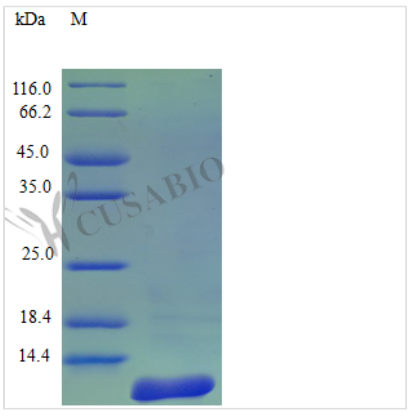
Recombinant Human C-C motif chemokine 27 protein (CCL27) (Active)

Product Code	CSB-AP001001HU
Abbreviation	Recombinant Human CCL27 protein (Active)
Uniprot No.	Q9Y4X3
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, pH 7.4
Product Type	Chemokine
Immunogen Species	Homo sapiens (Human)
Biological Activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using CCR10 transfected BaF3 cells is in a concentration range of 10-100 ng/ml.
Purity	>96% as determined by SDS-PAGE.
Sequence	FLLPPSTACC TQLYRKPLSD KLLRKVIQVE LQEADGDCHL QAFVLHLAQR SICIHPQNPS LSQWFEHQER KLHGTLPKLN FGMLRKMG
Research Area	Immunology
Source	E.coli
Target Names	CCL27
Expression Region	25-112aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	Tag-Free
Mol. Weight	10.1 kDa
Protein Length	Full Length of Mature Protein
PubMed ID	10556532; 10588729; 10725697; 20200157

Image



Description

Recombinant Human C-C motif chemokine 27 protein (CCL27) is produced in an E. coli expression system, spanning the full mature protein from amino acids 25 to 112. This tag-free protein maintains a high purity level of over 96% as verified by SDS-PAGE analysis. It displays significant biological activity, confirmed via a chemotaxis bioassay with CCR10 transfected BaF3 cells, within a concentration range of 10-100 ng/ml. The endotoxin level is controlled to less than 1.0 EU/μg, as determined by the LAL method.

CCL27 appears to function as a chemokine within the immune system's signaling networks. It likely plays a critical role in directing immune cell movement toward inflammation sites, particularly affecting skin tissue where it interacts with the receptor CCR10. Understanding CCL27 may be vital for researchers investigating immune response mechanisms and potential therapeutic targets in inflammatory conditions.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. CCR10 Receptor Binding and Signaling Studies

This recombinant CCL27 protein can investigate the binding kinetics and signaling pathways mediated by the CCR10 receptor in transfected cell lines. The confirmed biological activity in CCR10-transfected BaF3 cells at 10-100 ng/ml concentrations makes it suitable for dose-response studies and receptor characterization experiments. Researchers might use this protein to study downstream signaling cascades, including calcium mobilization assays and cAMP measurements in CCR10-expressing cells.

2. Chemotaxis and Cell Migration Assays

The demonstrated chemotactic activity suggests this CCL27 protein could serve as an excellent tool for studying directional cell migration in vitro. Transwell migration assays, Boyden chamber experiments, or microfluidic devices may be used to analyze the migratory behavior of CCR10-positive cells, including skin-homing T cells and other immune cell populations. The defined active concentration range provides a reliable starting point for establishing optimal experimental conditions.

3. Antibody Development and Validation

This high-purity, tag-free CCL27 protein serves as what appears to be an ideal antigen for generating and validating anti-CCL27 antibodies. The >96% purity and low endotoxin levels make it suitable for immunization protocols and subsequent antibody screening assays. The protein can also function as a positive control in ELISA, Western blot, and immunoprecipitation experiments to

validate antibody specificity and sensitivity.

4. Protein-Protein Interaction Studies

The biologically active CCL27 protein can be applied in binding assays to identify and characterize interactions with potential binding partners beyond CCR10. Surface plasmon resonance, bio-layer interferometry, or co-immunoprecipitation experiments may be performed to study binding affinities and kinetics with various proteins. The tag-free nature eliminates potential interference from fusion tags in these interaction studies.

5. Structure-Function Relationship Analysis

This recombinant CCL27 protein can serve as a reference standard for comparative studies with mutant or modified versions of the chemokine. Researchers might use it alongside engineered variants to assess how specific amino acid changes affect biological activity, receptor binding, or protein stability. The well-characterized activity profile provides a baseline for evaluating the functional consequences of structural modifications.

Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.