

Product Data Sheet

Product Name: Acyclovir-d4

Cat. No.: GC46797

Chemical Properties

Cas. No. 1185179-33-2

SMILES O=C1C2=C(N(COC([2H])([2H])C([2H])([2H])O)C=N2)N=C(N)N1

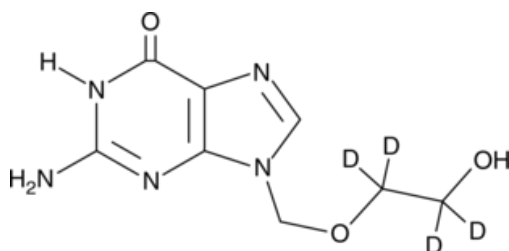
Formula C₈H₇D₄N₅O₃ M.Wt 229.2

Solubility DMSO: Soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Acyclovir-d₄ is intended for use as an internal standard for the quantification of acyclovir by GC- or LC-MS. 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

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

Caution: Product has not been fully validated for medical applications. For research use only.

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practicesClin.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 SC16J. Antimicrob. Chemother.34(2)287-290(1994)

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