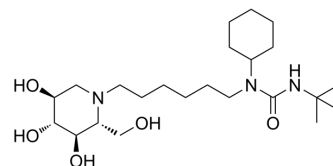


## IHVR-19029

<b>Cat. No.:</b>	HY-124662		
<b>CAS No.:</b>	1447464-73-4		
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>45</sub> N <sub>3</sub> O <sub>5</sub>		
<b>Molecular Weight:</b>	443.62		
<b>Target:</b>	Glucosidase; Flavivirus; Dengue virus		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (225.42 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	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.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (5.64 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	IHVR-19029 is a potent endoplasmic reticulum (ER) α-glucosidases I and II inhibitor, with an IC <sub>50</sub> 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 <sup>[1][2][3][4]</sup> .
<b>In Vitro</b>	IHVR-19029 efficiently inhibits Bovine viral diarrhea virus (BVDV), Tacaribe virus (TCRV) and Dengue virus (DENV) with EC <sub>50</sub> s of 0.25, 0.74, and 1.25 μM, respectively <sup>[2]</sup> . The combination of IHVR-19029 and Favipiravir (HY-14768) synergistically inhibits

the replication of Yellow fever and Ebola viruses in cultured cells<sup>[4]</sup>.  
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<sup>[2]</sup>.  
IHVR-19029 (5 mg/kg; i.v.) has AUC, C<sub>0</sub>, T<sub>1/2</sub>, CL and V<sub>d</sub> values of 1383 µg\*h/mL, 1.79 µg/mL, 1.2 hours, 3.49 L/h/kg, and 3.0 L/kg, respectively<sup>[2]</sup>.  
IHVR-19029 (75/5/5 mg/kg; p.o./i.m./i.p.) has AUC values of 945/1839/983 µg\*h/mL, C<sub>max</sub> values of 0.26/1.23/1.33 µg/ml, T<sub>max</sub> values of 2.1/0.1/0.17 hours, and F values of 4.6/71/133%, respectively<sup>[2]</sup>.  
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) <sup>[2]</sup>
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) <sup>[2]</sup>
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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