

Product Data Sheet

Product Name: Remdesivir-d4

Cat. No.: GC48036

Chemical Properties

Cas. No. 2738376-82-2

SMILES O=[P@](N[C@](C([2H])([2H])[2H])([2H])C(OCC(CC)CC)=O)(OC1=CC=CC=C1)OC[C@H]2O[C@](C3=CC=C4N3N=CN=C4N)(C#N)[C@H](O)[C@@H]2O

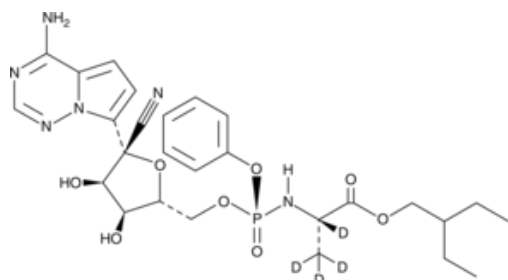
Formula C₂₇H₃₁D₄N₆O₈P M.Wt 606.6

Solubility DMF: Soluble, DMSO: Soluble, Methanol: Soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Remdesivir-d₄ is intended for use as an internal standard for the quantification of remdesivir by GC- or LC-MS. Remdesivir is a prodrug form of the antiviral nucleoside analog GS-441524.^{1,2} Upon entry into cells, remdesivir is metabolized into a nucleoside monophosphate form, which is further metabolized to an active nucleotide triphosphate that induces RNA chain termination and inhibits viral polymerases.³ Remdesivir reduces viral titers in primary human airway epithelial (HAE) cells infected with Middle East respiratory syndrome coronavirus (MERS-CoV) or severe acute respiratory syndrome CoV (SARS-CoV; EC₅₀s = 0.074 and 0.069 μM, respectively). It reduces infectious virus production in SARS-CoV-2-infected HAE cells (EC₅₀ = 10 nM).⁴ *In vivo*, remdesivir (25 and 50

Caution: Product has not been fully validated for medical applications. For research use only.

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mg/kg) reduces lung viral titers and prevents weight loss in a mouse model of SARS-CoV infection.² Remdesivir (25 mg/kg) also reduces lung viral titers and lung hemorrhage and improves pulmonary function in mice infected with a chimeric SARS-CoV encoding the SARS-CoV-2 RNA-dependent RNA polymerase (RdRP).⁴ Formulations containing remdesivir have been used in the treatment of COVID-19.

1. Agostini, M.L., Andres, E.L., Sims, A.C., et al. Coronavirus susceptibility to the antiviral remdesivir (GS-5734) is mediated by the viral polymerase and the proofreading exonuclease. *BioRx* 9(2):e00221-00218(2018) 2. Sheahan, T.P., Sims, A.C., Graham, R.L., et al. Broad-spectrum antiviral GS-5734 inhibits both epidemic and zoonotic coronaviruses. *Sci. Transl. Med.* 9(396):eaal3653(2017) 3. Eastman, R.T., Roth, J.S., Brimacombe, K.R., et al. Remdesivir: A review of its discovery and development leading to emergency use authorization for treatment of COVID-19. *ACS Cent. Sci.* 6(5):672-683(2020) 4. Pruijssers, A.J., George, A.S., Schäfer, A., et al. Remdesivir inhibits SARS-CoV-2 in human lung cells and chimeric SARS-CoV expressing the SARS-CoV-2 RNA polymerase in mice. *Cell Rep.* 32(3):107940(2020)

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