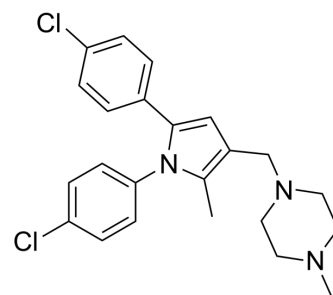


## BM212

<b>Cat. No.:</b>	HY-100725		
<b>CAS No.:</b>	146204-42-4		
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>25</sub> Cl <sub>2</sub> N <sub>3</sub>		
<b>Molecular Weight:</b>	414.37		
<b>Target:</b>	Bacterial		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	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 Concentration	Mass		
		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

- 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
- 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
- Add each solvent one by one: 10% EtOH >> 90% corn oil  
Solubility: ≥ 0.56 mg/mL (1.35 mM); Clear solution
- 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
- 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
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 0.5 mg/mL (1.21 mM); Clear solution

### BIOLOGICAL ACTIVITY

<b>Description</b>	BM212 is a potent Mycobacterial membrane protein Large 3 (MmpL3) inhibitor. BM212 has strong bactericidal activity against both <i>M. tuberculosis</i> and some nontuberculosis mycobacteria. BM212 exhibits antimycobacterial activity against <i>M. tuberculosis</i> H37Rv with an MIC of 5 $\mu\text{M}$ <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	<i>M. tuberculosis</i> <sup>[1]</sup>
<b>In Vitro</b>	BM212 (2 $\mu\text{g}/\text{mL}$ and 8 $\mu\text{g}/\text{mL}$ ) leads to major structural changes in the cell of <i>M. abscessus</i> 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 $\mu\text{g}/\text{mL}$ <sup>[3]</sup> . BM212 (0.5-10 $\mu\text{g}/\text{mL}$ , 7 days) inhibits the activity of <i>Mycobacterium avium</i> in U937 cells in a dose-dependent manner with a MIC of 0.5 $\mu\text{g}/\text{mL}$ and 100% inhibition starting at a concentration of 1 $\mu\text{g}/\text{mL}$ <sup>[4]</sup> . 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.

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

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