

Nesbuvir

Chemical Properties

CAS No.:	691852-58-1
Formula:	C ₂₂ H ₂₃ FN ₂ O ₅ S
Molecular Weight:	446.49
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Nesbuvir (HCV-796) is a nonnucleoside inhibitor of the HCV nonstructural protein 5B (NS5B) polymerase.
In vitro	Replicon cells are treated with 1 mg/mL G418 and combinations of the two compounds. Nesbuvir is added to 40 or 80 nM (approximately 10 and 20 times the EC ₅₀ in a 3-day replicon inhibition assay, respectively) and Boceprevir is added to 400 or 800 nM (approximately 2 and 4 times the EC ₅₀ , respectively). The EC ₅₀ s for Nesbuvir and Boceprevir for the parental replicon in the transient expression assay are comparable to those obtained in the 3-day inhibition assay with the stable replicon cells; the EC ₅₀ for Nesbuvir in the transient expression assay is 14 nM, whereas it is 5 nM for the stable replicon [1].
In vivo	Nesbuvir is demonstrated to yield significant antiviral effects in mice with chimeric human livers and in patients infected with HCV [2].
Cell Research	Huh7-BB7 cells are seeded at a density of 20,000 cells per 100 mm dish in DMEM supplemented with 2% FBS, 1 mg/mL G418, and various concentrations of Nesbuvir and/or Boceprevir with DMSO at a final concentration of 0.5% (vol/vol). The medium is removed and is replaced with a fresh medium with the appropriate compound concentrations every 3 or 4 days. After 7 days, the cells are split 1 to 10, placed into fresh 100 mm dishes, and incubated with medium with the appropriate compound concentrations. After 20 days, the medium is removed and the cells are fixed with 7% (wt/vol) formaldehyde and stained with 1% (wt/vol) crystal violet in 50% (vol/vol) ethanol [1].
Animal Research	

Solubility Information

Solubility	DMSO: 50 mg/mL (111.98 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.24 mL	11.198 mL	22.397 mL
5 mM	0.448 mL	2.24 mL	4.479 mL
10 mM	0.224 mL	1.12 mL	2.24 mL
50 mM	0.045 mL	0.224 mL	0.448 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Flint M, et al. Selection and characterization of hepatitis C virus replicons dually resistant to the polymerase and protease inhibitors HCV-796 and boceprevir (SCH 503034). *Antimicrob Agents Chemother.* 2009 Feb;53(2):401-11.
2. Reich S, et al. Mechanisms of activity and inhibition of the hepatitis C virus RNA-dependent RNA polymerase. *J Biol Chem.* 2010 Apr 30;285(18):13685-93.

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