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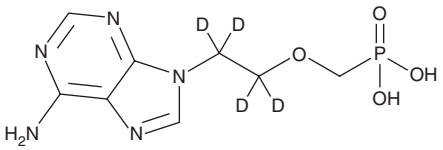
PRODUCT INFORMATION

Adefovir-d_4

Item No. 31315

CAS Registry No.: 1190021-70-5
Formal Name: P-[[2-(6-amino-9H-purin-9-yl)ethoxy-1,1,2,2-d_4]methyl]-phosphonic acid
Synonym: PMEA-d_4
MF: $C_8H_8D_4N_5O_4P$
FW: 277.2
Chemical Purity: ≥98% (Adefovir)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥3 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Adefovir-d_4 is intended for use as an internal standard for the quantification of adefovir (Item No. 18650) 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).

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

Description

Adefovir is an active metabolite of the antiviral nucleoside analog adefovir dipivoxil (Item No. 28373).[1] Adefovir is formed from adefovir dipivoxil by gastrointestinal carboxylesterase 2 (CES2).[2] It inhibits cytopathogenicity induced by herpes simplex virus 1 (HSV-1) and HSV-2 (EC_{50} = 7 µg/ml for both in E_6SM cells), HIV-1 and HIV-2 (EC_{50}s = 1.8 and 2.5 µg/ml, respectively, in CEM cells), and varicella zoster virus (VZV; EC_{50} = 10 µg/ml in human embryonic lung fibroblasts).[3] Adefovir (50 mg/kg, p.o.) reduces increases in lymph node viral DNA and serum IgG levels in a mouse model of AIDS induced by infection with the retroviral complex LP-BM5.[4] It also inhibits tumor growth induced by Moloney sarcoma virus (MSV) infection in mice at the same dose.[5]

References

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2. Laizure, S.C., Herring, V., Hu, Z., *et al. Pharmacotherapy* **33(2)**, 210-222 (2013).
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4. Rossi, L., Dominici, S., Serafini, S., *et al. J. Antimicrob. Chemother.* **50(3)**, 365-374 (2002).
5. Naesens, L., Balzarini, J., Bischofberger, N., *et al. Antimicrob. Agents Chemother.* **40(1)**, 22-28 (1996).

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