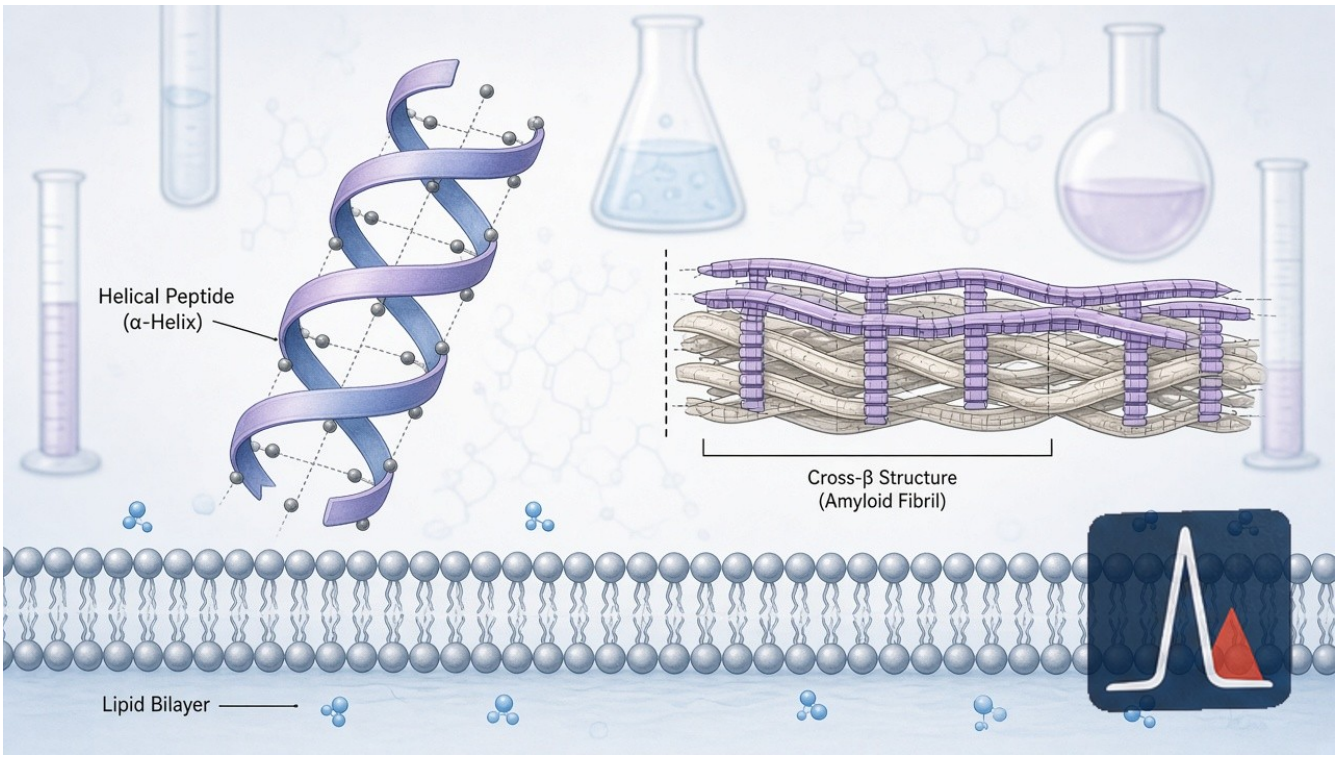
Published laboratory reports on LL-37 and related sequences

21 October 2026

Indexed 2025 papers reported in vitro findings on LL-37, truncated fragments, and a designed derivative, plus a review of modification strategies. No clinical outcomes were stated in the records used here.



Researchers reviewing LL-37 will find four 2025 indexed reports below. Each statement is limited to what the paper reported.

A biophysical study (in vitro) reported that LL-37 and three truncated fragments formed hetero-oligomers and nanoclusters with amyloid-β40, inhibited Aβ40 fibrillation, and differed in effects on nucleation, elongation, and cluster size. Limitation: the record used here is an indexed abstract of cell-free, scale-dependent aggregation assays, not a clinical study; fragment-specific results were not presented as findings for intact LL-37 alone.

A laboratory study (in vitro) reported that a designed cathelicidin- and defensin-related antimicrobial peptide bound bacterial lipid membranes, disrupted membranes in leakage assays, and showed lower minimum inhibitory concentrations and faster bactericidal kinetics than parent LL-37 against multidrug-resistant Escherichia coli and ESKAPE strains. Limitation: assays were in vitro; the tested sequence was a designed derivative, not unmodified LL-37; the abstract did not report clinical outcomes.

A cell-based study (in vitro) reported that, among eight cathelicidin-derived peptides screened computationally and tested on colon cancer cell lines, LL-37 and FK-16 were the leading candidates and LL-37 showed the strongest inhibitory effects on HT-29 and SW-620 cells.

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Limitation: virtual screening plus cultured-cell assays; the abstract did not report animal-model or clinical outcomes for anticancer activity.

A 2025 review reported that human cathelicidin LL-37 has been studied for antimicrobial and immunomodulatory activity and summarized chemical and structural modification strategies intended to change properties of LL-37-related peptides. Limitation: narrative review, not a new primary experiment; modification strategies are not a clinical result.

Sources

• LL-37 and Its Truncated Fragments Modulate Amyloid-β Dynamics, Aggregation and Toxicity Through Hetero-Oligomer and Cluster Formation (2025). https://doi.org/10.1002/anie.202516241
• Biophysical and transcriptomic characterization of LL-37-derived antimicrobial peptide targeting multidrug-resistant Escherichia coli and ESKAPE pathogens (2025). https://doi.org/10.1038/s41598-025-22890-7
• Virtual Screening of Cathelicidin-Derived Anticancer Peptides and Validation of Their Production in the Probiotic Limosilactobacillus fermentum KUB-D18 Using Genome-Scale Metabolic Modeling and Experimental Approaches (2025). https://doi.org/10.3390/ijms262010077
• Antimicrobial Peptides of the Cathelicidin Family: Focus on LL-37 and Its Modifications (2025). https://pubmed.ncbi.nlm.nih.gov/40869425/

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