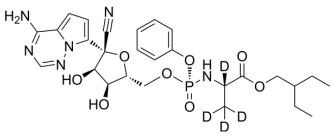
Remdesivir impurity 9-d_4

Cat. No.:	HY-104077S2
Molecular Formula:	$C_{27}H_{31}D_4N_6O_8P$
Molecular Weight:	606.6
Target:	DNA/RNA Synthesis; SARS-CoV
Pathway:	Cell Cycle/DNA Damage; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Remdesivir impurity 9-d_4 is deuterium labeled Remdesivir. Remdesivir (GS-5734), a nucleoside analogue with effective antiviral activity, has EC50s of 74 nM for SARS-CoV and MERS-CoV in HAE cells, and 30 nM for murine hepatitis virus in delayed brain tumor cells. Remdesivir is highly effective in the control of SARS-CoV-2 (COVID-19) infection in vitro[1][2].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. 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.

[2]. 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.

[3]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

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