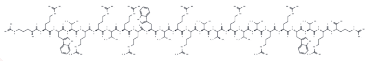
Data Sheet (Cat.No.TP3849)

TargetMol

WLBU2

Chemical Properties



CAS No. : 847061-43-2

Formula: C151H260N66O25

Molecular Weight: 3400.11

Storage: Keep away from moisture
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	WLBU2 is an engineered cationic antimicrobial peptide (eCAP) designed to overcome the sensitivity issues of natural antimicrobial peptides (AMPs) in various environments. WLBU2 exhibits rapid bactericidal activity and has a minimum inhibitory concentration (MIC) value of ≤ 10 μM against numerous Gram-positive and Gram-negative bacteria, including methicillin-resistant Staphylococcus aureus, vancomycin-resistant Enterococci, Klebsiella pneumoniae, Enterobacter aerogenes, Enterobacter cloacae, and Escherichia coli. It effectively prevents biofilm formation by Pseudomonas aeruginosa and retains its activity in mucus-rich, low pH, and high salt conditions, without adverse effects on human respiratory epithelial cells. Additionally, WLBU2 is applicable for studying cystic fibrosis (CF) and Pseudomonas aeruginosa infections.
Targets(IC50)	Antibacterial
In vitro	WLBU2 inhibits biofilm formation of Pseudomonas aeruginosa on non-biological surfaces and human cystic fibrosis airway epithelial cells (CFAECs) at concentrations of 5-90 μM for 24 hours on abiotic surfaces and 10-100 μM for 5 hours on CFAECs. At a concentration of 50 μM for 5 hours, it retains biofilm prevention efficacy in environments with high salt (100 mM NaCl) and low pH (6.5-7.0). When used at 20 μM for 5 hours in CFAECs, WLBU2 shows a synergistic effect with Tobramycin, Ciprofloxacin, Ceftazidime, and Meropenem, but not with Colistin. The MIC of WLBU2 for Klebsiella pneumoniae is 7.943 μM, and for clinical isolates of Acinetobacter baumannii, it is 7.484 μM. Additionally, the MBC values for bacterial isolates are the same as their MIC values, suggesting its bactericidal properties.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.2941 mL	1.4705 mL	2.9411 mL
5 mM	0.0588 mL	0.2941 mL	0.5882 mL
10 mM	0.0294 mL	0.1471 mL	0.2941 mL
50 mM	0.0059 mL	0.0294 mL	0.0588 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.