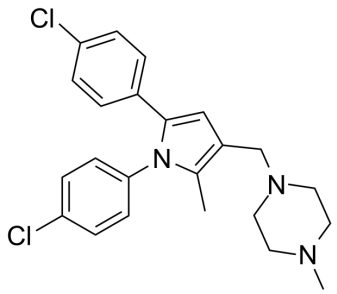
BM212

Cat. No.:	HY-100725
CAS No.:	146204-42-4
Molecular Formula:	$C_{23}H_{25}Cl_2N_3$
Molecular Weight:	414.37
Target:	Bacterial
Pathway:	Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 5.56 mg/mL (13.42 mM; Need ultrasonic)

DMSO : 5 mg/mL (12.07 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4133 mL	12.0665 mL	24.1330 mL
5 mM	0.4827 mL	2.4133 mL	4.8266 mL
10 mM	0.2413 mL	1.2067 mL	2.4133 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.56 mg/mL (1.35 mM); Clear solution
2. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.56 mg/mL (1.35 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 0.56 mg/mL (1.35 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.5 mg/mL (1.21 mM); Clear solution
5. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.5 mg/mL (1.21 mM); Clear solution
6. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.5 mg/mL (1.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description	BM212 is a potent Mycobacterial membrane protein Large 3 (MmpL3) inhibitor. BM212 has strong bactericidal activity against both M. tuberculosis and some nontuberculosis mycobacteria. BM212 exhibits antimycobacterial activity against M. tuberculosis H37Rv with an MIC of 5 μM[1][2].
IC_{50} & Target	M. tuberculosis[1]
In Vitro	BM212 (2 μg/mL and 8 μg/mL) leads to major structural changes in the cell of M. abscessus CIP104536T S and R variants and results in the complete loss of the hydrophobic nanodomains observed on S cells but no significantly affect on R cells at dose of 2 μg/mL[3]. BM212 (0.5-10 μg/mL, 7 days) inhibits the activity of Mycobacterium avium in U937 cells in a dose-dependent manner with a MIC of 0.5 μg/mL and 100% inhibition starting at a concentration of 1 μg/mL[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nanoscale Horiz. 2020 Jun 1;5(6):944-953.
- ACS Infect Dis. 2020 Dec 15.
- Advanced Biochemistry, University of Madras, American.2019, Jan

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REFERENCES

[1]. Albertus Viljoen, et al. Fast chemical force microscopy demonstrates that glycopeptidolipids define nanodomains of varying hydrophobicity on mycobacteria. Nanoscale Horiz. 2020 Jun 1;5(6):944-953.

[2]. Delia Deidda, et al. Bactericidal activities of the pyrrole derivative BM212 against multidrug-resistant and intramacrophagic Mycobacterium tuberculosis strains. Antimicrob Agents Chemother. 1998 Nov;42(11):3035-7.

[3]. Poce G et al. Improved BM212 MmpL3 inhibitor analogue shows efficacy in acute murine model of tuberculosis infection. PLoS One. 2013;8(2)

[4]. Deidda D et al. Bactericidal activities of the pyrrole derivative BM212 against multidrug-resistant and intramacrophagic Mycobacterium tuberculosis strains. Antimicrob Agents Chemother. 1998 Nov;42(11):3035-7.

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