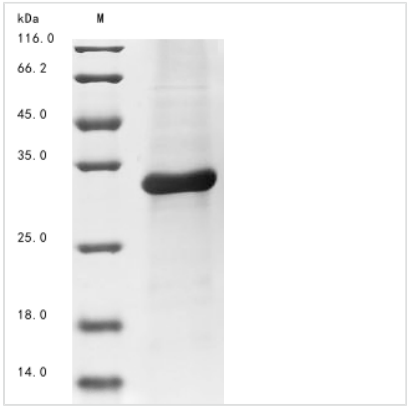
Recombinant Mouse Complement C1q-like protein 3 (C1ql3)

Product Code	CSB-BP863674MOb1
Abbreviation	Recombinant Mouse C1ql3 protein
Storage	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.
Uniprot No.	Q9ESN4
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	HYEMLGTCRMVCDPYGGTKAPSTAATPDRGLMQSLPTFIQGPKGEAGRPGK AGPRGPPGEPGPPGPVGPPGEKGEPGRQGLPGPPGAPGLNAAGAISAATYS TVPKIAFYAGLKRQHEGYEVLKFDDVVTNLGNHYDPTTGKFTCSIPGIYFFTYH VLMRGGDGTSMWADLCKNNQVRASAIAQDADQNYDYASNSVVLHLEPGDEV YIKLDGGKAHGGNNNKYSTFSGFIIYAD
Research Area	Others
Source	Baculovirus
Target Names	C1ql3
Expression Region	21-255aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	28.6
Protein Length	Full Length of Mature Protein
Image	 (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Mouse Complement C1q-like protein 3 (C1ql3) is produced using a baculovirus expression system and covers the complete mature protein sequence from amino acids 21 to 255. The protein includes an N-terminal 10xHis tag and a C-terminal Myc tag, which provides flexible options for detection and purification. SDS-PAGE analysis confirms the product achieves greater than 85% purity, though this level appears adequate for most research applications.

Complement C1q-like protein 3 belongs to the complement system, a network that may play important roles in immune responses. Scientists have become particularly interested in C1ql3 because it seems to influence synaptic function and plasticity. The protein is likely involved in neural pathway interactions, making it valuable for researchers who study neuronal communication and how synapses organize themselves. However, the full extent of its role in complex neural networks remains an active area of investigation.

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. Antibody Development and Validation Studies

This recombinant mouse C1ql3 protein works well as an immunogen for creating C1ql3-specific antibodies in research settings. The dual-tagging approach—combining the N-terminal His-tag with the C-terminal Myc-tag—offers researchers multiple ways to validate antibody specificity through tag-based detection. Scientists can develop either polyclonal or monoclonal antibodies using this protein, then apply them in immunoassays, Western blotting, or immunohistochemistry experiments. The high purity level (>85%) should minimize unwanted cross-reactivity during the antibody generation process, though some optimization may still be necessary.

2. Protein-Protein Interaction Studies

Researchers can immobilize the His-tagged recombinant C1ql3 onto nickel-affinity matrices for pull-down experiments aimed at discovering potential binding partners or interacting proteins. The baculovirus expression system generally produces proteins that fold correctly and carry appropriate post-translational modifications, suggesting this protein might behave similarly to its native counterpart in interaction studies. The Myc-tag adds another layer of detection capability, helping confirm both protein presence and integrity throughout these experiments. This strategy could reveal more about C1ql3's function in complement-related pathways or synaptic signaling, though results will need careful interpretation.

3. Biochemical Characterization and Structural Studies

Scientists can apply this recombinant protein to detailed biochemical analyses, including protein stability experiments, oligomerization studies, and various structural characterization methods. The dual-tag design makes protein purification and detection more straightforward during analytical procedures like size exclusion chromatography or dynamic light scattering. Researchers might investigate the protein's biophysical characteristics, thermal stability, and potential shape changes under different buffer conditions. Since the mature protein region (21-255aa) represents the functional domain, it appears well-suited for exploring structure-function relationships, though some caution is warranted when extrapolating findings to the full-length native protein.

4. ELISA Development and Quantitative Assays

The recombinant C1ql3 protein can function as either a standard or coating antigen when developing enzyme-linked immunosorbent assays (ELISA) to measure C1ql3 concentrations in biological samples. Both His and Myc tags create opportunities for multiple detection approaches and assay validation methods. Scientists can use this protein to create standard curves for quantitative measurements and fine-tune assay conditions for their specific research needs. The high purity level suggests it should deliver reliable and consistent results in immunoassay development, though initial optimization experiments remain advisable.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
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