# Ledipasvir hydrochloride

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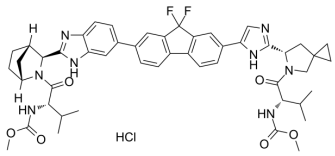
| **Cat. No.:** | HY-15602C |
| **CAS No.:** | 2128695-48-5 |
| **Molecular Formula:** | $C_{49}H_{55}ClF_2N_8O_6$ |
| **Molecular Weight:** | 925.46 |
| **Target:** | HCV; SARS-CoV |
| **Pathway:** | Anti-infection |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

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| **Description** | Ledipasvir (GS-5885) hydrochloride is an inhibitor of the hepatitis C virus NS5A, with $EC_{50}$s of 34 pM and 4 pM against genotype 1a and 1b replicon, respectively. Ledipasvir hydrochloride is also a SARS-CoV $3CL^{pro}$ inhibitor with an $IC_{50}$ of 1.62 μM[3]. |
| **$IC_{50}$ & Target** | EC50: 34 pM (GT1a), 4 pM (GT1b)[1]<br>IC50: 1.62 Mm (SARS-CoV 3CLpro)[3] |
| **In Vitro** | Ledipasvir hydrochloride has GT1a and 1b $EC_{50}$ values of 31 and 4 pM, respectively, and protein-adjusted $EC_{50}$ values of 210 pM (GT1a) and 27 pM (GT1b) and the intrinsic $EC_{50}$ of 39 is 310 fM for GT1a and 40 fM for GT1b. Ledipasvir hydrochloride is highly protein-bound both in human serum and in the cell-culture medium (containing 10% BSA) of the replicon assay[1]. Ledipasvir hydrochloride exhibits an $EC_{50}$ value of 141 nM against the JFH/3a-NS5A replicon[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Ledipasvir hydrochloride is remarkable not only on the basis of its high replicon potency but also on the basis of its low clearance, good bioavailability, and long half-lives in rat, dog, and monkey and low predicted clearance in human. The pharmacokinetics of Ledipasvir hydrochloride is measured in rats and dogs. Ledipasvir shows good half-lives (rat 1.83 hr, dog 2.63 hr) in plasma, low systemic clearance (CL), and moderate volumes of distribution (Vss) that are greater than total body water volume[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Signal Transduct Target Ther. 2021 May 29;6(1):212.
- Proc Natl Acad Sci U S A. 2017 Feb 21;114(8):1922-1927.
- Antiviral Res. 2017 Mar;139:18-24.
- Int J Radiat Oncol Biol Phys. 2016 Nov 15;96(4):867-876.
- J Gastroenterol. 2019 May;54(5):449-458.

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## REFERENCES

[1]. Hernandez D, et al. Natural prevalence of NS5A polymorphisms in subjects infected with hepatitis C virus genotype 3 and their effects on the antiviral activity of NS5A inhibitors. J Clin Virol. 2013 May;57(1):13-8.

[2]. Qi Sun, et al. Bardoxolone and bardoxolone methyl, two Nrf2 activators in clinical trials, inhibit SARS-CoV-2 replication and its 3C-like protease. Signal Transduct Target Ther. 2021 May 29;6(1):212.

[3]. Link JO, et al. Discovery of ledipasvir (GS-5885): a potent, once-daily oral NS5A inhibitor for the treatment of hepatitis C virus infection. J Med Chem. 2014 Mar 13;57(5):2033-46



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