

Hsp60 Active Protein | HSPD1 active protein

Recombinant Human HSP60

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103776	Human	Human	Functional Assay, ELISA, SDS-Page, Western Blot

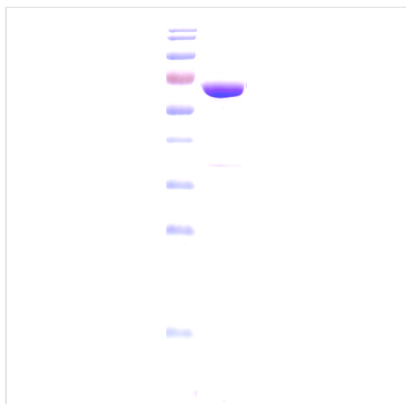
PRODUCT SYNONYMS

Hsp60; Recombinant Human HSP60; 60kDa chaperonin; cb863; CPN60; GROEL; GroEL Homolog; HLD4; Hsp65; HSPD1; HuCHA60; SPG13; HSPD1 active protein

PRODUCT SPECIFICATIONS

Host	Human
Reactivity	Human
Purity/Purification	Affinity Purified
Form/Format	20mM Phosphate Buffer, 150mM NaCl, 10% glycerol
Concentration	0.47 mg/mL (varies by lot)
Sequence Length	2247
Applicable Applications for HSPD1 active protein	FA (Functional Assay), ELISA, SDS-PAGE, WB (Western Blot), ATPase Assay
Certificate of Analysis	This product has been certified >90% pure using SDS-PAGE analysis. The protein has ATPase activity at the time of manufacture of 3.6uM phosphate liberated/hr/ug protein in a 200ul reaction at 37 degree C (pH7.5) in the presence of 20ul of 1mM ATP using a Malachite Green assay.
Conjugate Tag	His tag
Expression System	E Coli
Research Area(s)	Cancer; Heat Shock
Cellular Localization	Mitochondion Matrix
Preparation and Storage	-20°C; Avoid freeze/thaw cycles.

IMAGES



SDS-PAGE

SDS-PAGE of 60kDa Hsp60 protein (AAA103776).

ADDITIONAL INFORMATION

Related Product Information for HSPD1 active protein	In both prokaryotic and eukaryotic cells, the misfolding and aggregation of proteins during biogenesis and under conditions of cellular stress are prevented by molecular chaperones. Members of the HSP60 family of heat shock proteins are some of the best characterized chaperones. HSP60, also known as Cpn60 or GroEL, is an abundant protein synthesized constitutively in the cell that is induced to a higher concentration after brief cell shock. It is present in many species and exhibits a remarkable sequence homology among various counterparts in bacteria, plants, and mammals with more than half of the residues identical between bacterial and mammalian HSP60. Whereas mammalian HSP60 is localized within the mitochondria, plant HSP60, or otherwise known as Rubisco-binding protein, is located in plant chloroplasts. It has been indicated that these proteins carry out a very important biological function due to the fact that HSP60 is present in so many different species. The common characteristics of the HSP60s from the divergent species are i) high abundance, ii) induction with environmental stress such as heat shock, iii) homo-oligomeric structures of either 7 or 14 subunits which reversibly dissociate in the presence of Mg ²⁺ and ATP, iv) ATPase activity and v) a role in folding and assembly of oligomeric protein structures. These similarities are supported by recent studies where the single-ring human mitochondrial homolog, HSP60 with its co-chaperonin, HSP10 were expressed in a E. coli strain, engineered so that the groE operon is under strict regulatory control. This study has demonstrated that expression of HSP60-HSP10 was able to carry out all essential in vivo functions of GroEL and its co-chaperonin, GroES. Another important function of HSP60 and HSP10 is their protective functions against infection and cellular stress. HSP60 has however been linked to a number of autoimmune diseases, as well as Alzheimer's, coronary artery diseases, MS, and diabetes.
Product Categories/Family for HSPD1 active protein	Chaperones ; Heat Shock ; Trafficking
References	1. Hartl, F.U. (1996) Nature 381: 571-579. 2. Bukau, B. and Horwich, A.L. (1998) Cell 92: 351-366. 3. Hartl, F.U. and Hayer-Hartl, M. (2002) Science 295: 1852-1858. 4. Jindal, S., et al. (1989) Molecular and Cellular Biology 9: 2279-2283. 5. La Verda, D., et al (1999) Infect Dis. Obstet. Gynecol. 7: 64-71. 6. Itoh, H. et al. (2002) Eur. J. Biochem. 269: 5931-5938. 7. Gupta, S. and Knowlton, A.A. J. Cell Mol. Med. 9: 51-58. 8. Deocaris, C.C. et al. (2006) Cell Stress Chaperones 11: 116-128. 9. Lai, H.C. et al. (2007) Am. J. Physiol. Endocrinol. Metab. 292: E292-E297. 1. Dieude, M. et al. (2011). Association of autoantibodies to heat-shock protein 60 with arterial vascular events in patients with antiphospholipid antibodies. Arthritis & Rheumatism. 63 (8), 2416-2424. doi: 10.1002/art.30411 2. Kaiser, F., Steptoe, A., Thompson, S. and Henderson, B. (2014). Monocyte cytokine synthesis in response to extracellular cell stress proteins suggests these proteins exhibit network behaviour. Cell Stress & Chaperones. doi: 10.1007/s12192-013-0440-0 3. Adamus, G. et. al. (2013). Detection of autoantibodies against heat shock proteins and collapsin response mediator proteins in autoimmune retinopathy. BMC Ophthalmology 2013, 13:48 doi:10.1186/1471-2415-13-48

NCBI AND UNIPROT INFORMATION

NCBI GI #	12804340
NCBI GeneID	3329
UniProt Accession #	P10809 ; Q38L19 ; Q9UCR6 ; B2R5M6
Molecular Weight	~60kD
NCBI Official Full Name	Homo sapiens heat shock 60kDa protein 1 (chaperonin), mRNA
NCBI Official Synonym Full Names	heat shock 60kDa protein 1 (chaperonin)
NCBI Official Symbol	HSPD1
NCBI Official Synonym Symbols	HLD4; CPN60; GROEL; HSP60; HSP65; SPG13; HSP-60; HuCHA60
NCBI Protein Information	60 kDa heat shock protein, mitochondrial; chaperonin 60; 60 kDa chaperonin; heat shock protein 65; P60 lymphocyte protein; mitochondrial matrix protein P1; short heat shock protein 60 Hsp60s1
UniProt Protein Name	60 kDa heat shock protein, mitochondrial
UniProt Gene Name	HSPD1
UniProt Synonym Gene Names	HSP60; CPN60; HSP-60; Hsp60
UniProt Entry Name	CH60_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/human-human-active-protein/hsp60/103776>