
Product Data Sheet

Product Name: Sphistin Synthetic Peptide(12-38,Fitc in N-Terminal-Fluorescently Labeled Peptide)

Cat. No.: GC34397

Chemical Properties

Cas. No.

SMILES Lys-Ala-Lys-Ala-Lys-Ala-Val-Ser-Arg-Ser-Ala-Arg-Ala-Gly-Leu-Gln-Phe-Pro-Val-Gly-Arg-Ile-His-Arg-His-Leu-Lys

Formula M.Wt 3373

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C 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

Protocol**Cell experiment:**

Sphistin Synthetic Peptide (12-38) is diluted to final concentrations from 1.5 mM to 96 mM with Milli-Q sterilized water. The microorganisms are diluted with 10 mM phosphate buffer (PBS, pH 7.4) to 3.3×10^4 cfu/mL and incubated with serial dilutions of truncated peptides. Samples without peptides are considered as blanks. After 20 h (40 h for yeast) of incubation at 30 C, the MIC at which the lowest concentration of peptide inhibiting growth of the organisms is determined. Then the cultures are plated on appropriate agar and the minimum bactericidal concentration (MBC) value, which is the least concentration showing no bacterial growth after incubation at room temperature for 24-48 h, is recorded. All the values are averaged using three independent measurements[1].

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

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References:

[1]. Ma XW, et al.
A truncated
Sph12-38 with
potent
antimicrobial
activity showing
resistance
against bacterial
challenge in
Oryzias
melastigma. Fish
Shellfish
Immunol. 2017
Aug;67:561-570.

Background

Sphistin Synthetic Peptide (12-38, Fitc in N-Terminal-Fluorescently Labeled Peptide) is a truncated fragments of Sphistin Synthetic Peptide that shows potent antimicrobial activity.

Sphistin is a synthetic 38-amino acid H2A derived peptide from *Scylla paramamosain*. Sphistin Synthetic Peptide (12-38) shows a stronger activity with a much lower minimum inhibitory concentration (3 mM) against *Staphylococcus aureus*, *Corynebacterium glutamicum*, *Micrococcus lysodeikticus* Fleming, *Bacillus subtilis*, *Pseudomonas fluorescens*, *Aeromonas hydrophila* and *A. sobria* in comparison with the reported Sphistin. A leakage of intracellular content is described in *E. coli* treated with Sphistin Synthetic Peptide (12-38). Unlike Sphistin which mainly disrupts the membrane integrity, Sphistin Synthetic Peptide (12-38) could also combine the *A. sobria* genomic DNA with a minimum concentration of 6 mM and is located intracellularly in cells observed under confocal laser scanning microscope imaging[1].

In comparison with the control group of *Oryzias melastigma* injected with *A. sobria*

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alone, the group treated with a mixture of Synthetic Peptide (12-38) and *A. sobria* shows a higher survival rate 7 days post-injection. Furthermore, in a pretreatment assay at 6 h, a higher survival rate is observed in the group injected with the mixture of Synthetic Peptide (12-38) and *A. sobria*[1].

[1]. Ma XW, et al. A truncated Sph12-38 with potent antimicrobial activity showing resistance against bacterial challenge in *Oryzias melastigma*. *Fish Shellfish Immunol.* 2017 Aug;67:561-570.

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