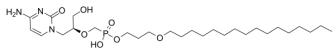
Brincidofovir

Cat. No.:	HY-14532
CAS No.:	444805-28-1
Molecular Formula:	$C_{27}H_{52}N_3O_7P$
Molecular Weight:	561.69
Target:	CMV; HSV; Orthopoxvirus
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 1 mg/mL (1.78 mM; adjust pH to 8 with NaOH and heat to 50°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7803 mL	8.9017 mL	17.8034 mL
	5 mM	---	---	---
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Brincidofovir (CMX001), the lipid-conjugated prodrug of Cidofovir (HY-17438), is an orally available, long-acting antiviral. Brincidofovir shows activity against a broad spectrum of DNA viruses including cytomegalovirus (CMV), adenovirus (ADV), varicella zoster virus, herpes simplex virus, polyomaviruses, papillomaviruses, poxviruses, and mixed double-stranded DNA virus infections. Brincidofovir, an oral antiviral in late stage development, has proven effective against orthopoxviruses in vitro and in vivo.[1][2][3][4].

IC_{50} & Target

EC50: 5.5 nM (anti-CMV, in PDA at 7 dpi)

In Vivo

Brincidofovir (BCV) (20 mg/kg; p.o.; on days 1, 3, 5, 7, 10, 14, 17, 21, and 24) extends survival in immune-deficient BALB/c nu/nu mice following lethal challenge with IHD-J-Luc VACV[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	BALB/c nu/nu mice (infected with IHD-J-Luc VACV)[3]

Dosage:	20 mg/kg
Administration:	P.o.; on days 1, 3, 5, 7, 10, 14, 17, 21, and 24
Result:	On days 1, 3, and 5 maintained their weights initially but started to lose weight beginning on day 9 and succumbed between days 24 and 29 postchallenge.

CUSTOMER VALIDATION

- Emerg Microbes Infect. 2023 May 2;2208682.
- Antivir Res. 2019 Dec;172:104639.

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REFERENCES

[1]. Scott A Foster , et al. The Role of Brincidofovir in Preparation for a Potential Smallpox Outbreak. Viruses. 2017 Oct 30;9(11):320.

[2]. Hiwarkar P, et al. Brincidofovir is highly efficacious in controlling adenoviremia in pediatric recipients of hematopoietic cell transplant. Blood. 2017;129(14):2033-2037.

[3]. Detweiler CJ, et al. Brincidofovir (CMX001) Toxicity Associated With Epithelial Apoptosis and Crypt Drop Out in a Hematopoietic Cell Transplant Patient: Challenges in Distinguishing Drug Toxicity From GVHD. J Pediatr Hematol Oncol. 2018;40(6):e364-e368.

[4]. Zaitseva M, McCullough KT, Cruz S, et al. Postchallenge administration of brincidofovir protects healthy and immune-deficient mice reconstituted with limited numbers of T cells from lethal challenge with IHD-J-Luc vaccinia virus. J Virol. 2015;89(6):3295-3307.

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

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