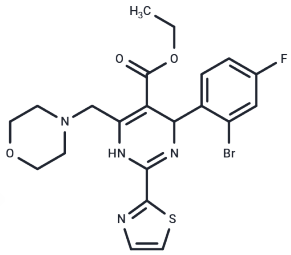
Data Sheet (Cat.No.T12097)

TargetMol

Morphothiadin

Chemical Properties



CAS No. : 1092970-12-1

Formula: C21H22BrFN4O3S

Molecular Weight: 509.39

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	Morphothiadin (GLS4) is a potent inhibitor on the replication of both wild-type and adefovir-resistant HBV (IC50 of 12 nM).
Targets(IC50)	HBV
In vitro	Morphothiadin is a potent inhibitor of both wild-type and adefovir-resistant HBV (IC50 of 12 nM) and shows no toxicity up to 25 μM. The CC50 for primary hepatocytes is 115 μM (P<0.001), while the CC90 in HepAD38 cells is 190 μM (P<0.01). Morphothiadin strongly inhibits virus accumulation in the supernatant of HepAD38 cells at 25 nM to 100 nM (P<0.02)[2].
In vivo	Virus titers have increased 83.5-fold in mice treated with 3.75 mg/kg per day of Morphothiadin, 28.3-fold among mice treated with 7.5 mg/kg per day, but only 3- to 6-fold among mice treated with the higher doses of Morphothiadin. There is generally an inverse relationship between Morphothiadin dose and virus titer, with the greatest rebound seen in mice treated with 3.75 mg/kg per day of Morphothiadin (540-fold) and the smallest rebound in mice treated with 60 mg/kg per day (23-fold) (P0.001). The Morphothiadin doses of >7.5 mg/kg per day significantly suppresses the virus replication cycle throughout the treatment period, while Morphothiadin doses of >15 mg/kg per day suppresses virus for up to 2 weeks after the end of treatment[2].

Solubility Information

Solubility	DMSO: 100 mg/mL (196.31 mM),Sonication is recommended. H2O: insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (7.85 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	1.9631 mL	9.8157 mL	19.6313 mL
5 mM	0.3926 mL	1.9631 mL	3.9263 mL
10 mM	0.1963 mL	0.9816 mL	1.9631 mL
50 mM	0.0393 mL	0.1963 mL	0.3926 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

Zhou X, et al. Effects of ketoconazole and rifampicin on the pharmacokinetics of GLS4, a novel anti-hepatitis B virus compound, in dogs. Acta Pharmacol Sin. 2013 Nov;34(11):1420-6.
Wu G, et al. Preclinical characterization of GLS4, an inhibitor of hepatitis B virus core particle assembly. Antimicrob Agents Chemother. 2013 Nov;57(11):5344-54.