HSP60 (low endotoxin) (human), (recombinant)

Recombinant human HSP60 (low endotoxin) that acts as a mitochondrial chaperone for protein folding and assembly.

The human Hsp60 is a member of a highly conserved family which includes molecular chaperones from several species including plant Hsp60 (known as Rubisco binding protein), and bacterial GroEL, a major antigen of mycobacteria. In eukaryotes, Hsp60 is localized in the mitochondrial matrix while plant Hsp60 is localized in the chloroplast. Mitochondria, chloroplasts and bacteria have a common ancestry (>1 billion years). This fact combined with the high degree of homology between the divergent Hsp60s would indicate that these proteins carry out a primitive but important function which is conserved in divergent species. The common characteristics of the Hsp60s include i) high abundance, ii) induction upon environmental stress such as heat shock, iii) homo -oligomeric structures of either 7 or 14 subunits which reversibly dissociate in the presence of Mg and ATP, iv) ATPase activity and v) a role in folding and assembly of oligomeric protein structures. These similarities are supported by studies where the single-ring human mitochondrial homolog, Hsp60 with its cochaperonin, Hsp10 were expressed in an E. coli strain, engineered so that the GroE operon is under strict regulatory control. This study has demonstrated that expressed Hsp60- Hsp10 was able to carry out all essential in vivo functions of GroEL and its co-chaperonin, GroES. Consistent with their function as chaperones, Hsp60 and Hsp10 have been suggested to act as docking molecules with a passive role in the maturation of caspase processing. Recombinant Hsp60 and Hsp10 have been shown to accelerate the activation of procaspase-3 by cytochrome c and dATP in an ATP-dependent manner. Hsps are intracellular proteins which are thought to serve protective functions against infection and cellular stress, however several studies indicate that members of the Hsp60 family are linked to a number of autoimmune diseases, artherosclerosis and chlamydial disease.

Citations: 4 View Online »

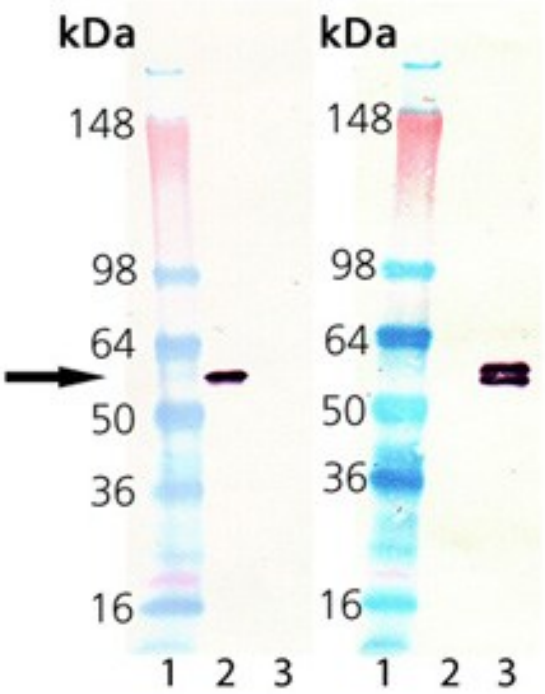
Ordering Information

Order Online »

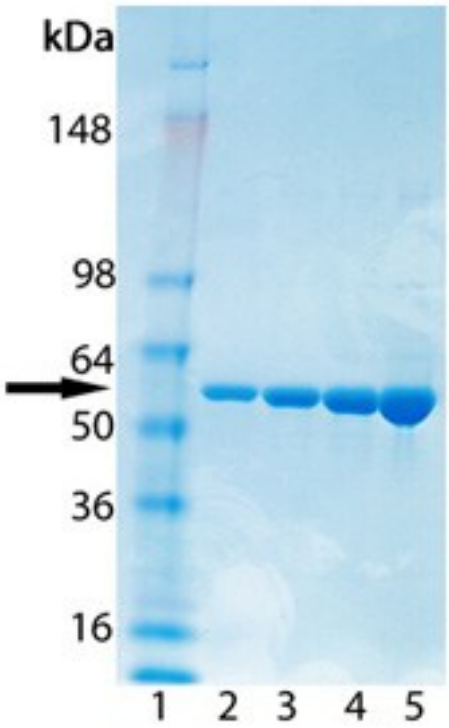
ADI-ESP-540-D	50µg
ADI-ESP-540-F	200µg

Manuals, SDS & CofA

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Western Blot analysis: Lane 1: MW Marker, Lane 2: 100ng of HSP60 (low endotoxin) (human), (recombinant) (Prod. No. ADI-ESP-540), Lane 3: 50ng *E. coli* GroEL (Prod. No. ADI-SPP-610); Left: Probed with HSP60 mAb (Prod. No. ADI-SPA-806); Right: Probed with GroEL mAb (Prod. No. ADI-SPS-870).



SDS-PAGE Analysis: Lane 1: MW marker, Lane 2: 0.5ug, Lane 3: 1.0ug, Lane 4: 2.0ug, Lane 5: 5.0ug of purified HSP60 (low endotoxin) (human), (recombinant).

Handling & Storage

Long Term Storage	-80°C
Shipping	Dry Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name	Chaperonin 60, CPN60, HspD1, Heat shock protein 60
Application Notes	ATPase activity assay (positive). Western blot control.
Endotoxin Content	<50EU/mg purified protein (LAL test)
Formulation	Liquid. In Dulbecco's PBS.
MW	~60kDa
Purity	≥90% (SDS-PAGE; Western blot)
Purity Detail	Purified by multi-step chromatography.
Source	Produced in *E. coli*.
UniProt ID	P10809

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