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- Expressversand

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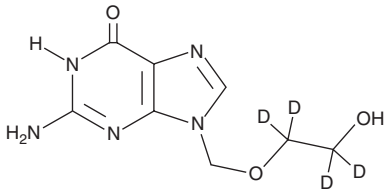
PRODUCT INFORMATION

Acyclovir-d_4

Item No. 26272

CAS Registry No.: 1185179-33-2
Formal Name: 2-amino-9-((2-hydroxyethoxy-1,1,2,2-d_4) methyl)-1,9-dihydro-6H-purin-6-one
Synonym: ACV-d_4
MF: $C_8H_7D_4N_5O_3$
FW: 229.2
Chemical Purity: ≥98% (Acyclovir)
Deuterium Incorporation: ≥99% deuterated forms (d_0-d_4); ≤1% d_0
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

Acyclovir-d_4 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-d_4 is supplied as a solid. A stock solution may be made by dissolving the acyclovir-d_4 in the solvent of choice. Acyclovir-d_4 is soluble in the organic solvent DMSO, which should be purged with an inert gas.

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 (ID_{50}s = 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).

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