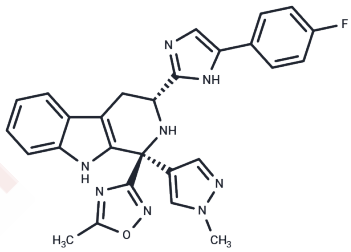
Data Sheet (Cat.No.T16095)

TargetMol

MK-4256

Chemical Properties



CAS No. : 1104599-69-0

Formula: C27H23FN8O

Molecular Weight: 494.52

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	MK-4256 is an effective and selective SSTR3 antagonist (IC50s: 0.66 nM and 0.36 nM in human and mouse receptor binding assays, respectively).
Targets(IC50)	Others,Somatostatin
In vitro	MK-4256 is tested in functional antagonist assays against SSTR4 and SSTR5. The IC50 values are greater than 5 μM (at least 5000-fold selectivity)[1]. MK-4256 inhibits radiolabeled MK-499 binding of the hERG channel (IC50=1.74 μM). MK-4256 has excellent selectivity against other SSTR subtypes based on in vitro assays and it also has IC50s >2 μM for SSTR1 and SSTR2, in human receptor binding assays. Although the binding IC50 values on SSTR4 and SSTR5 are below 1 μM, there is still >500-fold selectivity. MK-4256 exhibits 50% blockade of hERG at 3.4 μM concentration, in a functional patch-clamp assay[2].
In vivo	MK-4256 decreases the glucose excursion from 0.003 to 10 mg/kg in a dose-dependent manner. MK-4256 decreases glucose excursion in a dose-dependent fashion with maximal efficacy achieves at doses of MK-4256 (0.03 mg/kg; p.o.) demonstrates exceptional SSTR3-mediated glucose-lowering efficacy in the mouse oGTT model with minimal hypoglycemia risk. MK-4256 (1 mg/kg; p.o.) achieves complete ablation of glucose excursion (109%). The plasma Cmax of MK-4256 is determined from parallel mouse PK studies. MK-4256 achieves Cmax of 7, 88, and 493 nM, respectively, at 0.01, 0.1, and 1 mg/kg oral dose [1].

Solubility Information

Solubility	DMSO: 100 mg/mL (202.22 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 4 mg/mL (8.09 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0222 mL	10.1108 mL	20.2216 mL
5 mM	0.4044 mL	2.0222 mL	4.0443 mL
10 mM	0.2022 mL	1.0111 mL	2.0222 mL
50 mM	0.0404 mL	0.2022 mL	0.4044 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

He S, et al. The Discovery of MK-4256, a Potent SSTR3 Antagonist as a Potential Treatment of Type 2 Diabetes. ACS Med Chem Lett. 2012 May 7;3(6):484-9.
He S, et al. Investigation of Cardiovascular Effects of Tetrahydro-β-carboline sstr3 antagonists. ACS Med Chem Lett. 2014 Apr 21;5(7):748-53.