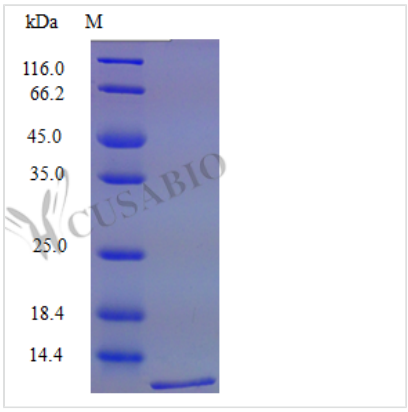
Recombinant Mouse C-X-C motif chemokine 16 protein (Cxcl16), partial (Active)

Product Code	CSB-AP001191MO
Abbreviation	Recombinant Mouse Cxcl16 protein, partial (Active)
Uniprot No.	Q8BSU2
Storage Buffer	0.2 μm filtered PBS, 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 murine lymphocytes is in a concentration of 20-1000 ng/ml.
Purity	>98% as determined by SDS-PAGE.
Sequence	NQGSVAGSCS CDRTISSGTQ IPQGTLDHIR KYLKAFHRCP FFIRFQLQSK SVCGGSQDQW VRELVDCFER KECGTGHGKS FHHQKHLP
Research Area	Immunology
Source	E.Coli
Target Names	Cxcl16
Expression Region	27-114aa
Tag Info	Tag-Free
Mol. Weight	9.9 kDa
Protein Length	Partial
PubMed ID	11017100; 11060282; 16141072; 19468303; 15489334; 20675388

Image



Description

Recombinant Mouse C-X-C motif chemokine 16 protein (Cxcl16) is produced in E. coli and spans amino acids 27-114, representing a partial-length, tag-free protein. SDS-PAGE analysis shows purity exceeding 98%. The protein

demonstrates full biological activity, which was confirmed through chemotaxis bioassays using murine lymphocytes at concentrations ranging from 20-1000 ng/ml. Endotoxin levels remain below 1.0 EU/μg according to LAL methodology.

Cxcl16 functions as a chemokine that appears to play a significant role in immune response regulation. The protein primarily attracts T cells and natural killer cells through its chemotactic activity. Research suggests Cxcl16 may also participate in various signaling pathways linked to inflammation and immune surveillance. Its research value stems largely from studies examining immune system dynamics and inflammatory mechanisms.

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. Lymphocyte Chemotaxis Assays

This recombinant mouse Cxcl16 protein works well for studying lymphocyte migration patterns in vitro through transwell or microfluidic chemotaxis chambers. The validated biological activity within the 20-1000 ng/ml range offers researchers a reliable concentration window for dose-response experiments. Scientists can examine how different lymphocyte populations—T cells, B cells, and NK cells—respond chemotactically, potentially revealing new insights into immune cell trafficking. High purity (>98%) and minimal endotoxin contamination should help ensure consistent, reproducible outcomes in cell-based migration studies.

2. Receptor Binding and Interaction Studies

Biologically active Cxcl16 protein serves as an effective ligand for binding assays investigating its interaction with CXCR6 receptors or other possible binding partners. Pull-down experiments using immobilized Cxcl16 may help researchers identify and characterize receptor complexes or co-receptors that participate in chemokine signaling. Surface plasmon resonance and similar biophysical approaches can determine binding kinetics and affinity constants. Such studies would likely advance our understanding of the molecular events driving Cxcl16-mediated cellular responses.

3. Antibody Development and Validation

This purified recombinant protein works as an immunogen for generating mouse Cxcl16-specific antibodies in suitable host species. The high purity makes it appropriate for immunization protocols designed to produce monoclonal or polyclonal antibodies. The protein also functions as a positive control and standard in ELISA-based assays during antibody characterization and validation. Since the biological activity has been confirmed, researchers can test whether generated antibodies neutralize or modify Cxcl16 function.

4. Inflammatory Response Modeling

Researchers can apply recombinant Cxcl16 protein in in vitro models to examine inflammatory processes and immune cell activation. Scientists may investigate how the protein promotes or modulates inflammatory responses by treating different cell types with the biologically active chemokine. The established concentration range permits systematic investigation of dose-dependent effects on cytokine production, cell activation markers, and signaling pathway stimulation. These experiments could provide valuable insights into how Cxcl16 contributes to inflammatory diseases and immune responses.

5. Protein Structure-Function Analysis

The partial protein sequence (amino acids 27-114) represents a specific functional domain that researchers can use for biochemical characterization studies. Scientists can conduct protein stability assays, thermal denaturation studies, and structural analysis to explore relationships between Cxcl16 structure and its chemotactic activity. Mutagenesis studies using this protein as a reference standard may help identify critical amino acid residues necessary for biological function. The tag-free design eliminates potential interference from fusion tags during structural investigations.

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.