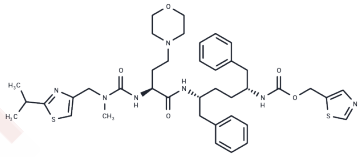
Data Sheet (Cat.No.T6246)

TargetMol

Cobicistat

Chemical Properties



CAS No. : 1004316-88-4

Formula: C40H53N7O5S2

Molecular Weight: 776.02

Storage: Store at low temperature,Keep away from moisture, Store under nitrogen
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Cobicistat (GS-9350) is a carbamate and thiazole derivative that functions as a CYTOCHROME P450 CYP3A INHIBITOR to enhance the concentration of ANTI-HIV AGENTS, with which it is used in combination, for the treatment of HIV INFECTIONS.
Targets(IC50)	HIV Protease,Cytochromes P450
In vitro	Cobicistat (GS-9350) is a potent, and selective inhibitor of human cytochrome P450 3A (CYP3A) enzymes as a pharmacoenhancer. GS-9350 inhibits CYP3A with IC50 spectrum from 30 nM to 285 nM. In contrast to ritonavir, GS-9350 is devoid of anti-HIV activity, with IC50 of > 30 μM against HIV-1 protease and EC50 of > 30 μM in MT-2 HIV infection assay, and is thus more suitable for use in boosting anti-HIV drugs without risking selection of potential drug-resistant HIV variants. GS-9350 shows reduced liability for drug interactions and may have potential improvements in tolerability over ritonavir. [1]
Kinase Assay	Cytochrome P450 Inhibition: Inhibition of human cytochrome P450 activities is determined in duplicate in pooled human hepatic microsomal fractions following current scientific and regulatory guidelines. Reaction conditions are linear with respect to incubation time and hepatic microsomal protein concentration. Substrates are present at concentrations equal to or less than their respective Km values determined under the same reaction conditions. Metabolite and/or substrate concentrations are determined using specific, internal standard controlled HPLC MS/MS assays. For reactions monitoring metabolite formation there is less than 20% consumption of substrate during the reaction. Unless otherwise noted microsomal fraction, diluted in potassium phosphate buffer, is preincubated with substrate and inhibitor for 5 min at 37 ℃ and the reaction initiated by the addition of an NADPH generating system followed by further incubation at 37 ℃ with shaking. Enzyme-selective positive control inhibitors are tested in parallel. At appropriate times aliquots of the mixture are removed and the reaction terminated by addition to a mixture of methanol and acetonitrile containing the respective internal standard. After centrifugation aliquots of the supernatant are subjected to HPLC-MS/MS analysis.
Cell Research	Five-fold serial dilutions of the tested compounds are prepared in triplicate in 96-well plates. MT-2 cells are added to plates at a density of 20,000/well in a final assay volume of 200 μL. After a 5-day incubation at 37°C, the cytotoxic effect is determined using a cell

Cell Research	viability assay. One hundred μL media is removed from each well and replaced with 100 μL of phosphate-buffered saline containing 1.7 mg/mL XTT and 5 μg/mL PMS. Following 1-hour incubation at 37°C, 20 μL of 2% Triton X- 100 is added to each well and absorbance is read at 450 nm with a background subtraction at 650 nm. The data are plotted as cell viability vs. drug concentration. Cell viability is expressed as a percentage of the signal from untreated samples (0% cytotoxicity) after the subtraction of signal from samples treated with 10 μM of Podophyllotoxin (100% cytotoxicity). The CC50 value is calculated from the inhibition plots as the concentration of drug which inhibits cell proliferation by 50%.

Solubility Information

Solubility	DMSO: 93 mg/mL (119.84 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 93 mg/mL (119.84 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: 3.3 mg/mL (4.25 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	1.2886 mL	6.4431 mL	12.8863 mL
5 mM	0.2577 mL	1.2886 mL	2.5773 mL
10 mM	0.1289 mL	0.6443 mL	1.2886 mL
50 mM	0.0258 mL	0.1289 mL	0.2577 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

Xu L, et al. ACS Med. Chem. Lett, 2010, 1(5), 209-213.
Yan F, Gao F. An overview of potential inhibitors targeting non-structural proteins 3 (PLpro and Mac1) and 5 (3CLpro/Mpro) of SARS-CoV-2. Computational and Structural Biotechnology Journal. 2021, 19: 4868.