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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Gramicidin

Cat. No.:	HY-P0163
CAS No.:	1405-97-6
Molecular Formula:	C ₉₉ H ₁₄₀ N ₂₀ O ₁₇
Molecular Weight:	1882
Target:	Bacterial; 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)

Gramicidin

SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (53.13 mM; Need ultrasonic)
 H₂O : 1 mg/mL (0.53 mM; Need ultrasonic)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	0.5313 mL	2.6567 mL	5.3135 mL
5 mM	0.1063 mL	0.5313 mL	1.0627 mL
10 mM	0.0531 mL	0.2657 mL	0.5313 mL

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

In Vivo

- Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
 Solubility: 10 mg/mL (5.31 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 5% DMSO >> 95% corn oil
 Solubility: 10 mg/mL (5.31 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (1.33 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (1.33 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Gramicidin is an antimicrobial peptide assembling as channels in membranes and increasing their permeability towards cations.

IC₅₀ & Target

Bacteria^[1]

In Vitro

Gramicidin is an antimicrobial peptide assembling as channels in membranes and increasing their permeability towards cations. There is poor Gramicidin activity against *E. coli* and *S. cerevisiae* as shown from the survival of microbes (%) over a range of Gramicidin concentrations, in contrast with the action of Gramicidin on *S. aureus*. The microbicidal activity occurs over a range of low Gramicidin and DODAB concentrations which are not toxic to *S. cerevisiae*^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]

Microbes and dispersions are mixed and interacted for one hour before being diluted up to 20,000-fold for plating of 0.1 mL of each in triplicate and incubation (24 hours for 37°C) for CFU counting. Cell survival (%), taken as the mean±standard deviation, is plotted against DODAB and/or Gramicidin concentration. As a control for cell viability in the absence of DODAB or DODAB/Gramicidin dispersions, a standard bacterial suspension is added to 0.264 M D-glucose solution, diluted, and spreaded on the agar plate^[1].

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

CUSTOMER VALIDATION

- Nat Commun. 2022 Jun 21;13(1):3544.
- BMC Med. 2022 Jul 27;20(1):235.

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REFERENCES

[1]. Ragioto DA, et al. Novel gramicidin formulations in cationic lipid as broad-spectrum microbicidal agents. *Int J Nanomedicine*. 2014 Jun 30;9:3183-92.

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

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