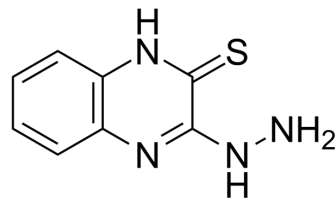


## HPi1

Cat. No.:	HY-120536		
CAS No.:	13080-21-2		
Molecular Formula:	C <sub>8</sub> H <sub>8</sub> N <sub>4</sub> S		
Molecular Weight:	192.24		
Target:	Bacterial		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



## SOLVENT & SOLUBILITY

In Vitro	DMSO : 62.5 mg/mL (325.11 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	5.2018 mL	26.0092 mL	52.0183 mL
				5 mM	1.0404 mL	5.2018 mL	10.4037 mL
10 mM				0.5202 mL	2.6009 mL	5.2018 mL	
Please refer to the solubility information to select the appropriate solvent.							
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (10.82 mM); Clear solution						

## BIOLOGICAL ACTIVITY

Description	HPi1 is a potent, selective and orally active antimicrobial against <i>Helicobacter pylori</i> with an IC <sub>50</sub> of 0.24 μM and an MIC of 0.08-0.16 μg/mL. HPi1 is inactive against other bacteria, including the gut commensals <i>Lactobacillus casei</i> , <i>Lactobacillus reuteri</i> , and <i>Bifidobacterium longum</i> <sup>[1]</sup> .
IC <sub>50</sub> & Target	IC <sub>50</sub> : 0.24 μM ( <i>Helicobacter pylori</i> ) <sup>[1]</sup> MIC: 0.08-0.16 μg/mL ( <i>Helicobacter pylori</i> ) <sup>[1]</sup>
In Vitro	<p>The MIC against <i>H. pylori</i> isolates ranged from 0.002-0.032 μg/mL (0.01-0.17 μM) in the agar dilution assay. HPi1 is effective against the clarithromycin-resistant strains ARHp172 (MIC of 0.004–0.016 μg/mL) and ARHp246 (MIC of 0.008–0.032 μg/mL)<sup>[1]</sup>.</p> <p>HPi1 has some activity against the <i>Bacteroides</i> species, but at concentrations at least 18-fold higher than the <i>H. pylori</i> MIC. More potent activity is detected for <i>Campylobacter jejuni</i> with an MIC of 0.3 μg/mL<sup>[1]</sup>.</p>

HPI1 has good physicochemical and pharmacological properties, including determining the aqueous solubility (19 µg/mL), human plasma protein binding (93% bound), stability with human liver microsomes (T<sub>1/2</sub> of 1.3 hours) and the ability to passively permeate membranes<sup>[1]</sup>.

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

#### In Vivo

HPI1 (6.25-50 mg/kg; Oral gavage; once a day; for 3 days; female C57BL/6 mice) treatment decreases colony counts below the limit of detection at doses of 25 or 50 mg/kg/day<sup>[1]</sup>.

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

Animal Model:	Adult specific-pathogen-free female C57BL/6 mice (6-8-week-old) fed with H. pylori SS1 suspension <sup>[1]</sup>
Dosage:	6.25 mg/kg, 12.5 mg/kg, 25 mg/kg, 50 mg/kg
Administration:	Oral gavage; once a day; for 3 days
Result:	Reduced colony counts to below the limit of detection.

## REFERENCES

[1]. Gavrish E, et al. In vitro and in vivo activities of HPI1, a selective antimicrobial against Helicobacter pylori. Antimicrob Agents Chemother. 2014 Jun;58(6):3255-60.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA