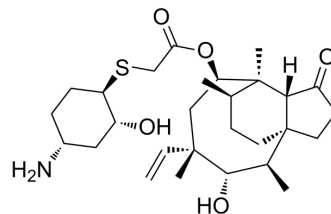


Lefamulin

Cat. No.:	HY-16908
CAS No.:	1061337-51-6
Molecular Formula:	C ₂₈ H ₄₅ NO ₅ S
Molecular Weight:	507.73
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Lefamulin (BC-3781) is an orally active antibiotic. Lefamulin inhibits protein synthesis by binding to the peptidyl transferase center of the 50S bacterial ribosome. Lefamulin has anti-inflammatory activity. Lefamulin can be used in the research of bacterial infections, such as bacterial pneumonia ^[1] .								
In Vitro	<p>Lefamulin (0-1 mg/L) shows inhibitory activity against <i>C. trachomatis</i>, <i>N. gonorrhoeae</i>, and <i>M. genitalium</i>^[2]. Lefamulin shows potent activity against all <i>M. pneumoniae</i> strains with MIC values of $\leq 0.008 \mu\text{g/mL}$^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td><i>C. trachomatis</i>, <i>N. gonorrhoeae</i>, and <i>M. genitalium</i></td> </tr> <tr> <td>Concentration:</td> <td>0-1 mg/L</td> </tr> <tr> <td>Incubation Time:</td> <td></td> </tr> <tr> <td>Result:</td> <td>Inhibited bacterial activity with MIC₅₀s of 0.02 mg/L, 0.063 mg/L and 0.12 mg/L respectively.</td> </tr> </table>	Cell Line:	<i>C. trachomatis</i> , <i>N. gonorrhoeae</i> , and <i>M. genitalium</i>	Concentration:	0-1 mg/L	Incubation Time:		Result:	Inhibited bacterial activity with MIC ₅₀ s of 0.02 mg/L, 0.063 mg/L and 0.12 mg/L respectively.
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In Vivo	<p>Lefamulin (10-140 mg/kg, s.c.) shows anti-inflammatory effect on LPS-induced lung neutrophilia mouse model^[4]. Lefamulin (1.25-160 mg/kg, s.c.) shows antibacterial effect in <i>S. pneumoniae</i> or <i>S. aureus</i> challenged lung infection mice^[5]. 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>LPS-induced lung neutrophilia mouse model^[4]</td> </tr> <tr> <td>Dosage:</td> <td>10-140 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Subcutaneous injection (s.c.)</td> </tr> <tr> <td>Result:</td> <td>Reduced BALF neutrophil cell counts. Reduced pro-inflammatory cytokine (TNF-α, IL-6, IL-1β, and GM-CSF), chemokine (CXCL-1, CXCL-2, and CCL-2) and MMP-9 levels in mouse lung tissue.</td> </tr> </table>	Animal Model:	LPS-induced lung neutrophilia mouse model ^[4]	Dosage:	10-140 mg/kg	Administration:	Subcutaneous injection (s.c.)	Result:	Reduced BALF neutrophil cell counts. Reduced pro-inflammatory cytokine (TNF- α , IL-6, IL-1 β , and GM-CSF), chemokine (CXCL-1, CXCL-2, and CCL-2) and MMP-9 levels in mouse lung tissue.
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- Antimicrob Agents Chemother. 2021 Jul 12;AAC0061921.

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