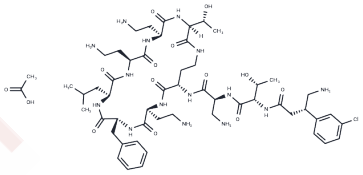
Data Sheet (Cat.No.T39983)

TargetMol

SPR206 acetate

Chemical Properties



CAS No. : 2408422-41-1

Formula: C52H82ClN15O12.xC2H4O2

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	SPR206 acetate is a polymyxin analog that exhibits antibiotic activity against Gram-negative pathogens, including multidrug-resistant (MDR) variants. By interacting with the outer membrane of the bacterium, SPR206 acetate efficiently combats bacterial infections, displaying significant efficacy with minimum inhibitory concentration (MIC) values of 0.125 mg/L against [Pseudomonas aeruginosa Pa14] and [Acinetobacter baumannii NCTC13301].
Targets(IC50)	Others,Antibacterial,Antibiotic
In vitro	SPR206 demonstrates potent anti-microbial activity against Gram-negative bacteria, displaying Minimum Inhibitory Concentration (MIC) values of 8 mg/L for E. coli IHMA558090, 0.125 mg/L for E. coli ATCC 25922, 0.125 mg/L for K. pneumoniae ATCC 13882, 0.25 mg/L for P. aeruginosa ATCC 27853, 0.06 mg/L for A. baumannii NCTC13424, and 0.125 mg/L for A. baumannii ATCC 19003. This is coupled with reduced cytotoxicity [1].
In vivo	Treatment with SPR206 administered at dosages ranging from 0.125 to 30 mg/kg, either through intravenous or subcutaneous injection every 4 or 8 hours over a period of 16 to 24 hours, was found to effectively reduce the burden of Pa14 and NCTC13301 in the lung tissue and thigh model of neutropenic mice. Specifically, in the lung tissue, SPR206 reduced the concentrations of Pa14 and NCTC13301 by 1.5 and 3.6 log10 CFU/mL, respectively. In the thigh model, it decreased the concentration of Ab13301 by 3.4 and 4.3 log10 CFU/g. This demonstrates SPR206's potential efficacy in treating infections caused by these pathogens in neutropenic mouse models.

Reference

Brown P, et al. Design of Next Generation Polymyxins with Lower Toxicity: The Discovery of SPR206. ACS Infect Dis. 2019 Oct 11;5(10):1645-1656.

L. Grosser, et al. In Vivo Efficacy of SPR206 in Murine Lung and Thigh Infection Models Caused by Multidrug Resistant Pathogens Pseudomonas aeruginosa and Acinetobacter baumanii. Poster-139 ASM ESCMID 2018 Lisbon, Portugal.

Noushin Akhoundsadegh, et al. Outer Membrane Interaction Kinetics of New Polymyxin B Analogs in Gram-Negative Bacilli. Antimicrob Agents Chemother. 2019 Sep 23;63(10):e00935-19.

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