

Produktinformation



Forschungsprodukte & Biochemikalien
Zellkultur & Verbrauchsmaterial
Diagnostik & molekulare Diagnostik
Laborgeräte & Service

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Lieferung & Zahlungsart siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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HSP60 Protein

Active Human Recombinant HSP60 Protein Catalog No. SPR-104



Overview

Product Name HSP60 Protein Description	
Description	
Active Human Recombinant HSP60 Protein	
Applications	
WB, SDS-PAGE, ATPase Activity Assay, Functional Assay, ELISA	
Concentration	
0.3 mg/ml	
Conjugates	
His tag	
Nature	
Recombinant	
Species	
Human	
Expression System	
E. coli	
Biological Activity	
ATPase active	
Properties	

Storage Buffer

20mM Phosphate Buffer, 150mM NaCl, 10% glycerol

•	0,7		
Storage Temperature			
-20°C			
Shipping Temperature			
Blue Ice or 4°C			
Purification			
Affinity Purified			
Specificity			

Cite This Product

Human Recombinant HSP60 Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-104)

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 3.6μ M phosphate liberated/hr/µg protein in a 200µl reaction at 37°C (pH7.5) in the presence of 20ul of 1mM ATP using a Malachite Green assay.

Biological Description

Alternative Names

60kDa chaperonin Protein, cb863 Protein, CPN60 Protein, GROEL Protein, GroEL Homolog Protein, HLD4 Protein, HSP65 Protein, HSPD1 Protein, HuCHA60 Protein, SPG13 Protein

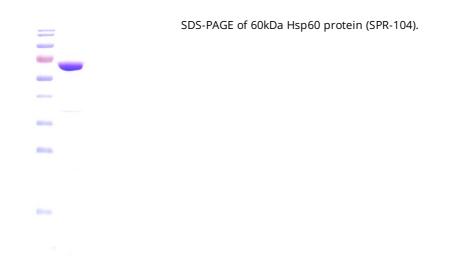
Research Areas
Cancer, Heat Shock
Cellular Localization
Mitochondrion Matrix
Accession Number
BC003030
Gene ID
3329
Swiss Prot
P10809
Scientific Background

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 (1-3). 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) homooligomeric structures of either 7 or 14 subunits which reversibly dissociate in the presence of Mg2+ and ATP, iv) ATPase activity and v) a role in folding and assembly of oligomeric protein structures (4). 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 (5). 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 (6-9).

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 Biol. 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.

Product Images



Product Citations (3)

ELISA

Association of autoantibodies to heat-shock protein 60 with arterial vascular events in patients with antiphospholipid antibodies.

Dieude, M. et al. (2011) Arthritis Rheum. 63 (8): 2416-2424.

PubMed ID: 21506099 Applications: ELISA

Other Citations

Monocyte cytokine synthesis in response to extracellular cell stress proteins suggests these proteins exhibit network behaviour.

Kaiser, F., Steptoe, A., Thompson, S. and Henderson, B. (2014) Cell Stress Chaperones. 19(1):135-44.

PubMed ID: 23775284 Applications: Functional Assay

Detection of autoantibodies against heat shock proteins and collapsin response mediator proteins in autoimmune retinopathy.

Adamus, G. et. al. (2013) BMC Ophthalmol. 0.575

PubMed ID: 24066722 Applications: Western Blot Control

Reviews

Based on validation through cited publications.

★★★★ StressMarq Biosciences June 15, 2016: