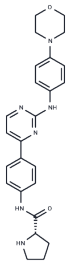
Data Sheet (Cat.No.T3072)

TargetMol

XL019

Chemical Properties



CAS No. : 945755-56-6

Formula: C25H28N6O2

Molecular Weight: 444.53

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	XL019 is a potent and selective JAK2 inhibitor with IC50 of 2.2 nM, 100 fold selectivity over JAK1.
Targets(IC50)	Apoptosis,FLT,JAK,PDGFR
In vitro	XL019 exhibits superior pharmacokinetic properties, demonstrating efficient oral absorption, moderate clearance rates, and half-life across various species. Administration of XL019 at 30, 100, and 300 mg/kg significantly inhibits the downstream markers pSTAT1 and pSTAT3, with the effective dose (ED50) for pSTAT1 being 42 mg/kg and for pSTAT3, 210 mg/kg. Furthermore, XL019 effectively suppresses the growth of HEL.92.1.7 xenograft tumors in mice, with dosages of 200 mg/kg and 300 mg/kg administered twice daily for 14 days, achieving tumor growth inhibition rates of 60% and 70%, respectively.
In vivo	L019 inhibits the activation of both JAK2 and its mutant form, JAK2V617F, leading to suppression of the JAK-STAT signaling pathway and inducing apoptosis. Compared to other cellular systems, upon EPO stimulation of the erythroid lineage, L019 demonstrates more than a tenfold selective inhibition of STAT5 phosphorylation (IC50 = 64 nM).
Kinase Assay	FRET-Based Z'-Lyte Assay Detecting Peptide Substrate Phosphorylation: The kinases ABL1, ABL1(E255K), ABL1 (G250E), ABL1(T315I), and ABL1(Y253F) are P3049, PV3864, PV3865, PV3866, and PV3863 are full-length human recombinant protein expressed in insect cells and histidine-tagged. Inhibition activities of inhibitors against Abl1 and its mutants are performed in 384-well plates using the FRET-based Z'-Lyte assay system. Briefly, the kinase substrate is diluted into 5 μL of kinase reaction buffer; and the kinase is added. Compounds (10 nL) with indicated concentrations are then delivered to the reaction by using Echo liquid handler, and the mixture is incubated for 30 min at room temperature. Then 5 μL of 2X ATP solution is added to initiate the reaction, and the mixture is further incubated for 2 h at room temperature. The resulting reactions contains 10 μM (for wild-type Abl1, and mutants Y253F, Q252H, M351T, and H396P) or 5 μM (for mutants E255K, G250E, T315I) of ATP, 2 μM of Tyr2 Peptide substrate in 50 mM HEPES (PH 7.5), 0.01% BRIJ-35, 10 mM MgCl2, 1 mM EGTA, 0.0247 μg/mL Abl1, and inhibitors as appropriate. Then, 5 μL of development reagent is added, and the mixture is incubated for 2 h at room temperature before 5 μL of stop solution is added. Fluorescence signal ratio of 445 nm (Coumarin)/520 nm (fluorescin) is examined on an

Kinase Assay	EnVision Multilabel Reader. The data are analyzed using Graphpad Prism5. The data are the mean value of three experiments.

Solubility Information

Solubility	DMSO: 13 mg/mL (29.24 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.5 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	2.2496 mL	11.2478 mL	22.4957 mL
5 mM	0.4499 mL	2.2496 mL	4.4991 mL
10 mM	0.225 mL	1.1248 mL	2.2496 mL
50 mM	0.045 mL	0.225 mL	0.4499 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

Forsyth T, et al. Bioorg Med Chem Lett, 2012, 22(24), 7653-7658.
Verstovsek S. Hematology Am Soc Hematol Educ Program, 2009, 636-642.