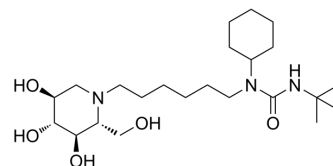


IHVR-19029

Cat. No.:	HY-124662		
CAS No.:	1447464-73-4		
Molecular Formula:	C ₂₃ H ₄₅ N ₃ O ₅		
Molecular Weight:	443.62		
Target:	Glucosidase; Flaviviridae		
Pathway:	Metabolic Enzyme/Protease; 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 : 100 mg/mL (225.42 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.2542 mL	11.2709 mL	22.5418 mL
		5 mM	0.4508 mL	2.2542 mL	4.5084 mL
10 mM		0.2254 mL	1.1271 mL	2.2542 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	IHVR-19029 is a potent endoplasmic reticulum (ER) α-glucosidases I and II inhibitor, with an IC ₅₀ of 0.48 μM for ER α-glucosidase I. IHVR-19029 efficiently blocks the replication of several hemorrhagic fever viruses, such as Dengue virus (DENV), Ebola virus (EBOV) and Rift Valley fever virus. The combination of IHVR-19029 with Favipiravir (HY-14768) improves the antiviral efficacy ^{[1][2][3][4]} .
In Vitro	IHVR-19029 efficiently inhibits Bovine viral diarrhea virus (BVDV), Tacaribe virus (TCRV) and Dengue virus (DENV) with EC ₅₀ s of 0.25, 0.74, and 1.25 μM, respectively ^[2] . The combination of IHVR-19029 and Favipiravir (HY-14768) synergistically inhibits

the replication of Yellow fever and Ebola viruses in cultured cells^[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

IHVR-19029 (25-75 mg/kg; i.p.; twice daily for 10 days) inhibits EBOV and MARV infection in mice^[2].
IHVR-19029 (5 mg/kg; i.v.) has AUC, C₀, T_{1/2}, CL and V_d values of 1383 µg*h/mL, 1.79 µg/mL, 1.2 hours, 3.49 L/h/kg, and 3.0 L/kg, respectively^[2].
IHVR-19029 (75/5/5 mg/kg; p.o./i.m./i.p.) has AUC values of 945/1839/983 µg*h/mL, C_{max} values of 0.26/1.23/1.33 µg/ml, T_{max} values of 2.1/0.1/0.17 hours, and F values of 4.6/71/133%, respectively^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	BALB/c mice (12 week 233 of age) (MARV infection) ^[2]
Dosage:	25, 75 mg/kg
Administration:	i.p.; twice daily, until 10 days
Result:	Significant protection of Marburg virus (MARV) induced death were observed.

Animal Model:	C57B1/6 mice (8–12 week of age) (EBOV infection) ^[2]
Dosage:	25, 75 mg/kg
Administration:	i.p.; twice daily for 10 days
Result:	Significant survival were observed.

REFERENCES

- [1]. Bray M, et al. Meeting report: 31st International Conference on Antiviral Research. Antiviral Res. 2018 Oct;158:88-102.
- [2]. Chang J, et al. Small molecule inhibitors of ER α-glucosidases are active against multiple hemorrhagic fever viruses. Antiviral Res. 2013;98(3):432-440.
- [3]. Ester Prodrugs of IHVR-19029 with Enhanced Oral Exposure and Prevention of Gastrointestinal Glucosidase Interaction. ACS Med Chem Lett. 2017 Jan 17;8(2):157-162.
- [4]. Ma J, et al. Enhancing the antiviral potency of ER α-glucosidase inhibitor IHVR-19029 against hemorrhagic fever viruses in vitro and in vivo. Antiviral Res. 2018 Feb;150:112-122.

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

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