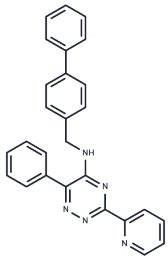
Data Sheet (Cat.No.T7836)

TargetMol

ML228

Chemical Properties



CAS No. : 1357171-62-0

Formula: C27H21N5

Molecular Weight: 415.49

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	ML228 is a potent the Hypoxia Inducible Factor (HIF) pathway activator with EC50 of 1 μM. ML228 potently activates HIF in vitro as well as its downstream target VEGF.
Targets(IC50)	HIF/HIF Prolyl-Hydroxylase,HIF
In vitro	ML228 introduces a new chemical class for researchers exploring HIF activation and its therapeutic applications. Unlike existing HIF activators, ML228's structure significantly diverges, notably absent of the acidic functional group typically found in PHD inhibitors—an attribute potentially crucial for specific disease contexts[1][2].
In vivo	ML228 (injection; 1 μg/kg; 7 days) treatment following spinal cord injury (SCI) improves the local hypoxic-ischemic environment, reduces SCI secondary injury, and promotes neurological function recovery[3].

Solubility Information

Solubility	DMSO: 150 mg/mL (361.02 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% (20% SBE-β-CD in Saline): < 10 mg/mL (24.07 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% Saline: < 10 mg/mL (24.07 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: < 10 mg/mL (24.07 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% Corn oil: < 10 mg/mL (24.07 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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	2.4068 mL	12.034 mL	24.068 mL
5 mM	0.4814 mL	2.4068 mL	4.8136 mL
10 mM	0.2407 mL	1.2034 mL	2.4068 mL
50 mM	0.0481 mL	0.2407 mL	0.4814 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

Theriault JR, et al. Discovery of a Small Molecule Activator of the Hypoxia Inducible Factor Pathway. Probe Reports from the NIH Molecular Libraries Program.
Theriault JR, et al. Discovery of a new molecular probe ML228: an activator of the hypoxia inducible factor (HIF) pathway. Bioorg Med Chem Lett. 2012 Jan 1;22(1):76-81.
Chen H, et al. Effect of hypoxia-inducible factor-1/vascular endothelial growth factor signaling pathway on spinal cord injury in rats.Exp Ther Med. 2017 Mar;13(3):861-866.