Recombinant CH10 protein (His tag)

Catalog Number	537886
Synonyms	Hsp10; 10 kDa chaperonin; Chaperonin 10; CPN10; Early-pregnancy factor; EPF; Heat shock protein family E member 1
Species	Human
Expression System	E. coli
Accession	P61604
Molecular Weight	Predictes a molecular mass of 12.45 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 12 kDa band.

Product Information

Sequence Region	2-102
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-102 aa (P61604) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This product features a recombinant fragment of the human 10 kDa heat shock protein, mitochondrial (Hsp10), spanning residues 2-102. This 101-amino acid fragment is designed for structural and biochemical studies, offering a stable and soluble unit ideal for investigating mitochondrial protein folding and chaperone mechanisms. The full-length Hsp10, encoded by the HSPE1 gene, functions as a co-chaperonin in the mitochondrial matrix. It collaborates with Hsp60 to facilitate the correct folding of imported proteins, prevent misfolding, and promote refolding of unfolded polypeptides under stress conditions. The chaperonin complex operates through a cyclic reaction where Hsp60 binds unfolded substrates, associates with Hsp10 rings upon ATP binding, and sequesters the substrate for undisturbed folding. This process is critical for mitochondrial protein import and macromolecular assembly, supporting cellular homeostasis.