase-5 (PDE5), with an IC_{50} of 0.7 nM. Vardenafil hydrochloride shows selectivity over PDE1 (180 nM), PDE6 (11 nM), PDE2, PDE3, and PDE4 (>1000 nM). Vardenafil hydrochloride competitively inhibits cyclic guanosine monophosphate (cGMP) hydrolysis and thus increases cGMP levels. Vardenafil hydrochloride can be used for the research of erectile dysfunction[1][2].

IC_{50} & Target	PDE5 0.7 nM (IC_{50})	PDE6 11 nM (IC_{50})	PDE1 180 nM (IC_{50})
In Vitro	Vardenafil specifically inhibits the hydrolysis of cGMP by PDE5 with an IC_{50} of 0.7 nM[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.		

CUSTOMER VALIDATION

- Anim Cells Syst (Seoul). 2019 May 16;23(3):155-163.

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REFERENCES

[1]. Ashour AE, et al. Vardenafil dihydrochloride. Profiles Drug Subst Excip Relat Methodol. 2014;39:515-544.

[2]. Saenz de Tejada I, et al. The phosphodiesterase inhibitory selectivity and the in vitro and in vivo potency of the new PDE5 inhibitor vardenafil. Int J Impot Res. 2001;13(5):282-290.

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