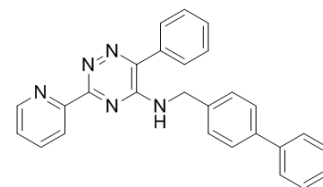


ML228

Cat. No.:	HY-12754		
CAS No.:	1357171-62-0		
Molecular Formula:	C ₂₇ H ₂₁ N ₅		
Molecular Weight:	415.49		
Target:	HIF/HIF Prolyl-Hydroxylase		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 35 mg/mL (84.24 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		2.4068 mL	12.0340 mL	24.0680 mL
	5 mM		0.4814 mL	2.4068 mL	4.8136 mL
	10 mM		0.2407 mL	1.2034 mL	2.4068 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (6.02 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (6.02 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (6.02 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML228 (CID-46742353) is a potent the Hypoxia Inducible Factor (HIF) pathway activator with EC₅₀ of 1 μM. ML228 potentially activates HIF in vitro as well as its downstream target VEGF^{[1][2]}.

IC₅₀ & Target

EC₅₀: 1 μM (HIF)^[1]

In Vitro

ML228 (CID-46742353) represents a novel chemotype available to the research community for the study of HIF activation

and its therapeutic potential. Not only is the compound substantially different in structure from known HIF activators, ML228 lacks the acidic functional group almost universally present in PHD inhibitors, which may be important for certain disease applications^{[1][2]}.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

ML228 (injection; 1 µg/kg; 7 days) treatments following spinal cord injury (SCI) improves the local hypoxic ischemia environment, reduce SCI secondary injury and promote the recovery of neurological function^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	SD rat ^[3]
Dosage:	1 µg/kg
Administration:	injection; 7 days
Result:	Alleviated SCI of the central nervous system and relieve associated symptoms.

CUSTOMER VALIDATION

- Oncol Rep. 2020 Jul;44(1):103-114.
- Exp Ther Med. 2017 Mar;13(3):861-866.

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REFERENCES

- [1]. Theriault JR, et al. Discovery of a Small Molecule Activator of the Hypoxia Inducible Factor Pathway. Probe Reports from the NIH Molecular Libraries Program.
- [2]. 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.
- [3]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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