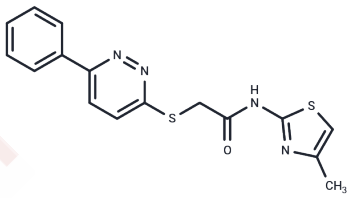
Data Sheet (Cat.No.TQ0139)

TargetMol

VU 0240551

Chemical Properties



CAS No. : 893990-34-6

Formula: C16H14N4OS2

Molecular Weight: 342.44

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	VU 0240551 is a selective antagonist of neuronal K-Cl cotransporter KCC2 inhibitor with an IC50 of 560 nM. VU 0240551 inhibits L-type calcium channels and hERG.
Targets(IC50)	Calcium Channel,Potassium Channel
In vitro	VU 0240551 (0-100 μM) reduces the P cell response to GABA in a concentration-dependent manner and significantly reduces GABA-elicited hyperpolarization at doses of 75 and 100 μM[3].
In vivo	VU 0240551 (10 μM) significantly inhibits chloride influx in cells from euhydrated rats, but does not affect cells from salt-loaded rats[4].

Solubility Information

Solubility	H2O: Insoluble, DMSO: 45 mg/mL (131.41 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: 2 mg/mL (5.84 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	2.9202 mL	14.6011 mL	29.2022 mL
5 mM	0.584 mL	2.9202 mL	5.8404 mL
10 mM	0.292 mL	1.4601 mL	2.9202 mL
50 mM	0.0584 mL	0.292 mL	0.584 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

Delpire E, et al. Small-molecule screen identifies inhibitors of the neuronal K-Cl cotransporter KCC2. Proc Natl Acad Sci U S A. 2009 Mar 31;106(13):5383-8.
Delpire E, et al. Further optimization of the K-Cl cotransporter KCC2 antagonist ML077: development of a highly selective and more potent in vitro probe. Bioorg Med Chem Lett. 2012 Jul 15;22(14):4532-5.
Wang Y, et al. Differential effects of GABA in modulating nociceptive vs. non-nociceptive synapses. Neuroscience. 2015;298:397-409.
Balapattabi K, et al. Effects of salt-loading on supraoptic vasopressin neurones assessed by ClopHensorN chloride imaging. J Neuroendocrinol. 2019;31(8):e12752.