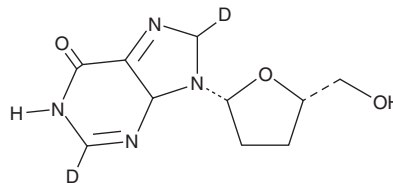


PRODUCT INFORMATION



Didanosine-d₂ Item No. 30078

Formal Name: 2',3'-dideoxy-inosine-2,8-d₂
Synonyms: ddl-d₂, 2',3'-Dideoxyinosine-d₂
MF: C₁₀H₁₂D₂N₄O₃
FW: 240.3
Chemical Purity: ≥98% (Didanosine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₂); ≤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

Didanosine-d₂ is intended for use as an internal standard for the quantification of didanosine (Item No. 23715) 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).

Didanosine-d₂ is supplied as a solid. A stock solution may be made by dissolving the didanosine-d₂ in the solvent of choice. Didanosine-d₂ is soluble in organic solvents such as methanol and DMSO, which should be purged with an inert gas.

Description

Didanosine is an antiviral nucleoside analog and an inhibitor of reverse transcriptase.¹ It undergoes cellular amination and phosphorylation to its active triphosphate form, 2',3'-dideoxyadenosine 5'-triphosphate (ddATP; Item No. 17460). Didanosine inhibits human T cell leukemia virus type 1 (HTLV-1) reverse transcriptase activity (IC₅₀ = 30 nM).² It inhibits the replication of HIV-1 clinical isolates containing various mutations in the gene encoding reverse transcriptase, *pol*, in isolated human peripheral blood mononuclear cells (PBMCs; IC₅₀s = 0.3-11.1 μM).³ Didanosine inhibits proliferation and differentiation of primary human skeletal muscle cells (IC₅₀s = 1 and 0.1 mM, respectively), as well as decreases the activities of mitochondrial complex IV, also known as cytochrome c oxidase, and mitochondrial complex II, also known as succinate dehydrogenase, in the same cells when used at a concentration of 1 mM.⁴ *In vivo*, didanosine protects mice from HIV infection (EC₅₀ = 13.7 mg/kg).⁵ Formulations containing didanosine have been used in the treatment of HIV-1 infections.

References

1. Perry, C.M. and Noble, S. *Drugs* **58(6)**, 1099-1135 (1999).
2. Anantharaman, V. and Moen, L.K. *Bioorg. Chem.* **28(5)**, 293-305 (2000).
3. Eron, J.J., Chow, Y.-K., Caliendo, A.M., et al. *Antimicrob. Agents Chemother.* **37(7)**, 1480-1487 (1993).
4. Benbrik, E., Chariot, P., Bonavaud, S., et al. *J. Neurol. Sci.* **149(1)**, 19-25 (1997).
5. Kaneshima, H., Shih, C.C., Namikawa, R., et al. *Proc. Natl. Acad. Sci. USA* **88(10)**, 4523-4527 (1991).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM