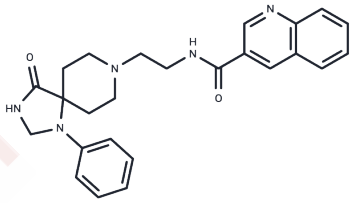
Data Sheet (Cat.No.T26326)

TargetMol

VU0285655-1

Chemical Properties



CAS No. : 1158347-73-9

Formula: C25H27N5O2

Molecular Weight: 429.51

Storage: Store at low temperature
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	VU0285655-1(BML-280) is a potent and selective phospholipase D2 (PLD2) inhibitor that inhibits the proliferation of PLD2-deficient cells.VU0285655-1 has an inhibitory effect on high glucose-induced caspase-3 cleavage and reduction of cell viability.VU0285655-1 is used in the study of diabetic retinopathy.
Targets(IC50)	Interleukin,Phospholipase,TNF
In vitro	VU0285655-1 (BML-280) (0-5 μM; 24 h; Wild-type, PLD1- and PLD2-deficient astrocytes) reduces proliferation in PLD1-deficient cells, but also in PLD2-deficient cells exposed to IGF-1. BML-280 had minor effects in wild-type and PLD2-deficient cells but completely blocked PLD activity in PLD1-deficient cells. Caused a highly significant inhibition of glial proliferation when astrocytes were stimulated by FCS (fetal calf serum) or IGF-1, respectively. Showed non-specific effects because they inhibited cell proliferation even in PLD1/2 double knockouts at 5 μM.[1] BML-280 inhibits mRNA levels and secretion of tumor necrosis factor-α, IL-1β and IL-8 in human periodontal ligament cells.[2] VU0285655-1 shows an approximately 21-fold selectivity for PLD2.[3] BML-280 (0-0.1 μM) suppresses formyl-Met-Leu-Phe (fMLP)-stimulated PLD activity in a concentration-dependent manner, with an IC50 of 0.04 ± 0.01 μM.[3] BML-280 (0-0.3 μM) inhibits O2- generation, and the inhibition reaches a plateau (about 20 % inhibition) at around 0.01 μM to 0.3 μM.[3]

Solubility Information

Solubility	DMSO: 50 mg/mL (116.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3282 mL	11.6412 mL	23.2823 mL
5 mM	0.4656 mL	2.3282 mL	4.6565 mL
10 mM	0.2328 mL	1.1641 mL	2.3282 mL
50 mM	0.0466 mL	0.2328 mL	0.4656 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

Burkhardt U, et al. Role of phospholipases D1 and 2 in astroglial proliferation: effects of specific inhibitors and genetic deletion. Eur J Pharmacol. 2015 Aug 15;761:398-404.
Tenconi PE, et al. High glucose-induced phospholipase D activity in retinal pigment epithelium cells: New insights into the molecular mechanisms of diabetic retinopathy. Exp Eye Res. 2019 Jul;184:243-257.
Tsai YR, et al. Inhibition of formyl peptide-stimulated phospholipase D activation by Fal-002-2 via blockade of the Arf6, RhoA and protein kinase C signaling pathways in rat neutrophils. Naunyn Schmiedebergs Arch Pharmacol. 2013 Jun;386(6):507-19.