

Sublancin

| | |
|-----------------------------|---|
| Cat. No.: | HY-P10230 |
| CAS No.: | 207410-26-2 |
| Molecular Formula: | C ₁₆₂ H ₂₅₄ N ₅₀ O ₅₁ S ₅ |
| Molecular Weight: | 3878.38 |
| Sequence: | Gly-Leu-Gly-Lys-Ala-Gln-Cys-Ala-Ala-Leu-Trp-Leu-Gln-Cys-Ala-Ser-Gly-Gly-Thr-Ile-Gly-{Cys(D-glucopyranosyl)}-Gly-Gly-Gly-Ala-Val-Ala-Cys-Gln-Asn-Tyr-Arg-Gln-Phe-Cys-Arg (disulfide bridge: Cys7-Cys36, Cys14-Cys29) |
| Sequence Shortening: | GLGKAQCAALWLQCASGGTIG-{Cys(D-glucopyranosyl)}-GGGAVACQNYRQFCR (disulfide bridge: Cys7-Cys36, Cys14-Cys29) |
| Target: | Bacterial |
| Pathway: | Anti-infection |
| Storage: | Please store the product under the recommended conditions in the Certificate of Analysis. |

BIOLOGICAL ACTIVITY

| | | | | | | | | | |
|--------------------|--|---------------|---|----------------|-------------|------------------|-----------------|---------|---|
| Description | Sublancin is an antimicrobial peptide, which inhibits DNA replication, transcription and translation, without affecting membrane integrity. Sublancin suppresses glucose uptake for the competition of phosphotransferase system (PTS). Sublancin inhibits <i>B. subtilis</i> strain 168 ΔSPβ with MIC of 0.312 μM ^{[1][2]} . | | | | | | | | |
| In Vitro | <p>Sublancin (0-500 μM, 24 h) inhibits methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) with MIC of 15 μM, and exhibits no cytotoxicity in RAW246.7 macrophage cells, mouse peritoneal macrophages, and human Caco-2 253 epithelial cells^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table> <tr> <td>Cell Line:</td> <td>RAW246.7, Caco-2, P-Mac</td> </tr> <tr> <td>Concentration:</td> <td>0-500 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h</td> </tr> <tr> <td>Result:</td> <td>Maintained cell viability.</td> </tr> </table> | Cell Line: | RAW246.7, Caco-2, P-Mac | Concentration: | 0-500 μM | Incubation Time: | 24 h | Result: | Maintained cell viability. |
| Cell Line: | RAW246.7, Caco-2, P-Mac | | | | | | | | |
| Concentration: | 0-500 μM | | | | | | | | |
| Incubation Time: | 24 h | | | | | | | | |
| Result: | Maintained cell viability. | | | | | | | | |
| In Vivo | <p>Sublancin (0.5-4 mg/kg, ip, single dose) ameliorates the MRSA infection in MRSA infected mice model through induction of IL-6 and MCP-1, attenuate the intestinal inflammation by inhibition of the NF-κB activation^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table> <tr> <td>Animal Model:</td> <td>Methicillin-resistant <i>Staphylococcus aureus</i> infected mice^[1]</td> </tr> <tr> <td>Dosage:</td> <td>0.5-4 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>ip, single dose</td> </tr> <tr> <td>Result:</td> <td>Improved the survival rate, reduced body weight loss.</td> </tr> </table> | Animal Model: | Methicillin-resistant <i>Staphylococcus aureus</i> infected mice ^[1] | Dosage: | 0.5-4 mg/kg | Administration: | ip, single dose | Result: | Improved the survival rate, reduced body weight loss. |
| Animal Model: | Methicillin-resistant <i>Staphylococcus aureus</i> infected mice ^[1] | | | | | | | | |
| Dosage: | 0.5-4 mg/kg | | | | | | | | |
| Administration: | ip, single dose | | | | | | | | |
| Result: | Improved the survival rate, reduced body weight loss. | | | | | | | | |

REFERENCES

[1]. Wang S, et al., Use of the Antimicrobial Peptide Sublancin with Combined Antibacterial and Immunomodulatory Activities To Protect against Methicillin-Resistant Staphylococcus aureus Infection in Mice. J Agric Food Chem. 2017 Oct 4;65(39):8595-8605.

[2]. Wu C, et al., Investigations into the Mechanism of Action of Sublancin. ACS Infect Dis. 2019 Mar 8;5(3):454-459.

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