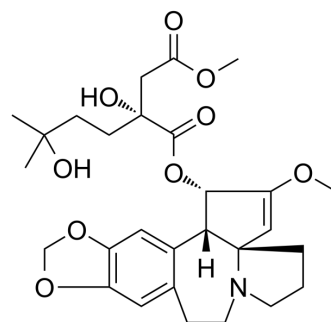


## Harringtonine

<b>Cat. No.:</b>	HY-N0862		
<b>CAS No.:</b>	26833-85-2		
<b>Molecular Formula:</b>	C <sub>28</sub> H <sub>37</sub> NO <sub>9</sub>		
<b>Molecular Weight:</b>	531.59		
<b>Target:</b>	Influenza Virus		
<b>Pathway:</b>	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

#### In Vitro

DMSO : 100 mg/mL (188.11 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mg			
Preparing Stock Solutions	1 mM	1.8811 mL	9.4057 mL	18.8115 mL	
	5 mM	0.3762 mL	1.8811 mL	3.7623 mL	
	10 mM	0.1881 mL	0.9406 mL	1.8811 mL	

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (4.70 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (4.70 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (4.70 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Harringtonine is a natural Cephalotaxus alkaloid that inhibits protein synthesis. Harringtonine has anti-chikungunya virus (CHIKV) activities with an EC<sub>50</sub> of 0.24 μM.

#### In Vitro

Harringtonine inhibits the elongation phase of translation by preventing substrate binding to the acceptor site on the 60-S ribosome subunit and therefore block aminoacyl-tRNA binding and peptide bond formation<sup>[1]</sup>. Harringtonine displays potent inhibition of Chikungunya virus infection with an EC<sub>50</sub> of 0.24 μM. Harringtonine could inhibit other alphaviruses<sup>[2]</sup>. Harringtonine inhibits the growth of human myeloid leukemia cells in vitro at low concentrations. The mechanism of the

antitumor action of harringtonine is considered to be an effect on protein synthesis and is characterized by breakdown of polysomes to monosomes<sup>[3]</sup>.

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

## PROTOCOL

### Cell Assay <sup>[2]</sup>

For harringtonine treatment studies with Sindbis virus, BHK21 cells are seeded into 96-well plates and infected with Sindbis virus at an MOI of 1 for 1 h prior to being washed twice with PBS and incubated with various concentrations of harringtonine (0.1  $\mu$ M, 1  $\mu$ M, 5  $\mu$ M, and 10  $\mu$ M) at 37°C with 5% CO<sub>2</sub>. Cell supernatants are harvested for plaque assays at 24 h postinfection [2].

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

## CUSTOMER VALIDATION

- Proc Natl Acad Sci U S A. 2021 Feb 16;118(7):e20144571118.
- FASEB J. 2021 Jun;35(6):e21656.
- Nucleic Acids Res. 2019 Apr 8;47(6):e33.

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## REFERENCES

[1]. Fresno M, et al. Inhibition of translation in eukaryotic systems by harringtonine. Eur J Biochem. 1977 Jan;72(2):323-30.

[2]. Kaur P, et al. Inhibition of chikungunya virus replication by harringtonine, a novel antiviral that suppresses viral protein expression. Antimicrob Agents Chemother. 2013 Jan;57(1):155-67.

[3]. Piao YF, et al. Growth inhibition of human myeloid leukemia cells in vitro by harringtonine. Gan To Kagaku Ryoho. 1990 Feb;17(2):281-5.

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

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