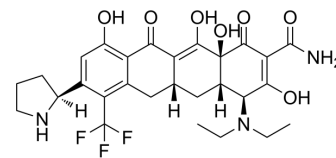


TP-6076

Cat. No.:	HY-148182
CAS No.:	1575495-01-0
Molecular Formula:	C ₂₈ H ₃₂ F ₃ N ₃ O ₇
Molecular Weight:	579.56
Target:	Antibiotic; Bacterial; Parasite
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	TP-6076 is a fully synthetic fluorocycline antibiotic, acts function via binding to the 30S ribosomal subunit and maintains its activity. TP-6076 displays potent mechanism-based antitranslational activity (Tet protein, IC ₅₀ =0.18 µg/mL), shows a wide range of antimicrobial and antiparasitic activities ^{[1][2]} .								
In Vitro	<p>TP-271 (0.01 ng/mL-100 µg/mL; 72 h) is active in MIC assays against key community respiratory Gram-positive and Gram-negative pathogens^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[2]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Streptococcus pneumoniae, Staphylococcus aureus, S. aureus, Streptococcus pyogenes, Haemophilus influenzae, and Moraxella catarrhalis</td> </tr> <tr> <td>Concentration:</td> <td>0.01 ng/mL-100 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>72 hours</td> </tr> <tr> <td>Result:</td> <td>Inhibited the growth of Streptococcus pneumoniae (MIC₉₀=0.03 µg/mL), methicillin-sensitive Staphylococcus aureus (MSSA; MIC₉₀=0.25 µg/mL), methicillin-resistant S. aureus (MRSA; MIC₉₀=0.12 µg/mL), Streptococcus pyogenes (MIC₉₀=0.03 µg/mL), Haemophilus influenzae (MIC₉₀=0.12 µg/mL), and Moraxella catarrhalis (MIC₉₀≤0.016 µg/mL).</td> </tr> </table>	Cell Line:	Streptococcus pneumoniae, Staphylococcus aureus, S. aureus, Streptococcus pyogenes, Haemophilus influenzae, and Moraxella catarrhalis	Concentration:	0.01 ng/mL-100 µg/mL	Incubation Time:	72 hours	Result:	Inhibited the growth of Streptococcus pneumoniae (MIC ₉₀ =0.03 µg/mL), methicillin-sensitive Staphylococcus aureus (MSSA; MIC ₉₀ =0.25 µg/mL), methicillin-resistant S. aureus (MRSA; MIC ₉₀ =0.12 µg/mL), Streptococcus pyogenes (MIC ₉₀ =0.03 µg/mL), Haemophilus influenzae (MIC ₉₀ =0.12 µg/mL), and Moraxella catarrhalis (MIC ₉₀ ≤0.016 µg/mL).
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In Vivo	<p>TP-6076 reduces the bacterial burden in the lung in murine pneumonia models with MRSA, S. pneumoniae, and H. influenzae (1, 5, and 10 mg/kg for i.v.; 12.5, 25, 50 mg/kg for p.o.; single dose), neutropenic murine S. pneumoniae tet(M) pneumonia model (1, 5, and 10 mg/kg for i.v.; 0.3, 3, 10 mg/kg for p.o.; single dose), and immunocompetent mouse S. pneumoniae pneumonia model (30 mg/kg for p.o.; single dose)^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								

REFERENCES

- [1]. Rusu A, et al. The Development of Third-Generation Tetracycline Antibiotics and New Perspectives. *Pharmaceutics*. 2021 Dec 5;13(12):2085.
- [2]. Grossman TH, et al. Fluorocycline TP-271 Is Potent against Complicated Community-Acquired Bacterial Pneumonia Pathogens. *mSphere*. 2017 Feb 22;2(1):e00004-17.

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