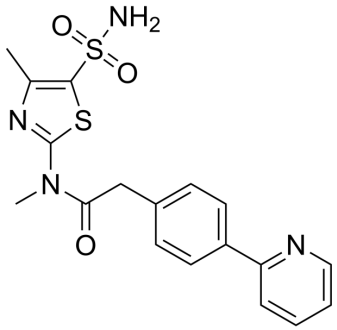
Pritelivir



Cat. No.:	HY-15303
CAS No.:	348086-71-5
Molecular Formula:	$C_{18}H_{18}N_4O_3S_2$
Molecular Weight:	402.49
Target:	HSV
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year

SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 33 mg/mL (81.99 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4845 mL	12.4227 mL	24.8453 mL
	5 mM	0.4969 mL	2.4845 mL	4.9691 mL
	10 mM	0.2485 mL	1.2423 mL	2.4845 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pritelivir (AIC316), an inhibitor of the viral helicase-primase complex, exhibits antiviral activity in vitro and in animal models of herpes simplex virus (HSV) infection. Pritelivir is active against herpes simplex virus types 1 and 2 (HSV-1 and HSV-2) with the IC_{50} of 0.02 μM against HSV1-2[1].

IC_{50} & Target	HSV-1	HSV-2
	0.02 μM (IC_{50})	0.02 μM (IC_{50})

In Vivo

Pritelivir is the first in a class of antiviral agents that inhibit HSV replication by targeting the viral helicase-primase enzyme complex[2].

Pritelivir (0.03-45 mg/kg) significantly increases survival. Pritelivir (0.3-30 mg/kg) reduces mortality against HSV-1, E-377. Pritelivir has potent and resistance-breaking antiviral efficacy with potential for the treatment of potentially life-threatening HSV type 1 and 2 infections, including herpes simplex encephalitis[3].

Combination therapies of Pritelivir at 0.1 or 0.3 mg/kg/dose with Acyclovir (10 mg/kg/dose) are protective when compared to the vehicle treated group against HSV-2, strain MS[3].

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

Animal Model:	Female BALB/c mice[3]
Dosage:	0.03 to 45 mg/kg
Administration:	Administered orally, twice daily at approximately 12 h intervals, for 7 days
Result:	Survival was significantly increased to 80-100% as compared to the vehicle treatment. Even the lowest dose of 0.3 mg/kg was effective in increasing survival to 53%.

CUSTOMER VALIDATION

- J Infect Dis. 2023 May 24;jiad184.
- J Antimicrob Chemother. 2022 Sep 5;dkac297.
- Antivir Res. 2020 Nov;183:104931.

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REFERENCES

[1]. Ligat G, et al. Identification of Amino Acids Essential for Viral Replication in the HCMV Helicase-PrimaseComplex. Front Microbiol. 2018 Oct 23;9:2483.

[2]. Wald A, et al. Helicase-primase inhibitor Pritelivir for HSV-2 infection. N Engl J Med. 2014 Jan 16;370(3):201-10.

[3]. Quenelle DC, et al. Efficacy of pritelivir and acyclovir in the treatment of herpes simplex virus infections in a mouse model of herpes simplex encephalitis. Antiviral Res. 2018 Jan;149:1-6.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA