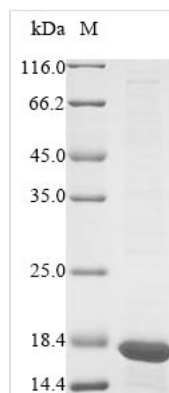




Recombinant Mouse Prohibitin (Phb), partial

Product Code	CSB-EP017885MO3
Abbreviation	Recombinant Mouse Phb protein, partial
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.	P67778
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	TFGKEFTEAVEAKQVAQQEAERARFVVEKAEQQKKAIIISAEGDSKAAELIANS LATAGDGLIELRKLEAAEDIAYQLSRSRNITYLPAGQSVLLQLPQ
Research Area	Transcription
Source	E.coli
Target Names	Phb
Expression Region	174-272aa
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
Mol. Weight	16.2 kDa
Protein Length	Partial

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Mouse Prohibitin (Phb) is produced in an E.coli expression system and contains a partial sequence spanning amino acids 174 to 272. The protein carries an N-terminal 10xHis-tag, which helps with purification and detection. SDS-PAGE analysis shows the product achieves greater than 85% purity, which



appears adequate for most research applications. It's supplied as a research-use-only reagent, though no endotoxin level has been specified.

Prohibitin represents a highly conserved protein that seems central to cellular processes like cell cycle regulation and apoptosis. The protein plays what appears to be a crucial role in maintaining mitochondrial integrity and participates in various signaling pathways. Research often focuses on Prohibitin's potential involvement in cell proliferation and aging, making it an important target for those trying to understand cellular homeostasis.

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. Protein-Protein Interaction Studies Using Pull-Down Assays

The N-terminal 10xHis-tagged recombinant mouse Prohibitin fragment (174-272aa) can be immobilized on nickel-affinity resins to hunt down and characterize potential binding partners. This C-terminal region of Prohibitin may retain important protein interaction domains that researchers can probe using cell lysates or purified protein libraries. The His-tag makes purification and immobilization straightforward, which is helpful for both qualitative and quantitative interaction studies. Mass spectrometry analysis of pulled-down complexes might reveal novel interacting proteins specific to this particular Prohibitin domain.

2. Antibody Development and Validation

This recombinant Prohibitin fragment could work as an immunogen for generating domain-specific antibodies against the 174-272aa region of mouse Prohibitin. The purified protein, with its greater than 85% purity, likely provides sufficient quality for immunization protocols in rabbits or other host species. Researchers can then validate the resulting antibodies using the same recombinant protein in ELISA, Western blot, and other immunoassays. Domain-specific antibodies like these would be valuable research tools for studying where Prohibitin localizes and how its expression patterns change.

3. Structural and Biophysical Characterization Studies

The recombinant Prohibitin fragment works well for detailed structural analysis using techniques such as circular dichroism spectroscopy, dynamic light scattering, and nuclear magnetic resonance. These studies would provide insights into how this specific C-terminal domain of mouse Prohibitin folds and maintains stability. The His-tagged protein can be easily purified to the homogeneity that biophysical measurements typically require. Comparing results with full-length Prohibitin or other fragments could reveal structural features unique to specific domains.



4. In Vitro Functional Domain Mapping

This C-terminal fragment (174-272aa) can help map specific functional domains within mouse Prohibitin through comparative biochemical assays. Researchers can test the recombinant protein alongside other Prohibitin fragments or deletion mutants to figure out which activities this specific region retains or loses. Competition assays using this fragment might help identify the minimal binding regions that specific Prohibitin interactions actually need. Studies like these would contribute to understanding how structure and function relate within the Prohibitin protein family.

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.