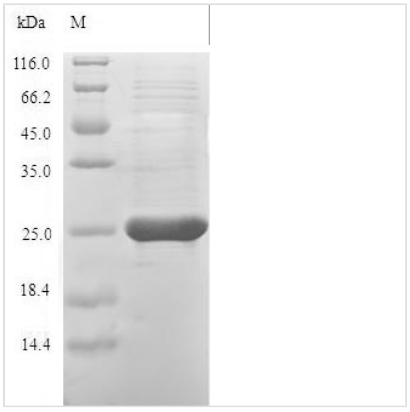
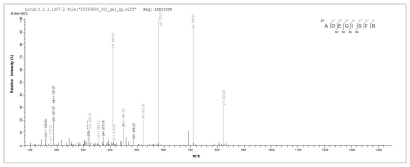
Recombinant Cricetulus griseus Peroxiredoxin-1 (PRDX1)

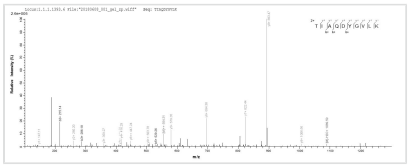
Product Code	CSB-EP872876DXU
Relevance	Involved in redox regulation of the cell. Reduces peroxides with reducing equivalents provided through the thioredoxin system but not from glutaredoxin. May play an important role in eliminating peroxides generated during metabolism. Might participate in the signaling cascades of growth factors and tumor necrosis factor-alpha by regulating the intracellular concentrations of H2O2 (By similarity). Reduces an intramolecular disulfide bond in GDPD5 that gates the ability to GDPD5 to drive postmitotic motor neuron differentiation (By similarity).
Abbreviation	Recombinant Cricetulus griseus P4HB 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.	Q9JKY1
Alias	Thioredoxin peroxidase 2 Short name: TPX-2
Product Type	Recombinant Protein
Immunogen Species	Cricetulus griseus (Chinese hamster) (Cricetulus barabensis griseus)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	SSGNAKIGYPAPNFKATAVMPDGQFRDICLSEYRGKYVVFFFYPLDFTFVCPT EIIAFSDRAEEFKKLNCQVIGASVDSHFCHLAWINTPKKQGGLGPMNIPLVSDP KRTIAQDYGVLKADEGISFRGLFIIDDKGILRQITINDLPVGRSVDEILRLVQAFQF TDKHGEVCPAGWKPGSDTIKPDVQKSKEYFSKQK
Research Area	Cell Biology
Source	E.coli
Target Names	PRDX1
Protein Names	Recommended name: Peroxiredoxin-1 EC= 1.11.1.15Alternative name(s): Thioredoxin peroxidase 2 Short name= TPX-2
Expression Region	2-199aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	26.1kDa
Protein Length	Full Length of Mature Protein
Image	



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



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP872876DXU could indicate that this peptide derived from E.coli-expressed Cricetulus griseus (Chinese hamster) (Cricetulus barabensis griseus) PRDX1.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP872876DXU could indicate that this peptide derived from E.coli-expressed Cricetulus griseus (Chinese hamster) (Cricetulus barabensis griseus) PRDX1.

Description

A DNA corresponding to 2-199aa of Cricetulus griseus Peroxiredoxin-1 (PRDX1) was fused with an N-terminal 6xHis-tag and then expressed in E.coli. The resulting protein is a Recombinant Full-length pf Mature Cricetulus griseus PRDX1. This PRDX1 protein underwent the validation of SDS-PAGE and LC-MS/MS Analyses. The purity of the protein is over 90%. Its predicted molecular weight is 26.1 kDa. In addition to being an immunogen for antibody synthesis, this recombinant PRDX1 may also find uses in the studies of PRDX1-involved cell biology. In-stock PRDX1 proteins are available.

PRDX1 belongs to the superfamily of small non-seleno peroxidases and exerts a peroxide-scavenging function. In addition, PRDX1 also orchestrates redox-regulated signaling in a ROS dose-dependent manner through the oxidation status of its peroxidative cysteine Cys52. The peroxidative cysteine Cys52 of PRDX1 acts as a sensor in ROS signaling. PRDX1 promotes both MKP-1 and MKP-5 activity under normal ROS homeostasis. Upon ROS increasing, PRDX1 becomes over-oxidized and less available to bind to MKP-1, eliciting MKP-1 oxidation-induced oligomerization and inactivity toward p38MAPKα, thus facilitating apoptosis.

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.