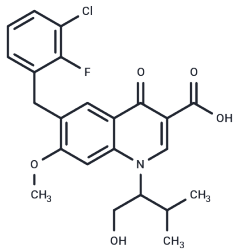
Data Sheet (Cat.No.T2332)

TargetMol

Elvitegravir

Chemical Properties



CAS No. : 697761-98-1

Formula: C23H23ClFNO5

Molecular Weight: 447.88

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	Elvitegravir (JTK-303) is a Human Immunodeficiency Virus Integrase Strand Transfer Inhibitor. The mechanism of action of elvitegravir is as an HIV Integrase Inhibitor, and Cytochrome P450 2C9 Inducer.
Targets(IC50)	HIV Protease
In vivo	Elvitegravir inhibits the replication of MLV infection with an IC50 of 5.8 nM and also suppresses the primate retrovirus SIV with an IC50 of 0.5 nM, demonstrating its activity against multiple retroviruses due to IN inhibitor properties. It inhibits integrase activity with an IC50 of 6 nM and affects PBMC and PA with IC50 values of 0.89 nM and 20 nM, respectively. Additionally, Elvitegravir blocks the synthesis of chain transfer products with an IC50 of 54 nM by inhibiting integration via IN-regulated chain transfer. EVG exhibits antiviral activity without serum, with IC50 values ranging from 0.3 to 0.9 nM, targeting peripheral blood mononuclear cells and effectively inhibiting HIV-1 and HIV-2.
Cell Research	Elvitegravir (EVG) is prepared in DMSO and stored, and then diluted with appropriate medium before use[1]. MT-2 cells (2×105 cells) are infected with HIV-1 IIIB and then cultured in the presence of 0.5 nM or 0.1 nM Elvitegravir. Cultures are incubated at 37°C until an extensive cytopathic effect (CPE) is observed, and the culture supernatant is then harvested for further passage in fresh MT-2 cells. The concentration of Elvitegravir is increased when a significant CPE is observed. At the indicated passages, proviral DNA is extracted from infected MT-2 cells and then subjected to PCR, followed by direct population-based sequencing. Susceptibility to Elvitegravir at the indicated passages is determined using the MAGI assay or p24 production[1].

Solubility Information

Solubility	DMSO: 82 mg/mL (183.08 mM),Sonication is recommended. Ethanol: 33 mg/mL (73.68 mM),Sonication is recommended. H2O: < 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: 3.3 mg/mL (7.37 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2327 mL	11.1637 mL	22.3274 mL
5 mM	0.4465 mL	2.2327 mL	4.4655 mL
10 mM	0.2233 mL	1.1164 mL	2.2327 mL
50 mM	0.0447 mL	0.2233 mL	0.4465 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

Shimura K, et al. J Virol. 2008, 82(2), 764-774.
Kaduk J A, Gates-Rector S, Blanton T N.Crystal structure of elvitegravir Form II, C23H23ClFNO5.Powder Diffraction. 2023: 1-11.
Lampiris HW. Expert Rev Anti Infect Ther. 2012, 10(1), 13-20.