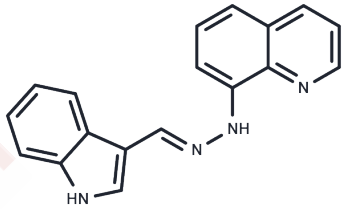
Data Sheet (Cat.No.T24398)

TargetMol

Lenaldekar

Chemical Properties



CAS No. : 418800-15-4

Formula: C18H14N4

Molecular Weight: 286.33

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	Lenaldekar (LDK) inhibits T-cell expansion and autoimmune encephalomyelitis. Lenaldekar causes dephosphorylation of members of the PI3 kinase/AKT/mTOR pathway and delays sensitive cells in late mitosis.
Targets(IC50)	Apoptosis,Akt,IGF-1R,S6 Kinase
In vitro	Lenaldekar could inhibit myelin specific T cell responses through the insulin-like growth factor-1 receptor (IGF-1R) pathway. Alteration of this pathway led to marked reduction in T cell proliferation and expansion. Blocking this pathway could account for the observed decreases in clinical signs and inflammatory demyelinating disease, which was accompanied by axonal preservation[3].
In vivo	Relapsing-remitting experimental autoimmune encephalomyelitis was induced through active immunization of SJL/J mice with a myelin proteolipid protein peptide. The therapeutic efficacy of Lenaldekar treatment was evaluated via daily clinical score, cross-sectional ex vivo diffusion basis spectrum imaging examination and histological analysis. Lenaldekar greatly reduced relapse severity and protected white matter integrity in these experimental autoimmune encephalomyelitis mice. Diffusion basis spectrum imaging-derived axial diffusivity, radial diffusivity and restricted diffusion tensor fraction accurately reflected axonal injury, myelin integrity and inflammation-associated cellularity change, respectively[1].

Solubility Information

Solubility	DMSO: 55 mg/mL (192.09 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4925 mL	17.4624 mL	34.9247 mL
5 mM	0.6985 mL	3.4925 mL	6.9849 mL
10 mM	0.3492 mL	1.7462 mL	3.4925 mL
50 mM	0.0698 mL	0.3492 mL	0.6985 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

Wang X, et al. Diffusion basis spectrum imaging detects and distinguishes coexisting subclinical inflammation, demyelination and axonal injury in experimental autoimmune encephalomyelitis mice. NMR Biomed. 2014 Jul;27 (7):843-52.
Cusick MF, et al. Human T cell expansion and experimental autoimmune encephalomyelitis inhibited by Lenaldekar, a small molecule discovered in a zebrafish screen. J Neuroimmunol. 2012 Mar;244(1-2):35-44.
Cusick MF, et al. Targeting insulin-like growth factor 1 leads to amelioration of inflammatory demyelinating disease. PLoS One. 2014 Apr 9;9(4):e94486.
Ridges S, et al. Zebrafish screen identifies novel compound with selective toxicity against leukemia. Blood. 2012 Jun 14;119(24):5621-31.