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Zuschläge

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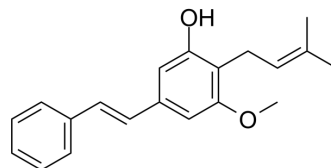
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Longistyline A

Cat. No.:	HY-N9690
CAS No.:	64095-60-9
Molecular Formula:	C ₂₀ H ₂₂ O ₂
Molecular Weight:	294.39
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Longistyline A (Longistylin A) is a natural stilbene, it can be isolated from leaves of <i>Cajanus cajan</i> . Longistyline A shows antimicrobial activity against MRSA with an MIC value of 1.56 µg/mL. Longistyline A shows neuroprotective effects, it can be used for the research of infection and nerve diseases ^{[1][2]} .								
IC₅₀ & Target	IC ₅₀ : 8.61 µg/mL (murine RAW264.7 cells) ^[2]								
In Vitro	<p>Longistyline A (4-16 µM/L; 48 h) reduces the corticosterone-induced neurotoxicity in PC12 cells^[1].</p> <p>Longistyline A can function as a membrane-targeting antibacterial agent by disturbing bacterial membrane potential and increasing the permeation^[2].</p> <p>Longistyline A (0-100 µg/mL) shows significant antimicrobial activity against tested Gram-positive bacteria, such as <i>B.cereus</i> CMCC63302 with MIC values of 25 µg/mL, <i>S.aureus</i> CMCC26003 with MIC values of 1.56 µg/mL, and both two strains of MRSA (JCSC4744 and JCSC4469) with MIC values of 1.56 µg/mL^[2].</p> <p>Longistyline A (24 h) shows cytotoxicity towards murine RAW264.7 cells with an IC₅₀ value of 8.61 µg/mL^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cytotoxicity Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>PC12 cell line</td> </tr> <tr> <td>Concentration:</td> <td>4, 8 and 16 µM/L</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Generated a neuroprotective effect against corticosterone-induced neurotoxicity in PC12 cells possibly by decreasing [Ca²⁺]_i and caspase-3 activity.</td> </tr> </table>	Cell Line:	PC12 cell line	Concentration:	4, 8 and 16 µM/L	Incubation Time:	48 hours	Result:	Generated a neuroprotective effect against corticosterone-induced neurotoxicity in PC12 cells possibly by decreasing [Ca ²⁺] _i and caspase-3 activity.
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In Vivo	<p>Longistyline A (10 µg dissolved in 50 µL PBS buffer; apply to the wound; for 30 min) improves wound healing, decreases MRSA bacterial survivals in the lesions and reduces inflammatory reaction in MRSA infected mice^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Female wound healing BALB/c mice with MRSA infection^[2]</td> </tr> <tr> <td>Dosage:</td> <td>10 µg</td> </tr> </table>	Animal Model:	Female wound healing BALB/c mice with MRSA infection ^[2]	Dosage:	10 µg				
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Dosage:	10 µg								

Administration:	Apply to the wound; 10 µg dissolved in 50 µL PBS buffer; 5 min after infection for 30 min
Result:	Showed a wound healing efficiency and significantly alleviated weight loss induced by MRSA infection. Reduced gram-positive microorganisms in vivo with a better effect than vancomycin. Reduced accumulation of immune cells at the injury site and alleviated induction of TNF-α and IL-6 in serum.

REFERENCES

- [1]. Jiang BP, et al. [Neuroprotective effect of longistyline A against corticosterone-induced neurotoxicity in PC12 cells]. Yao Xue Xue Bao. 2012 May;47(5):600-3.
- [2]. Wu J, et al. Longistylin A, a natural stilbene isolated from the leaves of *Cajanus cajan*, exhibits significant anti-MRSA activity. Int J Antimicrob Agents. 2020 Jan;55(1):105821.

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

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