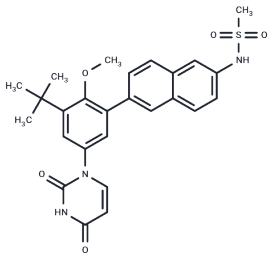
Data Sheet (Cat.No.T3489)

TargetMol

Dasabuvir

Chemical Properties



CAS No. : 1132935-63-7

Formula: C26H27N3O5S

Molecular Weight: 493.57

Storage: Keep away from moisture,Store under nitrogen
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	Dasabuvir (ABT-333) is a non-nucleoside inhibitor of the hepatitis C virus (HCV) non-structural protein 5B (NS5B), an RNA-dependent RNA polymerase. Upon administration and intracellular uptake, dasabuvir binds HCV NS5B polymerase, blocking viral RNA synthesis and replication. The HCV NS5B protein is essential for the replication of the HCV RNA genome.
Targets(IC50)	HCV Protease,DNA/RNA Synthesis
In vitro	ABT-333 (Dasabuvir) is at least 7,000-fold selective for the inhibition of HCV genotype 1 polymerases over human/mammalian polymerases. ABT-333 (Dasabuvir) inhibits the polymerase enzymatic activity of genotype 1 laboratory strain enzymes (H77, BK, N, and Con1 strains), as well as enzymes produced from polymerase genes from HCV genotype 1-infected subjects, with IC50s between 2.2 and 10.7 nM. ABT-333 inhibits replication of HCV subgenomic replicons in cell culture assays, with EC50 values of 7.7 and 1.8 nM against genotype 1a (H77) and 1b (Con1), respectively. In the presence of 40% human plasma, there is a 12- to 13-fold decrease in inhibitory potency, yielding EC50s of 99 and 21 nM for HCV genotype 1a (H77) and 1b (Con1) replicons, respectively[1].
Kinase Assay	The recombinant HCV polymerases used in this study contain the first 570 amino acids of the 591-amino acid native protein sequence, with a six-histidine tag at the N terminus to facilitate purification by affinity chromatography. Briefly, ABT-333 (Dasabuvir) is incubated with 5 to 50 nM polymerase for 15 min at room temperature, follow by the addition of nucleoside triphosphates (NTPs) and [3H]UTP for 3 h at 30°C. After termination of the reaction, the precipitated RNA is captured by filtration through a GF/B filter. The amount of incorporated [3H]UTP is measured by scintillation counting with a Wallac 1450 MicroBeta counter. The percent inhibition is calculated from the initial rates of inhibited reactions relative to that of the uninhibited control reaction. The mean 50% inhibitory concentration (IC50) and the standard error of the mean (SEM) are calculated via nonlinear regression[1].

Solubility Information

Solubility	DMSO: 60 mg/mL (121.56 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: 2 mg/mL (4.05 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	2.0261 mL	10.1303 mL	20.2606 mL
5 mM	0.4052 mL	2.0261 mL	4.0521 mL
10 mM	0.2026 mL	1.013 mL	2.0261 mL
50 mM	0.0405 mL	0.2026 mL	0.4052 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

Kati W, et al. In vitro activity and resistance profile of dasabuvir, a nonnucleoside hepatitis C virus polymerase inhibitor. Antimicrob Agents Chemother. 2015 Mar;59(3):1505-11.

Hayashi T, Murakami K, Hirano J, et al. Dasabuvir inhibits human norovirus infection in human intestinal enteroids. mSphere. 2021, 6(6): e00623-21.