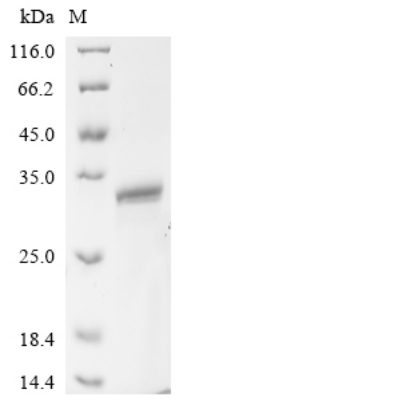
Recombinant Mouse Heme-binding protein 1 (Hebp1)

Product Code	CSB-EP886444MOb1
Abbreviation	Recombinant Mouse Hebp1 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.	Q9R257
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MLGMIRNSLFGSVETWPWQVLSTGGKEDVSYEERACEGGKFATVEVTDKPV DEALREAMPKIMKYVGGTNDKGVGMGMTVPVSFALFPNEDGSLQKKLKVWF RIPNQFQGSPPAPSDESVKIEEREGITVYSTQFGGYAKEADYVAHATQLRTTLE GTPATYQGDVYYCAGYDPPMKPYGRRNEVWLVKA
Research Area	Cardiovascular
Source	E.coli
Target Names	Hebp1
Expression Region	1-190aa
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	28.5 kDa
Protein Length	Full Length
Image	



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

Description

Recombinant Mouse Heme-binding protein 1 (Hebp1) comes from an E.coli expression system and spans the complete protein sequence from amino acids 1 to 190. The construct includes an N-terminal 10xHis tag and a C-terminal Myc tag, which makes purification and detection more straightforward. SDS-PAGE analysis confirms the product achieves greater than 90% purity - a level that appears suitable for most research needs.

Heme-binding protein 1 (Hebp1) binds heme, though the full scope of this interaction remains an active area of investigation. This protein likely contributes to heme metabolism and may play a part in how cells respond to oxidative stress. Scientists are working to better understand Hebp1's role in these pathways, along with its broader involvement in heme-related cellular processes.

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 Hebp1 protein could work as an immunogen for creating Hebp1-specific antibodies in research settings. The double-tagging approach - with both His and Myc tags - offers several epitopes that antibodies might recognize during validation work. While the >90% purity should be adequate for most immunization protocols and follow-up characterization experiments, some researchers might want even higher purity for particularly sensitive applications. The protein may prove useful for developing either polyclonal or monoclonal antibodies intended for western blots, immunoprecipitation, or immunofluorescence studies of native Hebp1.

2. Protein-Protein Interaction Studies

Both tags open up different experimental approaches for identifying potential Hebp1 binding partners. The His-tag allows researchers to attach the protein to

nickel-based resins during pull-down experiments with cell lysates or other purified proteins. Meanwhile, the Myc-tag creates opportunities for immunoprecipitation studies using commercially available anti-Myc antibodies. These interaction studies might help reveal the molecular mechanisms behind Hebp1's cellular functions, though interpreting results will require careful controls to account for potential tag-related artifacts.

3. Tag-Assisted Purification and Detection Assays

Metal affinity chromatography becomes quite manageable with the N-terminal His-tag, making protein purification and immobilization relatively simple. This feature could be particularly valuable for ELISA development, where anti-His antibodies might capture or detect the protein. The Myc-tag adds flexibility by providing a second detection route through anti-Myc antibodies - useful for confirming results or building dual-detection systems. However, researchers should keep in mind that tag-based detection sometimes introduces variability compared to native protein interactions.

4. Biochemical Characterization and Stability Studies

Basic biochemical work becomes feasible with this recombinant Hebp1, including molecular weight verification, thermal stability testing, and buffer optimization. The 90%+ purity level should work for most spectroscopic techniques like circular dichroism, assuming the remaining contaminants don't interfere significantly. Stability testing across different pH and salt conditions will likely prove essential for determining proper storage and experimental parameters. These foundational studies may reveal important details about the protein's biophysical behavior, though results from the tagged version might not perfectly reflect the native protein's properties.

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.