Data Sheet (Cat.No.T1533)

TargetMol

Valganciclovir hydrochloride

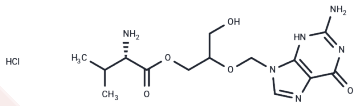
Chemical Properties

CAS No. : 175865-59-5

Formula: C14H23ClN6O5

Molecular Weight: 390.82

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	Valganciclovir hydrochloride (Valganciclovir HCl) is a hydrochloride salt form of valganciclovir, a prodrug form of ganciclovir, a nucleoside analog of 2'-deoxyguanosine, with antiviral activity. After phosphorylation, valganciclovir is incorporated into DNA, resulting in inhibition of viral DNA polymerase, and viral replication.
Targets(IC50)	Antiviral,Virus Protease
In vitro	Valganciclovir is efficiently absorbed through the gastrointestinal tract, with its bioavailability approximately 60% when taken orally after meals. Upon administration, both intestinal and hepatic esterases concurrently hydrolyze the two enantiomers of ganciclovir, inhibiting the replication of human cytomegalovirus.
In vivo	In cells infected with Cytomegalovirus (CMV), Valganciclovir is initially phosphorylated by viral protein kinase to its monophosphate form, then further phosphorylated by cellular kinases to produce its triphosphate form. This triphosphate is slowly metabolized within the cell. The phosphorylation process is dependent on viral kinase and preferentially occurs in virus-infected cells. Ganciclovir's antiviral activity is due to the triphosphate form of ganciclovir, which inhibits viral DNA synthesis. The ganciclovir triphosphate gets incorporated into the DNA, replacing many adenine bases, and hindering DNA synthesis as diester bonds take longer to form, thus diminishing the chain's stability.

Solubility Information

Solubility	H2O: 255 mg/mL (652.47 mM),Sonication is recommended. DMSO: 252.5 mg/mL (646.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (25.59 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.12 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	2.5587 mL	12.7936 mL	25.5872 mL
5 mM	0.5117 mL	2.5587 mL	5.1174 mL
10 mM	0.2559 mL	1.2794 mL	2.5587 mL
50 mM	0.0512 mL	0.2559 mL	0.5117 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

Sugawara M, et al. J Pharm Sci, 2000, 89(6), 781-789.
Cvetković RS, et al. Drugs, 2005, 65(6), 859-878.