

Magainin 1

Cat. No.:	HY-P0269	
CAS No.:	108433-99-4	
Molecular Formula:	$C_{112}H_{177}N_{29}O_{28}S$	
Molecular Weight:	2409.85	GIGKFLHSAGKFGKAFVGEIMKS
Sequence:	Gly-Ile-Gly-Lys-Phe-Leu-His-Ser-Ala-Gly-Lys-Phe-Gly-Lys-Ala-Phe-Val-Gly-Glu-Ile-Met-Lys-Ser	
Sequence Shortening:	GIGKFLHSAGKFGKAFVGEIMKS	
Target:	Bacterial; Fungal; Antibiotic	
Pathway:	Anti-infection	
Storage:	Sealed storage, away from moisture	
	Powder -80°C 2 years	
	-20°C 1 year	
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (41.50 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent	1 mg	5 mg	10 mg
	Concentration			
	1 mM	0.4150 mL	2.0748 mL	4.1496 mL
	5 mM	0.0830 mL	0.4150 mL	0.8299 mL
	10 mM	0.0415 mL	0.2075 mL	0.4150 mL

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

BIOLOGICAL ACTIVITY

Description

Magainin 1 (Magainin I) is an antimicrobial and amphipathic peptide isolated from the skin of *Xenopus laevis*. Magainin 1 exhibits antibiotic activity against numerous Gram-negative and Gram-positive bacteria^{[1][2][3]}.

In Vitro

Magainin 1 interacts with acidic lipids through electrostatic interactions followed by hydrophobic interactions to form an amphiphilic helix, inducing the leakage. Magainin 1 induces the leakage of calcein specifically out of negatively-charged vesicles. The peptide binds to bovine brain phosphatidylserine sonicated vesicles according to the Langmuir isotherm with a binding constant of 3.8×10^5 M⁻¹ and a binding-site number of 0.10 per lipid molecule^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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- [1]. Duclouhier H, et al. Antimicrobial peptide magainin I from *Xenopus* skin forms anion-permeable channels in planar lipid bilayers. *Biophys J*. 1989 Nov;56(5):1017-21.
- [2]. Matsuzaki K, et al. Magainin 1-induced leakage of entrapped calcein out of negatively-charged lipid vesicles. *Biochim Biophys Acta*. 1989 May 19;981(1):130-4.
- [3]. Zasloff M, et al. Magainins, a class of antimicrobial peptides from *Xenopus* skin: isolation, characterization of two active forms, and partial cDNA sequence of a precursor. *Proc Natl Acad Sci U S A*. 1987 Aug;84(15):5449-53.
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Caution: Product has not been fully validated for medical applications. For research use only.

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