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产品名称：HCV-796 (Nesbuvir)
产品别名：Nesbuvir

生物活性：

Description	Nesbuvir is a nonnucleoside inhibitor of the hepatitis C virus (HCV) nonstructural protein 5B (NS5B) polymerase.
IC_{50} & Target	EC50: 9 nM ($NS3^{V170A}$), 13 nM ($NS3^{V170A}$), 15 nM ($NS3^{K583T}$), 13 nM ($NS5B^{I424V}$)[1]
In Vitro	Replicon cells are treated with 1 mg/mL G418 and combinations of the two compounds. Nesbuvir (HCV-796) 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; and the EC_{50} for Boceprevir in the transient expression assay is 608 nM, whereas it is 201 nM for the stable replicon[1].
In Vivo	Among a huge variety of yet characterized nucleoside and non-nucleoside inhibitors (NNI), the benzofurane derivative NNI Nesbuvir (HCV-796) is demonstrated to yield significant antiviral effects in mice with chimeric human livers and in patients infected with HCV. HCV-796 binds to a hydrophobic binding pocket at the “palm” domain of NS5B; however, its mode of inhibition remains to be defined[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 50 mg/mL (111.98 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2397 mL	11.1985 mL	22.3969 mL
	5 mM	0.4479 mL	2.2397 mL	4.4794 mL
	10 mM	0.2240 mL	1.1198 mL	2.2397 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

In Vivo:

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶

1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline

Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (5.60 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；

	向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。 2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.60 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.60 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[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.
实验参考：	
Cell Assay	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 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].
References	[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.