

HSP60 Protein, Human (His-GST)

Cat. No.:	HY-P73917
Synonyms:	60 kDa heat shock protein, mitochondrial; CPN60; HSP-60; HSPD1
Species:	Human
Source:	E. coli
Accession:	P10809-1 (L2-F573)
Gene ID:	3329
Molecular Weight:	52-88 kDa

PROPERTIES

AA Sequence

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L R L P T V F R Q M   R P V S R V L A P H   L T R A Y A K D V K   F G A D A R A L M L
Q G V D L L A D A V   A V T M G P K G R T   V I I E Q S W G S P   K V T K D G V T V A
K S I D L K D K Y K   N I G A K L V Q D V   A N N T N E E A G D   G T T T A T V L A R
S I A K E G F E K I   S K G A N P V E I R   R G V M L A V D A V   I A E L K K Q S K P
V T T P E E I A Q V   A T I S A N G D K E   I G N I I S D A M K   K V G R K G V I T V
K D G K T L N D E L   E I I E G M K F D R   G Y I S P Y F I N T   S K G Q K C E F Q D
A Y V L L S E K K I   S S I Q S I V P A L   E I A N A H R K P L   V I I A E D V D G E
A L S T L V L N R L   K V G L Q V V A V K   A P G F G D N R K N   Q L K D M A I A T G
G A V F G E E G L T   L N L E D V Q P H D   L G K V G E V I V T   K D D A M L L K G K
G D K A Q I E K R I   Q E I I E Q L D V T   T S E Y E K E K L N   E R L A K L S D G V
A V L K V G G T S D   V E V N E K K D R V   T D A L N A T R A A   V E E G I V L G G G
C A L L R C I P A L   D S L T P A N E D Q   K I G I E I I K R T   L K I P A M T I A K
N A G V E G S L I V   E K I M Q S S S E V   G Y D A M A G D F V   N M V E K G I I D P
T K V V R T A L L D   A A G V A S L L T T   A E V V V T E I P K   E E K D P G M G A M
G G M G G G M G G G   M F
  
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Biological Activity Measured in a cell proliferation assay using A549 cells. The ED₅₀ for this effect is 0.213 µg/mL, corresponding to a specific activity is 4701.457 Unit/mg.

Appearance Lyophilized powder

Formulation Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years from date of receipt. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

HSP60 protein serves as a chaperonin with pivotal roles in mitochondrial protein import and macromolecular assembly. Collaborating with Hsp10, it facilitates the accurate folding of imported proteins and, under stress conditions in the mitochondrial matrix, may prevent misfolding while promoting the refolding and proper assembly of unfolded polypeptides. The structural units of these chaperonins comprise heptameric rings of the large subunit Hsp60, forming a back-to-back double ring. In a cyclic process, Hsp60 ring complexes sequentially bind one unfolded substrate protein per ring, followed by ATP binding and association with two heptameric rings of the co-chaperonin Hsp10. This cyclic interaction leads to the sequestration of the substrate protein within the inner cavity of Hsp60, allowing it to fold undisturbed by other cell components for a certain period. The synchronized hydrolysis of ATP in all Hsp60 subunits results in the dissociation of the chaperonin rings, leading to the release of ADP and the properly folded substrate protein (Probable).

Caution: Product has not been fully validated for medical applications. For research use only.

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