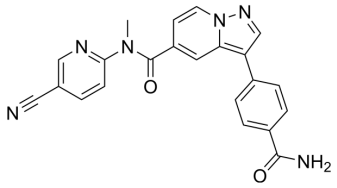
KDU731

Cat. No.:	HY-103583
CAS No.:	1610610-48-4
Molecular Formula:	$C_{22}H_{16}N_6O_2$
Molecular Weight:	396.4
Target:	PI4K; Parasite
Pathway:	PI3K/Akt/mTOR; 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 : 83.33 mg/mL (210.22 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5227 mL	12.6135 mL	25.2270 mL
5 mM	0.5045 mL	2.5227 mL	5.0454 mL
10 mM	0.2523 mL	1.2614 mL	2.5227 mL

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

BIOLOGICAL ACTIVITY

Description

KDU731, an orally active C. parvum PI4K inhibitor with an IC_{50} value of 25 nM, blocks Cryptosporidium infection in vitro and in vivo[1][2]. KDU731 is a promising agent candidate for the treatment of diarrhea caused by Cryptosporidium and meets a broad range of safety[2].

IC_{50} & Target

PI4K

In Vivo

KDU731 (orally administration; 7 or 10mg/kg; 16 days) has potent activity against Cryptosporidium in immunocompromised IFN-γ KO mice and dramatically reduces oocyst shedding[2].

KDU731 (orally administration; 5 mg/kg; every 12 hours for 7 days) is tolerated in all calves, and treated calves shed significantly fewer oocysts than vehicle treated calves in their stool[2].

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

Animal Model:	6-8 week old C57BL/6 IFN-γ-knockout mice with 10,000 oocysts[1]

Dosage:	7 or 10 mg/kg
Administration:	Orally administration; 7 or 10 mg/kg; 16 days
Result:	Resulted in significant reduction of oocyst shedding.

Animal Model:	Neonatal calves with 5 x 10^7 oocysts[1]
Dosage:	5 mg/kg
Administration:	Orally administration; 5 mg/kg; every 12 hours for 7 days
Result:	Resulted in significant reduction of oocyst shedding in treated calves in their stool.

REFERENCES

[1]. Ward HD, et al. New Tools for Cryptosporidium Lead to New Hope for Cryptosporidiosis. Trends Parasitol. 2017 Sep;33(9):662-664.

[2]. Manjunatha UH, et al. A Cryptosporidium PI(4)K inhibitor is a drug candidate for cryptosporidiosis. Nature. 2017 Jun 15;546(7658):376-380.

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