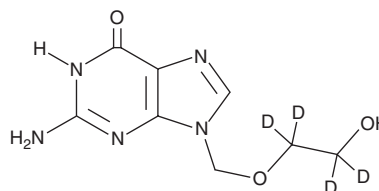


PRODUCT INFORMATION



Acyclovir-d₄ Item No. 26272

CAS Registry No.: 1185179-33-2
Formal Name: 2-amino-9-((2-hydroxyethoxy-1,1,2,2-d₄)methyl)-1,9-dihydro-6H-purin-6-one
Synonym: ACV-d₄
MF: C₈H₇D₄N₅O₃
FW: 229.2
Chemical Purity: ≥98% (Acyclovir)
Deuterium Incorporation: ≥99% deuterated forms (d₀-d₄); ≤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

Acyclovir-d₄ is intended for use as an internal standard for the quantification of acyclovir (Item No. 14160) 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).

Acyclovir-d₄ is supplied as a solid. A stock solution may be made by dissolving the acyclovir-d₄ in the solvent of choice, which should be purged with an inert gas. Acyclovir-d₄ is soluble in the organic solvent DMSO.

Description

Acyclovir is a guanosine analog that has antiviral activity *in vitro* against the herpes simplex viruses, varicella zoster virus, Epstein-Barr virus, cytomegalovirus, and human herpes virus 6 (ID₅₀s = 0.1-63.1 μM).¹ It diffuses freely into cells and is selectively converted into acyclo-guanosine monophosphate by a virus-specific thymidine kinase. During DNA replication, the phosphorylated form of acyclovir is preferentially incorporated into viral DNA, resulting in premature chain termination and inhibition of further DNA polymerase activity.² Acyclovir (5 mg/kg) reduces viral titers in mice infected with the herpes simplex virus-1 (HSV-1) strain SC16.³

References

1. Balfour, H.H., Jr. Management of cytomegalovirus disease with antiviral drugs. *Rev. Infect. Dis.* **12(Suppl. 7)**, S849-S860 (1990).
2. Bean, B. Antiviral therapy: Current concepts and practices. *Clin. Microbiol. Rev.* **5(2)**, 146-182 (1992).
3. Ashton, R.J., Abbott, K.H., Smith, G.M., *et al.* Antiviral activity of famciclovir and acyclovir in mice infected intraperitoneally with herpes simplex virus type 1 SC16. *J. Antimicrob. Chemother.* **34(2)**, 287-290 (1994).

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

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