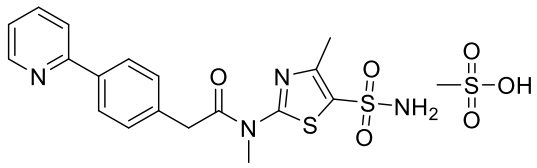
Product data sheet

MedKoo Cat#: 330140 Name: Pritelivir mesylate CAS#: 1428333-96-3 (mesylate) Chemical Formula: $C_{19}H_{22}N_4O_6S_3$ Molecular Weight: 498.587	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Pritelivir, also known as AIC-316 and BAY 57-1293, is a potent helicase primase inhibitor. BAY 57-1293 inhibits replication of herpes simplex virus (HSV) type 1 and type 2 in the nanomolar range in vitro by abrogating the enzymatic activity of the viral primase-helicase complex. In various rodent models of HSV infection the antiviral activity of BAY 57-1293 in vivo was found to be superior compared to all compounds currently used to treat HSV infections. The compound shows profound antiviral activity in murine and rat lethal challenge models of disseminated herpes, in a murine zosteriform spread model of cutaneous disease, and in a murine ocular herpes model. It is active in parenteral, oral, and topical formulations.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	83.33	167.13

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.01 mL	10.03 mL	20.06 mL
5 mM	0.40 mL	2.01 mL	4.01 mL
10 mM	0.20 mL	1.00 mL	2.01 mL
50 mM	0.04 mL	0.20 mL	0.40 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Edlefsen PT, Birkmann A, Huang ML, Magaret CA, Kee JJ, Diem K, Goldner T, Timmler B, Stoelben S, Ruebsamen-Schaeff H, Zimmermann H, Warren T, Wald A, Corey L. No Evidence of Pritelivir Resistance Among Herpes Simplex Virus Type 2 Isolates After 4 Weeks of Daily Therapy. J Infect Dis. 2016 Jul 15;214(2):258-64. doi: 10.1093/infdis/jiw129. Epub 2016 Apr 7. PMID: 27056950; PMCID: PMC4918824.

In vivo study

1. Quenelle DC, Birkmann A, Goldner T, Pfaff T, Zimmermann H, Bonsmann S, Collins DJ, Rice TL, Prichard MN. 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. doi: 10.1016/j.antiviral.2017.11.002. Epub 2017 Nov 4. PMID: 29113740; PMCID: PMC5743594.
2. Wald A, Corey L, Timmler B, Magaret A, Warren T, Tyring S, Johnston C, Kriesel J, Fife K, Galitz L, Stoelben S, Huang ML, Selke S, Stobernack HP, Ruebsamen-Schaeff H, Birkmann A. Helicase-primase inhibitor pritelivir for HSV-2 infection. N Engl J Med. 2014 Jan 16;370(3):201-10. doi: 10.1056/NEJMoa1301150. PMID: 24428466.

7. Bioactivity

Product data sheet

Biological target:

Pritelivir mesylate is active against herpes simplex virus types 1 and 2 (HSV-1 and HSV-2) with the IC50 of 0.02 μM against HSV1-2.

In vitro activity

To mimic patient conditions during primary infection contrasting the prophylactic approach described, skin was first infected with HSV-1 for 4 days. Infected skin was further cultured with virus-free cell culture medium for 3 days in the presence or absence of pritelivir to measure its therapeutic potential. RT-PCR showed that pritelivir partly inhibited further replication by 62.3% compared with non–drug-treated, HSV-1–infected control (100%) (Figure 4e).

Reference: J Invest Dermatol. 2019 Mar;139(3):673-682. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7100788/

In vivo activity

Mice lethally infected with HSV type 1 or 2 were treated 72 hours after infection for 7 days with pritelivir administered orally twice daily. Dosages of pritelivir from 0.3 to 30 mg/kg reduced mortality ($P<0.001$) against HSV-1, E-377. With an acyclovir resistant HSV-1, 11360, pritelivir at 1 and 3 mg/kg increased survival ($P<0.005$). With HSV-2, MS infected mice, all dosages higher than the 0.3 mg/kg dose of pritelivir were effective ($P<0.005$). These results suggest that 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.

Reference: Antiviral Res. 2018 Jan;149:1-6. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5743594/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.