

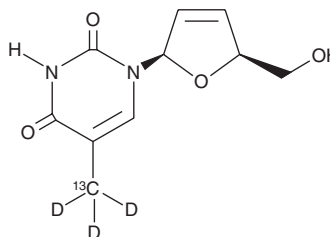
PRODUCT INFORMATION



Stavudine-¹³C-d₃

Item No. 28887

CAS Registry No.: 2750534-86-0
Formal Name: 1-((2R,5S)-5-(hydroxymethyl)-2,5-dihydrofuran-2-yl)-5-(methyl-¹³C-d₃)pyrimidine-2,4(1H,3H)-dione
MF: C₉[¹³C]H₉D₃N₂O₄
FW: 228.2
Chemical Purity: ≥98% (Stavudine-¹³C)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Stavudine-¹³C-d₃ is intended for use as an internal standard for the quantification of stavudine (Item No. 14975) 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).

Stavudine-¹³C-d₃ is supplied as a solid. A stock solution may be made by dissolving the stavudine-¹³C-d₃ in the solvent of choice. Stavudine-¹³C-d₃ is soluble in organic solvents such as methanol, DMSO, and acetonitrile, which should be purged with an inert gas.

Description

Stavudine is an inhibitor of HIV reverse transcriptase and a derivative of the nucleoside thymidine (Item No. 20519).¹ It inhibits HIV-1 replication in human peripheral blood mononuclear cells (PBMCs; EC₅₀ = 8.8 nM). Stavudine reduces the synthesis of HIV-specific antigen in MT-4 cells when used at concentrations ranging from 0.1 to 10 µg/ml and reduces HIV-induced plaque formation in MT-4 cells at 0.05 µg/ml.² It reduces plasma- and cell-associated viral load in macaques infected with a highly pathogenic isolate of HIV-2.³ Stavudine induces sustained hind paw mechanical allodynia in a rat model of antiretroviral toxic neuropathy (ATN) when administered at a dose of 75 mg/kg twice weekly for five consecutive doses for a cumulative dose of 375 mg/kg.⁴ Formulations containing stavudine, in combination with other antiretrovirals, have been used in the treatment of HIV-1 infection.

References

1. Lin, T.-S., Schinazi, R.F., and Prusoff, W.H. *Biochem. Pharmacol.* **36**(17), 2713-2718 (1987).
2. Hamamoto, Y., Nakashima, H., Matsui, T., et al. *Antimicrob. Agents Chemother.* **31**(6), 907-910 (1987).
3. Watson, A., McClure, J., Ranchalis, J., et al. *AIDS Res. Hum. Retroviruses* **13**(16), 1375-1381 (1997).
4. Kuo, A., Nicholson, J.R., Corradini, L., et al. *Inflammopharmacology* **27**(2), 387-396 (2019).

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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