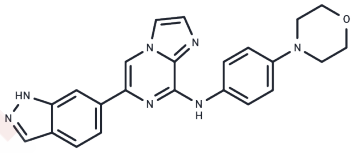
Data Sheet (Cat.No.T6101)

TargetMol

Entospletinib

Chemical Properties



CAS No. : 1229208-44-9

Formula: C23H21N7O

Molecular Weight: 411.46

Storage: Keep away from direct sunlight,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	Entospletinib (GS-9973) is a Syk inhibitor (IC50=7.7 nM) with selective, oral activity. Entospletinib has potential value in the treatment of a variety of hematological malignancies and immune-related diseases.
Targets(IC50)	Syk
In vitro	**METHODS**: NALM-6 and SEM cell lines were treated with Entospletinib (1, 5, and 10 μM) for 72 hours, and the expression levels of target proteins were detected using Western Blot. **RESULTS**: The expressions of key proteins including pAKT, pERK, pGSK3β, p53 and BCL-6 were significantly affected by Entospletinib. [1]
In vivo	**METHODS**: To investigate the anti-inflammatory activity of Entospletinib, Entospletinib (100 mg/kg) was administered orally twice daily to K/BxN serum-induced arthritis mice. **RESULTS**: Entospletinib significantly reduced macroscopic manifestations of joint inflammation, including joint swelling and clinical scores. [2] **METHODS**: To study the anti-inflammatory activity of Entospletinib, Entospletinib (10 mg/kg) was administered orally to a rat CIA model. **RESULTS**: Entospletinib showed significant anti-inflammatory effect. [3]
Kinase Assay	In the determination of full-length baculovirus expressed Syk kinase activity, the reaction system was 25 μL containing 25 mM Tris-HCl, pH 7.5, 5 mM β-glycerophosphate, 2 mM DTT, 0.1 mM Na3VO4, 10 mM MgCl2, 0.5 μM Promega PTK Biotin Peptide Substrate 1, 0.01% casein, 1, 0.01% Triton X-100, 0.25% Glycerol, and 40 mM ATP (Km for ATP). After incubation for 60 minutes at room temperature, the reaction was stopped by adding 30 mM EDTA (30 μL of SA-APC and 4 nM PT-66 antibody). After measuring the plate, the IC50 value of the test compound was calculated using a 4-parameter linear regression algorithm.
Cell Research	In MV-4-11 cells, the functional effect of the compound on the cellular Flt3 activity was determined by inhibition of cell proliferation. Cells were diluted in 96 well flat bottom tissue culture plates in RPMI medium containing 10% FBS and compound dilutions were added and incubated at 37°C for 72 hours. Aramazol (10%) was added to the cells and the cells were incubated for another 12-18 hours at 37°C. Finally, the inhibition of the relative cell number was measured at 570/600 nm in the spectrophotometer.

Animal Research	In the rat collagen-induced arthritis (CIA) model, Entospletinib (10 mg/kg), which is dissolved in hydrogenated castor oil,ethanol or physiological saline, is taken by oral.

Solubility Information

Solubility	DMSO: 50 mg/mL (121.52 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (6.08 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	2.4304 mL	12.1518 mL	24.3037 mL
5 mM	0.4861 mL	2.4304 mL	4.8607 mL
10 mM	0.243 mL	1.2152 mL	2.4304 mL
50 mM	0.0486 mL	0.243 mL	0.4861 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

Sender S, et al. Precursor B-ALL Cell Lines Differentially Respond to SYK Inhibition by Entospletinib. Int J Mol Sci. 2021 Jan 8;22(2):592.

Geng R, Zhao Y, Xu W, et al.SIRPB1 regulates inflammatory factor expression in the glioma microenvironment via SYK: functional and bioinformatics insights.Journal of Translational Medicine.2024, 22(1): 338

Káposztás E, Balogh L, Mócsai A, Kemecsei É, Jakus Z, Németh T. The selective inhibition of the Syk tyrosine kinase ameliorates experimental autoimmune arthritis. Front Immunol. 2023 Dec 4;14:1279155.

Currie KS, et al. Discovery of GS-9973, a selective and orally efficacious inhibitor of spleen tyrosine kinase. J Med Chem. 2014 May 8;57(9):3856-73.