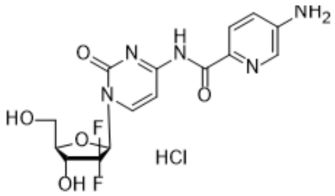
Viral polymerase-IN-1 hydrochloride

Cat. No.:	HY-149050
CAS No.:	2367587-02-6
Molecular Formula:	$C_{15}H_{16}ClF_2N_5O_5$
Molecular Weight:	419.77
Target:	Influenza Virus; SARS-CoV
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Viral polymerase-IN-1 hydrochloride, a Gemcitabine (HY-17026) derivative, potently inhibits influenza A and B viruses infection with IC_{90} values of 11.4-15.9 μM. Viral polymerase-IN-1 hydrochloride is active against SARS-CoV-2 infection. Viral polymerase-IN-1 hydrochloride suppresses influenza virus infection by affecting viral RNA replication/transcription in cells[1] .

IC_{50} & Target

IC50: 6.4 μM (H1N1) and 5.0 μM (H1N1)[1]

In Vitro

Viral polymerase-IN-1 hydrochloride (compound 2h; 0.1, 1, 10 μM; overnight) reduces viral NP protein expression and viral RNA copies in a dose-dependent manner[1].

Viral polymerase-IN-1 hydrochloride (11, 33, 100 μM, 72 h) potently inhibits viral polymerase activity in a dose-dependent manner on the polymerase activity of influenza A virus PR8 in human cells, HeLa[1].

Viral polymerase-IN-1 hydrochloride efficiently inhibits SARS-CoV-2 infection with an EC_{50} value of 0.46 μM and a CC_{50} value above 100 μM, resulting in an SI value of >217.4 in Calu-3 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	MDCK cells infected PR8 virus
Concentration:	0.1, 1, 10 μM
Incubation Time:	Overnight
Result:	Reduced viral NP protein expression and viral RNA copies in a dose-dependent manner.

In Vivo

Viral polymerase-IN-1 hydrochloride (compound 2h; 5 mg/kg; IP; once daily for 5 days, beginning 4 h prior to virus infection) not only reduces viral RNA level in the lungs but also alleviates infection-mediated pulmonary infiltrates in mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Six-week-old BALB/c female mice intranasal infection with maPR8[1]
Dosage:	5 mg/kg
Administration:	IP; once daily for 5 days, beginning 4 h prior to virus infection

Result:	Alleviated lung damage or reduced viral RNA replication.

REFERENCES

[1]. Hyeon-Min Cha, et al. Evaluation of Antiviral Activity of Gemcitabine Derivatives against Influenza Virus and Severe Acute Respiratory Syndrome Coronavirus 2. ACS Infect Dis. 2023 Apr 14;9(4):1033-1045.

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