

LL-37, Human acetate(154947-66-7 free base)

Chemical Properties

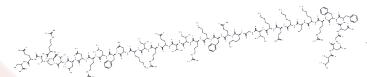
CAS No. :

Formula: C207H344N60O55

Molecular Weight: 4553.31

Storage: Keep away from moisture,Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

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| Description | LL-37, Human acetate(154947-66-7 free base) is a 37-residue, amphipathic, cathelicidin-derived antimicrobial peptide. LL-37, Human acetate (154947-66-7 free base) exhibits multiple activities including antimicrobial, immunomodulatory, chemotactic, wound-healing, antiviral, and antitumor effects. LL-37, Human acetate (154947-66-7 free base) helps protect the cornea from infection and regulates wound healing. |
| Targets(IC50) | Antibacterial |
| In vitro | <p>Methods: A suspension of <i>Pseudomonas aeruginosa</i> (PA) was treated with LL-37, Human acetate(154947-66-7 free base) (0.05-100 µg/mL), incubated with shaking at 37°C for 2 hours, and then colony counts were performed.</p> <p>Results: LL-37, Human acetate (154947-66-7 free base) effectively killed the bacteria, with an EC₅₀ of 2.8 ± 1.3 µg/mL. [1]</p> <p>Methods: Human primary corneal epithelial cells (P-HCEC) were treated with LL-37, Human acetate (154947-66-7 free base) (0.1-20 µg/mL) were added to the lower chamber (blind chemotaxis chamber), treated for 16 h, and cell migration was counted under high-power magnification after staining the migration membrane.</p> <p>Results: LL-37, Human acetate (154947-66-7 free base) significantly induced cell migration, with the maximum migration concentration at 5 µg/mL. [1]</p> <p>Methods: Human airway epithelial BEAS-2B cells were infected with rhinovirus RV1B at a 0.15 MOI and treated with 4 µM LL-37 for 24 or 48 h. IFNβ expression and RV viral load were detected using qPCR, ELISA, and dot blot.</p> <p>Results: LL-37 increased RV-induced IFNβ mRNA expression by approximately 6-fold and reduced RV viral load by approximately 40%, without significantly altering IFNβ protein levels. [3]</p> <p>Methods: BEAS-2B cells were loaded with the Ca²⁺ fluorescent probe Fluo-4 AM and treated with 4 µM LL-37; intracellular Ca²⁺ fluorescence was continuously monitored for 40 min.</p> <p>Results: LL-37 significantly increased intracellular Ca²⁺ concentrations in BEAS-2B cells, with levels approximately 70% higher than the control group at 40 min.[3]</p> |
| In vivo | <p>Methods: Mice with MRSA pneumonia were administered 0-2 mg/kg of LL-37, Human acetate(154947-66-7 free base) via endotracheal instillation. Effective doses were identified 24 hours later based on lung tissue histopathology scores.</p> |

A DRUG SCREENING EXPERT

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| In vivo | Results: The effective dose of LL-37, Human acetate was 0.8 mg/kg; doses >2 mg/kg provided no protective effect and were toxic. [2] |
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Solubility Information

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| Solubility | DMSO: Insoluble, H2O: 25.8 mg/mL (5.67 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
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Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|-----------|-----------|
| 1 mM | 0.2196 mL | 1.0981 mL | 2.1962 mL |
| 5 mM | 0.0439 mL | 0.2196 mL | 0.4392 mL |
| 10 mM | 0.022 mL | 0.1098 mL | 0.2196 mL |
| 50 mM | 0.0044 mL | 0.022 mL | 0.0439 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.

Reference

Huang LC, et al. Multifunctional roles of human cathelicidin (LL-37) at the ocular surface. Invest Ophthalmol Vis Sci. 2006 Jun;47(6):2369-80.

Hou M, et al. Antimicrobial peptide LL-37 and IDR-1 ameliorate MRSA pneumonia in vivo. Cell Physiol Biochem. 2013;32(3):614-23.

Cerps S, et al. Antimicrobial peptide LL-37 increases rhinovirus-induced interferon β expression in human airway epithelial cells through a Ca²⁺-dependent mechanism. Biochem Biophys Res Commun. 2025 Jun 21;43:102105. Published 2025 Jun 21.

Dürr UH, et al. LL-37, the only human member of the cathelicidin family of antimicrobial peptides. Biochim Biophys Acta. 2006 Sep;1758(9):1408-25.

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