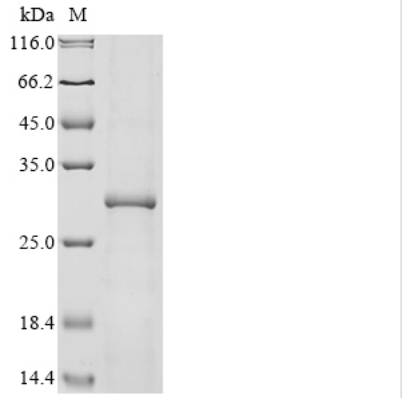
Recombinant Coxiella burnetii Chaperonin GroEL (groEL), partial

Product Code	CSB-EP481576DXM
Abbreviation	Recombinant Coxiella burnetii groL 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.	B6J2I0
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	Coxiella burnetii (strain CbuG_Q212) (Coxiella burnetii (strain Q212))
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	TKDDTTIIDGSGDAGDIKNRVEQIRKEIENSSSDYDKEKLQERLAKLAGGVAVIK VGAATEVEMKEKKARVEDALHATRAAVEEGVVPGGGVALIRVLKSLDSVEVEN EDQRVGVEIARRAMAYPLSQIVKNTGVQAAVVADKVLNHKDVNYGYNAATGE YGDMIEMGILDPTKVTR
Research Area	Microbiology
Source	E.coli
Target Names	groL
Expression Region	326-502aa
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	26.4 kDa
Protein Length	Partial
Image	



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

Description

The process of generating recombinant Coxiella burnetii 60 kDa chaperonin (groL) in E. coli begins with co-inserting the target gene into an expression vector with an N-terminal 10xHis-tag and C-terminal Myc-tag gene, which is introduced into E. coli cells. The target gene encodes the partial Coxiella burnetii groL protein (326-502aa). These cells are cultured and induced for protein expression. After growing, the cells are lysed to extract the recombinant protein. The collected protein is purified by affinity chromatography. The purity of the protein is evaluated using SDS-PAGE, exceeding 85%.

Coxiella burnetii 60 kDa chaperonin (GroEL) is a type I chaperonin that plays a crucial role in protein folding processes [1]. The 60 kDa chaperonins, including GroEL, are double-ring structures composed of multiple 60-kDa subunits and are involved in folding nascent, translocating, and stress-denatured proteins [2]. These chaperonins are essential for aiding the folding of denatured or newly synthesized polypeptides [3].

References:
[1] C. Wagner, I. Lu, M. Hoffman, W. Sun, J. Trent, & J. Connor, T-complex polypeptide-1 interacts with the erythrocyte cytoskeleton in response to elevated temperatures, Journal of Biological Chemistry, vol. 279, no. 16, p. 16223-16228, 2004. https://doi.org/10.1074/jbc.m310730200
[2] G. Levy?Rimler, P. Viitanen, C. Weiss, R. Sharkia, A. Greenberg, A. Nivet al., The effect of nucleotides and mitochondrial chaperonin 10 on the structure and chaperone activity of mitochondrial chaperonin 60, European Journal of Biochemistry, vol. 268, no. 12, p. 3465-3472, 2001. https://doi.org/10.1046/j.1432-1327.2001.02243.x
[3] D. Ruggero, A. Ciammaruconi, & P. Londei, The chaperonin of the archaeon sulfolobus solfataricus is an rna-binding protein that participates in ribosomal rna processing, The Embo Journal, vol. 17, no. 12, p. 3471-3477, 1998. https://doi.org/10.1093/emboj/17.12.3471

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

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