Dasabuvir

Cat. No.: HY-13998

CAS No.: 1132935-63-7

Molecular Formula: $C_{26}H_{27}N_3O_5S$

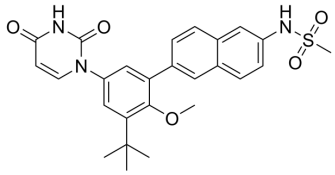
Molecular Weight: 493.57

Target: HCV; DNA/RNA Synthesis

Pathway: Anti-infection; Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 46 mg/mL (93.20 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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	1.0130 mL	2.0261 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.07 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.07 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.07 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dasabuvir (ABT-333) is a nonnucleoside hepatitis C virus (HCV) polymerase inhibitor. Dasabuvir inhibits RNA-dependent RNA polymerase encoded by the HCV NS5B gene. Dasabuvir inhibits genotype 1a (strain H77) and 1b (strain Con1) replicons, with EC_{50} values of 7.7 and 1.8 nM, respectively[1].

IC_{50} & Target

IC50: 2.2 ± 0.3 nM (HCV genotype 1b N), 2.8 ± 0.2 nM (HCV genotype 1a H77), 3.1 ± 0.21 nM (HCV genotype 1b BK), 0.7 ± 1.4 nM (HCV genotype 1b Con1)[1]

In Vitro	Dasabuvir (ABT-333) is at least 7,000-fold selective for the inhibition of HCV genotype 1 polymerases over human/mammalian polymerases[1]. ?Dasabuvir (ABT-333) 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 IC_{50}s between 2.2 and 10.7 nM[1]. ?Dasabuvir (ABT-333) inhibits replication of HCV subgenomic replicons in cell culture assays, with EC_{50} 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 EC_{50}s of 99 and 21 nM for HCV genotype 1a (H77) and 1b (Con1) replicons, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Proc Natl Acad Sci U S A. 2017 Feb 21;114(8):1922-1927.
- Antiviral Res. 2017 Mar;139:18-24.
- Antimicrob Agents Chemother. 2019 May 24;63(6). pii: e00003-19.
- Viruses. 2017 Jun 16;9(6). pii: E151.
- Sci Rep. 2020 Feb 26;10(1):3521.

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REFERENCES

[1]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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