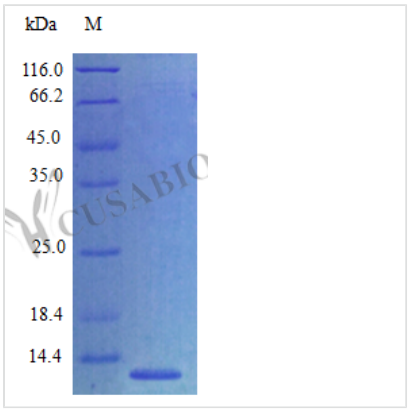
Recombinant Mouse C-C motif chemokine 27 protein (Ccl27) (Active)

Product Code	CSB-AP001381MO
Abbreviation	Recombinant Mouse Ccl27 protein (Active)
Uniprot No.	Q9Z1X0
Storage Buffer	0.2 μm filtered PBS, pH 7.4 ,lyophilized
Product Type	Chemokines
Immunogen Species	Mus musculus (Mouse)
Biological Activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human peripheral blood lymphocytes is in a concentration range of 10-100 ng/ml.
Purity	>98% as determined by SDS-PAGE.
Sequence	LPLPSSTSCC TQLYRQPLPS RLLRRIVHME LQEADGDCHL QAVVLHLARR SVCVHPQNRS LARWLERQGK RLQGTVPSLN LVLQKKMYSN PQQQN
Research Area	Immunology
Source	E.Coli
Target Names	Ccl27
Expression Region	26-120aa
Tag Info	Tag-Free
Mol. Weight	10.9 kDa
Protein Length	Full Length of Mature Protein
PubMed ID	10329455; 10556532; 10588729; 16141072; 15489334; 10559234; 12133963

Image



Description

Recombinant Mouse C-C motif chemokine 27 protein (Ccl27) is produced in E. coli and represents the full length of the mature protein, spanning amino acids 26 to 120. This product comes without tags, which should minimize interference

in experimental work. The protein appears to have a purity of over 98% based on SDS-PAGE analysis. It shows full biological activity, with activity confirmed through a chemotaxis bioassay using human peripheral blood lymphocytes at concentrations between 10-100 ng/ml. Endotoxin levels stay below 1.0 EU/μg, as measured by the LAL method.

C-C motif chemokine 27, also known as Ccl27, seems to play an important role in immune responses, mainly by directing cell movement through chemotaxis. This protein appears to help recruit specific immune cells to inflamed areas, contributing to the body's defense systems. Ccl27 may be particularly valuable for studies examining immune signaling pathways and inflammation, potentially offering insights into how cells communicate and respond in different research settings.

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. Chemotaxis Assay Development and Optimization

This recombinant mouse Ccl27 protein works well as a positive control and reference standard in chemotaxis assays that examine lymphocyte migration patterns. The confirmed biological activity within the 10-100 ng/ml range using human peripheral blood lymphocytes gives researchers a reliable concentration window for experimental design. Scientists can use this protein to establish baseline chemotactic responses and compare how other chemokine variants or mutants perform. The high purity (>98%) and low endotoxin levels make it appropriate for delicate cell-based migration studies.

2. Receptor Binding and Interaction Studies

The biologically active Ccl27 protein works in binding assays to study its interaction with chemokine receptors on different cell types. Researchers can apply this protein in competitive binding experiments, receptor saturation studies, and kinetic analysis to better understand receptor-ligand interactions. Since the protein lacks fusion tags, there's less concern about interference that might affect natural binding properties. These studies may help clarify the molecular mechanisms behind Ccl27-mediated cellular responses.

3. Antibody Development and Validation

This highly pure recombinant mouse Ccl27 works as an immunogen for creating specific antibodies or as a standard for testing existing ones. The protein can be used in ELISA development, Western blot optimization, and immunoassay standardization procedures. Researchers developing detection methods for endogenous Ccl27 in mouse tissues or cell culture systems can rely on this recombinant protein to establish detection limits and specificity parameters. The

confirmed biological activity suggests that antibodies developed against this protein should recognize the native, functional form of the chemokine.

4. Structure-Function Relationship Studies

The recombinant Ccl27 protein can be used in biochemical analyses to explore how protein structure relates to chemotactic function. Researchers can use this protein as a reference when studying how amino acid modifications, truncations, or chemical changes affect chemokine activity. The defined expression region (26-120aa) representing the full-length mature protein offers a well-characterized starting point for mutagenesis studies. Comparing results with modified variants might reveal which residues or domains are essential for biological activity.

5. Cell Culture Medium Supplementation for Migration Studies

This biologically active Ccl27 protein can supplement cell culture media in controlled migration experiments with immune cells. Researchers studying lymphocyte trafficking, immune cell recruitment, or inflammatory responses can add defined concentrations of this protein to create chemotactic gradients in vitro. The established activity range of 10-100 ng/ml provides guidance for dose-response studies examining cellular migration patterns. The low endotoxin content helps ensure that observed cellular responses result specifically from Ccl27 activity rather than contaminating inflammatory stimuli.

Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
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.