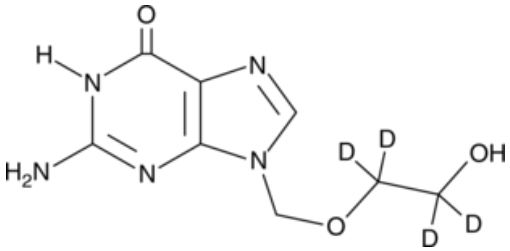
Product Data Sheet

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-d_4 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 (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]

1.Balfour, H.H., Jr.Management of cytomegalovirus disease with antiviral drugsRev.Infect.Dis.12(Suppl. 7)S849-S860(1990) 2.Bean, B.Antiviral therapy: Current concepts and

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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)

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