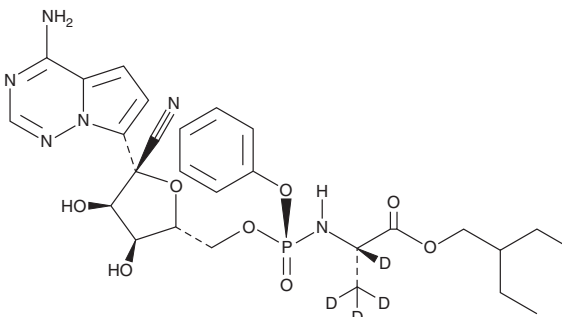


PRODUCT INFORMATION



Remdesivir-d₄ Item No. 30905

CAS Registry No.: 2738376-82-2
Formal Name: 2-ethylbutyl ((S)-(((2R,3S,4R,5R)-5-(4-aminopyrrolo[2,1-f][1,2,4]triazin-7-yl)-5-cyano-3,4-dihydroxytetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)-L-alaninate-2,3,3,3-d₄
MF: C₂₇H₃₁D₄N₆O₈P
FW: 606.6
Chemical Purity: ≥98% (Remdesivir)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Remdesivir-d₄ is intended for use as an internal standard for the quantification of remdesivir (Item No. 30354) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Remdesivir-d₄ is supplied as a solid. A stock solution may be made by dissolving the remdesivir-d₄ in the solvent of choice, which should be purged with an inert gas. Remdesivir-d₄ is soluble in organic solvents such as methanol, DMSO, and dimethyl formamide.

Description

Remdesivir is a prodrug form of the antiviral nucleoside analog GS-441524 (Item No. 30469).^{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 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.

References

1. Agostini, M.L., Andres, E.L., Sims, A.C., *et al.* *mBio* **9**(2), e00221-18 (2018).
2. Sheahan, T.P., Sims, A.C., Graham, R.L., *et al.* *Sci. Transl. Med.* **9**(396), eaal3653 (2017).
3. Eastman, R.T., Roth, J.S., Brimacombe, K.R., *et al.* *ACS Cent. Sci.* **6**(5), 672-683 (2020).
4. Pruijssers, A.J., George, A.S., Schäfer, A., *et al.* *Cell Rep.* **32**(3), 107940 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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