



Recombinant Chlamydia trachomatis Chaperonin GroEL (groEL)

| Product Code | CSB-EP314770DSB |
|-------------------|--|
| Relevance | Prevents misfolding and promotes the refolding and proper assembly of unfolded polypeptides generated under stress conditions (By similarity). This protein is implicated in the pathogenesis of chlamydial disease. Inflammation elicited by the 57 kDa antigen may damage tissue, with progression to scarring of conjunctival and fallopian tube mucosae, which respectively result in blindness and infertility. |
| 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. | P0C0Z7 |
| Storage Buffer | Tris-based buffer,50% glycerol |
| Product Type | Recombinant Proteins |
| Immunogen Species | Chlamydia trachomatis (strain D/UW-3/Cx) |
| Purity | Greater than 90% as determined by SDS-PAGE. |
| Sequence | VAKNIKYNEEARKKIQKGVKTLAEAVKVTLGPKGRHVVIDKSFGSPQVTKDGVT VAKEVELADKHENMGAQMVKEVASKTADKAGDGTTTATVLAEAIYTEGLRNVT AGANPMDLKRGIDKAVKVVVDQIRKISKPVQHHKEIAQVATISANNDAEIGNLIA EAMEKVGKNGSITVEEAKGFETVLDIVEGMNFNRGYLSSYFATNPETQECVLE DALVLIYDKKISGIKDFLPVLQQVAESGRPLLIIAEDIEGEALATLVVNRIRGGFRV CAVKAPGFGDRRKAMLEDIAILTGGQLISEELGMKLENANLAMLGKAKKVIVSK EDTTIVEGMGEKEALEARCESIKKQIEDSSSDYDKEKLQERLAKLSGGVAVIRV GAATEIEMKEKKDRVDDAQHATIAAVEEGILPGGGTALIRCIPTLEAFLPMLTNE DEQIGARIVLKALSAPLKQIAANAGKEGAIIFQQVMSRSANEGYDALRDAYTDM LEAGILDPAKVTRSALESAASVAGLLLTTEALIAEIPEEKPAAAPAMPGAGMDY |
| Lead Time | 3-7 business days |
| Source | E.coli |
| Gene Names | groL |
| Protein Names | Recommended name: 60 kDa chaperoninAlternative name(s): 57 kDa chlamydial hypersensitivity antigen GroEL protein Heat shock protein 60 Short name= HSP60 Protein Cpn60 |
| Expression Region | 2-544aa |
| Notes | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| Tag Info | N-terminal 6xHis-SUMO-tagged |
| | |





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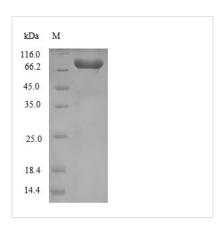
Mol. Weight

74.0 kDa

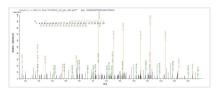
Protein Description

Full Length of Mature Protein

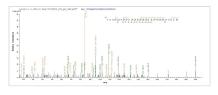
Image



(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-EP314770DSB could indicate that this peptide derived from E.coli-expressed Chlamydia trachomatis (strain D/UW-3/Cx) groL.



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Description

The expression region of this recombinant Chlamydia trachomatis (strain D/UW-3/Cx) groL covers amino acids 2-544. The calculated molecular weight for this groL protein is 74.0 kDa. Expression of this groL protein is conducted in e.coli. The N-terminal 6xHis-SUMO tag was smoothly integrated into the coding gene of groL, which enables a simple process of detecting and purifying the groL recombinant protein in the following steps.

The Chaperonin GroEL is a protein encoded by the groEL gene in Chlamydia trachomatis. Chaperonins are molecular chaperones that assist in the proper folding of newly synthesized or stress-denatured proteins. GroEL forms a complex with its co-chaperonin GroES, creating a barrel-like structure that provides a confined environment for the folding of substrate proteins. The Chlamydia trachomatis Chaperonin GroEL likely plays a crucial role in the correct folding of proteins within the bacterium, ensuring their functional integrity. Proper protein folding is essential for various cellular processes, including virulence and survival within the host. Understanding the function of Chaperonin GroEL in Chlamydia trachomatis can provide insights into the pathogenic mechanisms of this obligate intracellular bacterium and may contribute to the development of therapeutic strategies.