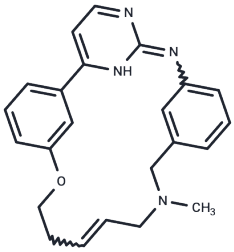
Data Sheet (Cat.No.T21503)

TargetMol

(E/Z)-Zotiraciclib

Chemical Properties



CAS No. : 937270-47-8

Formula: C23H24N4O

Molecular Weight: 372.46

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	(E/Z)-Zotiraciclib ((E/Z)-TG02) effectively inhibits CDK2, JAK2, and FLT3 with IC50s of 13 nM, 73 nM, and 56 nM, respectively.
Targets(IC50)	FLT,CDK,JAK
In vitro	(E/Z)-Zotiraciclib has a highly novel kinase inhibitory spectrum inhibiting 17 kinases from a panel of 63, 11 of which are CDK/JAK/FLT family members. Human CYP1A2, 3A4, 2C9, and 2C19 isoforms are not inhibited by (E/Z)-Zotiraciclib at the highest tested concentration of 25 μM, but (E/Z)-Zotiraciclib inhibits CYP2D6 with an IC50 of 0.95 μM, approximately at the plasma Cmax?observed at the maximum tolerated dose. (E/Z)-Zotiraciclib inhibits cell proliferation concentrations in HCT-116 with an IC50 of 0.079 μM and HL-60 with an IC50 of 0.059 μM[1]. (E/Z)-Zotiraciclib is a novel small molecule potent CDK/JAK2/FLT3 inhibitor and mainly metabolized by CYP3A4 and CY1A2 in vitro [2].
In vivo	Treatment with (E/Z)-Zotiraciclib (75 mg/kg p.o. q.d. 3×/week) significantly inhibits the growth of tumors with a mean TGI of 82%, while the lower dose(50 mg/kg p.o. 3×/week) is marginally effective. Treatment with (E/Z)-Zotiraciclib using either regime significantly inhibits the growth of tumors with mean TGIs of 42% and 63% for the oral and ip delivery methods, respectively[1]. In pharmacokinetic studies, (E/Z)-Zotiraciclib shows moderate to high systemic clearance (relative to liver blood flow), high volume of distribution (>0.6 L/kg), the oral bioavailability of 24%, ~4 and 37% in mice, rats, and dogs, respectively; and extensive tissue distribution in mice[2].

Solubility Information

Solubility	DMSO: 20 mg/mL (53.7 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 1 mg/mL (2.68 mM),Sonication is recommended. 10% DMSO+90% Saline: < 2 mg/mL (5.37 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.37 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.6849 mL	13.4243 mL	26.8485 mL
5 mM	0.537 mL	2.6849 mL	5.3697 mL
10 mM	0.2685 mL	1.3424 mL	2.6849 mL
50 mM	0.0537 mL	0.2685 mL	0.537 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

William AD, et al. Discovery of kinase spectrum selective macrocycle (16E)-14-methyl-20-oxa-5,7,14,26-tetraazatetracyclo[19.3.1.1(2,6).1(8,12)]heptacosa-1(25),2(26),3,5,8(27),9,11,16,21,23-decaene (SB1317/TG02), a potent inhibitor of cyclin dependent kina

Pasha MK, et al. Preclinical metabolism and pharmacokinetics of SB1317 (TG02), a potent CDK/JAK2/FLT3 inhibitor. Drug Metab Lett. 2012 Mar;6(1):33-42.