

## LL-37, Human TFA

## Chemical Properties

CAS No. :

Formula: C205H340N60O53.C2HF3O2

Molecular Weight: 4607.28

Keep away from moisture

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	LL-37, Human TFA (154947-66-7 free base) is a 37-residue amphipathic helical peptide, the sole human cathelicidin antimicrobial peptide exhibiting moderate antibacterial activity against diverse Gram-negative and Gram-positive bacteria. LL-37, Human TFA binds to negatively charged bacterial membranes, disrupting cellular integrity. It also induces cellular immunomodulation, migration, proliferation, and differentiation, possesses anti-biofilm potential, and inhibits gastric cancer carcinogenesis.
Targets(IC50)	Antibacterial
In vitro	<b>Methods:</b> HCECs were treated with LL-37, Human TFA (1-20 µg/mL, 24 h) to investigate the effect of LL-37 on cell migration. <b>Results:</b> LL-37, Human TFA dose-dependently promoted HCECs migration but had no effect on cell proliferation. [2]
In vivo	<b>Methods:</b> LL-37, Human TFA (0.4-2.0 mg/kg, single dose) was administered via intratracheal injection to C57BL/6 mice to investigate the effects of LL-37 in an MRSA-induced pneumonia model. <b>Results:</b> LL-37 alleviated MRSA-induced inflammatory response by reducing the expression of IL-6 and TNF-α in vivo.[3]

## Solubility Information

Solubility	H2O: 80 mg/mL (17.36 mM),Sonication is recommended. DMSO: 40 mg/mL (8.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	0.217 mL	1.0852 mL	2.1705 mL
5 mM	0.0434 mL	0.217 mL	0.4341 mL
10 mM	0.0217 mL	0.1085 mL	0.217 mL
50 mM	0.0043 mL	0.0217 mL	0.0434 mL

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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

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.

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.

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