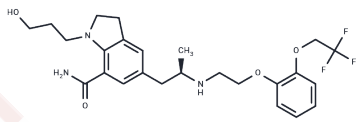
Data Sheet (Cat.No.T1504)

TargetMol

Silodosin

Chemical Properties



CAS No. : 160970-54-7

Formula: C25H32F3N3O4

Molecular Weight: 495.53

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Silodosin (KAD 3213) is an alpha-Adrenergic Blocker. The mechanism of action of silodosin is as an Adrenergic alpha-Antagonist.
Targets(IC50)	Adrenergic Receptor
In vitro	Silodosin (0.1-0.3 mg/kg) significantly reduces intralumenal ureteral pressure by 21-37% in obstruction-induced scenarios, whereas Phentolamine (0.03-0.1 mg/kg) can increase it by 18-40%. In dogs with benign prostatic hyperplasia, Silodosin (0.3-300 mg/kg) dose-dependently inhibits the increase in urethral pressure induced by pelvic nerve stimulation without notable hypotensive effects. In rabbit lower urinary tract tissues, Silodosin markedly antagonizes contractions induced by norepinephrine (including in the prostate, urethra, and bladder trigone, with PA(2) or pKb values of 9.60, 8.71, and 9.35, respectively). Oral administration of Silodosin in rats significantly inhibits the increase in urethral pressure caused by phenylephrine at 12 h, 18 h, and 24 h post-administration compared to the control group. Silodosin exhibits inhibitory effects on isolated contractions of rat and human ureters and possesses strong functional selectivity for relieving pressure in ureteral obstruction in rats.
In vivo	Silodosin and tadalafil synergistically inhibit neurally-mediated contraction effects in human and rat ex vivo prostates. Compared to tamsulosin hydrochloride, naftopidil, or prazosin hydrochloride, Silodosin exhibits higher selectivity for the α(1A)-AR subtype, with the affinity order being highest for tamsulosin hydrochloride, followed by Silodosin, prazosin hydrochloride, or naftopidil.

Solubility Information

Solubility	DMSO: 92 mg/mL (185.66 mM),Sonication is recommended. Ethanol: 92 mg/mL (185.66 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.018 mL	10.0902 mL	20.1804 mL
5 mM	0.4036 mL	2.018 mL	4.0361 mL
10 mM	0.2018 mL	1.009 mL	2.018 mL
50 mM	0.0404 mL	0.2018 mL	0.4036 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Tatemichi S, et al. Yakugaku Zasshi,2006, 126, 209-216.
Buono R, et al. Eur J Pharmacol,2014, 744, 42-51.
Kobayashi M, et al. Yakugaku Zasshi,2006, 126, 231-236.
Shiozaki A, et al. J Physiol Sci,2006, 56(6), 401-406.
Kobayashi S, et al. Eur J Pharmacol,2009, 613(1-3), 135-140.