

Narlaprevir

Chemical Properties

CAS No. : 865466-24-6

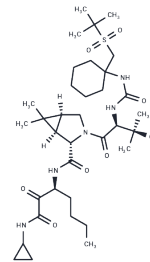
Formula: C₃₆H₆₁N₅O₇S

Molecular Weight: 707.96

Store at low temperature

Storage: 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	Narlaprevir (SCH 900518) is an orally active, selective, and potent hepatitis C virus nonstructural protein 3 (HCV NS3) inhibitor, with antiviral activity against HCV and inhibition of SARS-CoV-2, used for studying viral infections.
Targets(IC50)	HCV Protease,SARS-CoV
In vitro	Narlaprevir is a selective NS3 protease inhibitor with a K _i of 6 nM and an EC ₉₀ of 40 nM. Narlaprevir is also an inhibitor of SARS-CoV 3CLpro with an IC ₅₀ of 2.3 μM. [1] [2]
In vivo	Narlaprevir rats, when administered orally, showed a very good AUC of 6.5 μM·h and a bioavailability of 46%. It is well distributed in target organs. The liver concentration of rats was 750 ng/g at 8 hours (C8h) after administration. [1]

Solubility Information

Solubility	H ₂ O: < 1 mg/mL (insoluble) DMSO: 40 mg/mL (56.5 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 (2.83 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4125 mL	7.0625 mL	14.1251 mL
5 mM	0.2825 mL	1.4125 mL	2.825 mL
10 mM	0.1413 mL	0.7063 mL	1.4125 mL
50 mM	0.0283 mL	0.1413 mL	0.2825 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

Arasappan A, et al. Discovery of Narlaprevir (SCH 900518): A Potent, Second Generation HCV NS3 Serine Protease Inhibitor. ACS Med Chem Lett. 2010 Feb 15;1(2):64-9.

Baker JD, et al. A drug repurposing screen identifies hepatitis C antivirals as inhibitors of the SARS-CoV2 main protease. PLoS One. 2021 Feb 1;16(2):e0245962.

Zhu J, Li Y, Yu H, Zhang L, Mao X, Hou T. Insight into the structural requirements of narlaprevir-type inhibitors of NS3/NS4A protease based on HQSAR and molecular field analyses. Comb Chem High Throughput Screen. 2012 Jul; 15(6):439-50.

de Bruijne J, Bergmann JF, Reesink HW, Weegink CJ, Molenkamp R, Schinkel J, Tong X, Li J, Treitel MA, Hughes EA, van Lier JJ, van Vliet AA, Janssen HL, de Knecht RJ. Antiviral activity of narlaprevir combined with ritonavir and pegylated interferon in chronic hepatitis C patients. Hepatology. 2010 Nov;52(5):1590-9.

Tomillero A, Moral MA. Gateways to clinical trials. Methods Find Exp Clin Pharmacol. 2010 Nov;32(9):675-703.

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