

PRODUCT INFORMATION



Citrullinated LL-37 Peptide

Item No. 30987

Overview and Properties

Contents:	This vial contains 1 mg of lyophilized peptide.
Synonym:	Citrullinated Antibacterial Peptide LL-37
Peptide Sequence:	LLGDFFXKSKEKIGKEFKXIVQXIKDFLXNLVPXTES (X=Citrulline)
Uniprot No.:	PR26155
Molecular Weight:	4,497.2
Form:	Solid
Storage:	-20°C (as supplied)
Stability:	≥3 years

Description

LL-37 is a cationic α -helical peptide expressed in human bone marrow, testis, granulocytes, and gingival epithelium and a variety of immune cells.¹ It has antimicrobial and antiviral activity, and protein levels of LL-37 are increased in epithelial cells, macrophages, and neutrophils following bacterial infection *in vitro*.¹⁻⁴ LL-37 can be citrullinated by protein arginine deiminase 2 (PAD2) and PAD4, a modification that reduces its antibacterial and antiviral activities.⁵ Citrullinated, unlike native, LL-37 does not prevent mortality in a mouse model of D-galactosamine-sensitized endotoxic shock.⁶ Citrullinated LL-37 has been found in neutrophil extracellular traps (NETs), as well as the serum of patients with rheumatoid arthritis (RA) and individuals without RA.⁷

References

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2. Rivas-Santiago, B., Hernandez-Pando, R., Carranza, C., *et al.* Expression of cathelicidin LL-37 during Mycobacterium tuberculosis infection in human alveolar macrophages, monocytes, neutrophils, and epithelial cells. *Infect. Immun.* **76(3)**, 935-941 (2008).
3. Gudmundsson, G.H., Agerberth, B., Odeberg, J., *et al.* The human gene FALL39 and processing of the cathelin precursor to the antibacterial peptide LL-37 in granulocytes. *Eur. J. Biochem.* **238(2)**, 325-332 (1996).
4. Ishiyama, M., Shiga, M., Sasamoto, K., *et al.* A new sulfonated tetrazolium salt that produces a highly water-soluble formazan dye. *Chem. Pharm. Bull.* **41(6)**, 1118-1122 (1993).
5. Casanova, V., Sousa, F.H., Shakamuri, P., *et al.* Citrullination alters the antiviral and immunomodulatory activities of the human cathelicidin LL-37 during rhinovirus infection. *Front. Immunol.* **11**, 85 (2020).
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WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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