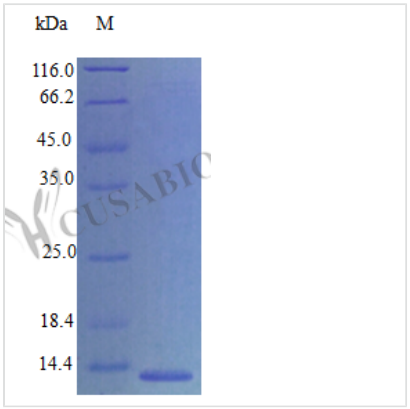
Recombinant Mouse C-C motif chemokine 21c protein (Ccl21c) (Active)

Product Code	CSB-AP001341MO
Abbreviation	Recombinant Mouse Ccl21c protein (Active)
Uniprot No.	P86793
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered PBS, pH 7.4
Product Type	Chemokine
Immunogen Species	Mus musculus (Mouse)
Biological Activity	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using murine T-lymphocytes is in a concentration range of 10-100 ng/ml.
Purity	>97% as determined by SDS-PAGE.
Sequence	SDGGGQDCCL KYSQKKIPYS IVRGYRKQEP SLGCPIPAIL FLPRKHSKPE LCANPEEGWV QNLMRRLDQP PAPGKQSPGC RKNRGTSKSG KKGKGSKGCK RTEQTQPSRG
Research Area	Immunology
Source	E.coli
Target Names	Ccl21c
Expression Region	24-133aa
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	12.1 kDa
Protein Length	Full Length of Mature Protein
PubMed ID	11123313; 19468303; 15489334; 9419363
Image	

Description

Recombinant Mouse C-C motif chemokine 21c protein (Ccl21c) is produced in an E. coli expression system, covering the full length of the mature protein from amino acids 24 to 133. This tag-free protein achieves purity levels exceeding 97% as determined by SDS-PAGE and maintains endotoxin levels below 1.0 EU/μg as measured by the LAL method. The protein demonstrates full biological activity, effectively promoting chemotaxis in murine T-lymphocytes at concentrations ranging from 10-100 ng/ml.

C-C motif chemokine 21c protein appears to play a critical role in immune response regulation. It guides lymphocyte movement to lymphoid tissues—a key function in adaptive immunity. Ccl21c is likely essential for research focused on understanding cellular migration and immune cell trafficking, which may make it valuable for immunology studies and related fields.

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. T-lymphocyte Chemotaxis Assays

This recombinant Ccl21c protein works well as a positive control or standard in chemotaxis assays studying T-lymphocyte migration patterns. The confirmed biological activity in the 10-100 ng/ml concentration range makes it suitable for dose-response studies examining T-cell directional migration. Scientists can apply this protein to investigate the molecular mechanisms underlying lymphocyte trafficking and to validate experimental chemotaxis systems. High purity levels (>97%) and low endotoxin content ensure reliable and reproducible results in cell-based migration assays.

2. Chemokine Receptor Binding Studies

Biologically active Ccl21c protein serves as a ligand in receptor binding assays to characterize chemokine receptor interactions. Scientists can apply this protein in competitive binding experiments or saturation binding studies to determine receptor affinity and specificity. The tag-free nature eliminates potential interference from fusion tags that might affect receptor binding kinetics. These studies may contribute to understanding chemokine-receptor signaling pathways and receptor pharmacology in mouse models.

3. Antibody Development and Validation

This high-purity recombinant Ccl21c protein works as an immunogen for generating specific antibodies against mouse Ccl21c or as a standard for antibody validation experiments. The full-length mature protein sequence (24-133aa) provides the complete antigenic profile for comprehensive antibody

screening. Scientists can apply this protein in ELISA-based assays, Western blot validation, or immunoprecipitation experiments to characterize antibody specificity and sensitivity. Low endotoxin content makes it suitable for immunization protocols in antibody production workflows.

4. Protein-Protein Interaction Studies

Recombinant Ccl21c protein can be applied in biochemical assays to identify and characterize protein interactions involved in chemokine signaling networks. Scientists may use this protein in pull-down assays, surface plasmon resonance experiments, or co-immunoprecipitation studies to map molecular interactions. High purity and biological activity suggest that observed interactions reflect physiologically relevant binding events. These studies can help elucidate the molecular basis of chemokine function and identify novel regulatory proteins in lymphocyte signaling pathways.

5. Preclinical Research Models

Biologically active Ccl21c protein can be used in preclinical mouse studies to investigate immune cell recruitment and inflammatory responses. Scientists can administer the protein in controlled concentrations to study its effects on lymphocyte distribution and tissue infiltration patterns. The confirmed activity range provides a starting point for dose optimization in various experimental models. Such studies may contribute to understanding the role of Ccl21c in immune system function and inflammatory disease mechanisms in mouse models.

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.