Remdesivir

Cat. No.: HY-104077

CAS No.: 1809249-37-3

Molecular Formula: $C_{27}H_{35}N_6O_8P$

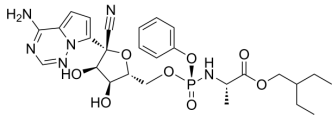
Molecular Weight: 602.58

Target: SARS-CoV; DNA/RNA Synthesis

Pathway: Anti-infection; Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (165.95 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6595 mL	8.2977 mL	16.5953 mL
	5 mM	0.3319 mL	1.6595 mL	3.3191 mL
	10 mM	0.1660 mL	0.8298 mL	1.6595 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.15 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.17 mg/mL (3.60 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (3.60 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Remdesivir (GS-5734), a nucleoside analogue with effective antiviral activity, has EC_{50}s of 3.3 μM, 4.7 μM, 32 μM, 3.7 μM and 9.2 μM for SARS-CoV-2 and its variants alpha, beta, gamma and delta, respectively. Remdesivir is highly effective in the control of SARS-CoV-2 (COVID-19) infection in vitro[1][2][3].

IC_{50} & Target

EC_{50}: 30 nM (murine hepatitis virus, delayed brain tumor cell), 74 nM (SARS-CoV, HAE cell), 74 nM (MERS-CoV, HAE cell)[1]
EC_{50}: 3.3 μM (SARS-CoV-2), 4.7 μM (SARS-CoV-2 alpha), 32 μM (SARS-CoV-2 beta), 3.7 μM (SARS-CoV-2 gamma) and 9.2 μM (SARS-CoV-2 delta)[3]

In Vitro	Remdesivir (GS-5734) inhibits murine hepatitis virus (MHV) with an EC_{50} of 30 nM, and blocks SARS-CoV and MERS-CoV in HAE cells with EC_{50}s of both 74 nM in HAE cells after treatment for 24 h[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- N Engl J Med. 2023 Jan 5;388(1):89-91.
- Nature. 2021 May;593(7859):418-423
- Nature. 2020 Jun;582(7813):561-565.
- Science. 2021 Nov 26;374(6571):1099-1106.
- Science. 2020 Jun 26;368(6498):1499-1504.

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REFERENCES

[1]. Hu H, et al. Optimization of the Prodrug Moiety of Remdesivir to Improve Lung Exposure/Selectivity and Enhance Anti-SARS-CoV-2 Activity. J Med Chem. 2022 Sep 22;65(18):12044-12054.

[2]. Agostini ML, et al. Coronavirus Susceptibility to the Antiviral Remdesivir (GS-5734) Is Mediated by the Viral Polymerase and the Proofreading Exoribonuclease. MBio. 2018 Mar 6;9(2). pii: e00221-18.

[3]. Wang M, et al. Remdesivir and chloroquine effectively inhibit the recently emerged novel coronavirus (2019-nCoV) in vitro. Cell Res. 2020 Mar;30(3):269-271.

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