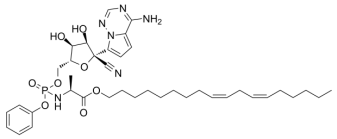
MMT5-14

Cat. No.:	HY-151265
CAS No.:	2719679-31-7
Molecular Formula:	$C_{39}H_{55}N_6O_8P$
Molecular Weight:	766.86
Target:	SARS-CoV
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MMT5-14 is a remdesivir analogue with a higher antiviral activity in four variants of SARS-CoV-2 than Remdesivir (HY-104077). MMT5-14 inhibits SARS-CoV-2, α, β, γ and δ variants with EC_{50}s of 0.4, 2.5, 15.9, 1.7 and 5.6 μM, respectively. MMT5-14 can be used for the research of COVID-19[1].

In Vitro

MMT5-14 (10 μM; 0-12 h) increases epithelial cell uptake[1].
MMT5-14 (5 μM; 2 d) shows a better in vitro antiviral activity than remdesivir[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Vero-E6 cell line
Concentration:	5 μM
Incubation Time:	2 days
Result:	Inhibited SARS-CoV-2, alpha, beta, gamma and delta variants with EC_{50}s of 0.4, 2.5, 15.9, 1.7 and 5.6 μM, respectively.

In Vivo

MMT5-14 (10 mg/kg; i.v. once) shows a higher stability than remdesivir in microsomes, and shows higher concentrations of prodrugs and active metabolites (NTP) in blood and lungs[1].
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Animal Model:	Catheterized female hamsters[1]
Dosage:	10 mg/kg
Administration:	Intravenous injection; 10 mg/kg once
Result:	Showed higher intact prodrugs concentration than remdesivir in lungs after 4 hours injection, increased tissue exposure in most of the tissues and showed 5- to 10-fold higher tissue selectivity in lungs compared to remdesivir.

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 7.

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