Product Data Sheet

Product Name: Magainin 1
Cat. No.: GC32312

Chemical Properties

Cas. No.	108433-99-4		
SMILES	Gly-Ile-Gly-Lys-Phe-Leu-His-Ser-Ala-Gly-Lys-Phe-Gly-Lys-Ala-Phe-Val-Gly-Glu-Ile-Met-Lys-Ser		
Formula	$C_{112}H_{177}N_{29}O_{28}S$	M.Wt	2409.85
Solubility	H_2O : 100 mg/mL (41.50 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Magainin 1		

Background

Magainin 1 is an antimicrobial peptide discovered in the skin of Xenopus laevis.

Magainin 1 kill bacteria by permeabilizing the cell membranes without exhibiting significant toxicity against mammalian cells. The main target of the peptide is considered to be the lipid matrix of the membranes[1]. Magainin 1 and 2 have a similar amino-acid sequence. Magainin 2 has higher antimicrobial activity than magainin 1[2]. 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 3.8×105 M-1 and a binding-site number of 0.10 per lipid molecule[3]. Magainin 2 displays antibiotic activity against numerous Gram-negative and Gram-positive bacteria. A similar spectrum of activity is seen on assay of magainin 1[4].

[1]. Matsuzaki K, et al. Magainins as paradigm for the mode of action of pore forming

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

polypeptides. Biochim Biophys Acta. 1998 Nov 10;1376(3):391-400. [2]. Watanabe H, et al. Channel Current Analysis for Pore-forming Properties of an Antimicrobial Peptide, Magainin 1, Using the Droplet Contact Method. Anal Sci. 2016;32(1):57-60. [3]. 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. [4]. 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.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA