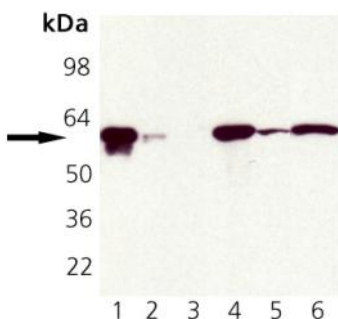


Hsp60 Polyclonal Antibody

Product Specifications	
Catalog Number:	SPA-828
Source:	Goat
Species Reactivity:	Human, mouse, rat, beluga, bovine, canine, chicken, <i>Drosophila</i> , <i>E. coli</i> (GroEL), fish (rainbow trout), guinea pig, hamster, monkey, pig, rabbit, sheep, and <i>Xenopus</i> <i>Other species not tested.</i>
Applications: <i>The optimal dilution for a specific application must be determined by the investigator</i>	WB: 1:1,000 (ECL) IP: 1:100 Other applications not tested.
Predicted m.w.:	~60 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage: <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
Immunogen:	Recombinant human Hsp60 protein
Related Products:	
NSP-540	Hsp60 Active Recombinant Protein
SPP-741	Hsp60 Recombinant Protein
LYC-3T100	3T3 Cell Lysate
EKS-600	Hsp60 ELISA Kit
SPA-806	Hsp60 Monoclonal Antibody (LK-1)
SPA-807	Hsp60 Monoclonal Antibody (LK-2)



Western Blot Analysis of Hsp60 Polyclonal Antibody:

Lane 1: NSP-540 - Hsp60 Active Recombinant Protein,
Lane 2: SPP-610 - GroEL Active Recombinant Protein,
Lane 3: NSP-581 - Hsp65 Protein (Negative Control),
Lane 4: HeLa Cell Lysate,
Lane 5: 3T3 Cell Lysate,
Lane 6: RK-13 Cell Lysate

Background:

The human Hsp60 belongs to a highly conserved family of molecular chaperones from diverse species such as plant Hsp60 (known as Rubisco binding protein), the *E. coli* Hsp60 GroEL, and the 65 kDa major antigen of mycobacteria. In eukaryotes, Hsp60 is localized in the mitochondrial matrix, and the plant Hsp60 in the chloroplast. Mitochondria, chloroplasts and bacteria share a common ancestry (>1billion years) which, given the high degree of homology between the divergent Hsp60s, suggests that these proteins carry out a primitive, yet important function in all these different species. The Hsp60s from the divergent species share a number of common characteristics: high abundance; induction with environmental stress such as heat shock; homo-oligomeric structures of either 7 or 14 subunits which reversibly dissociate in the presence of Mg²⁺ and ATP; ATPase activity; and a role in folding and assembly of oligomeric protein structures¹. These similarities correspond with studies in which the single-ring human mitochondrial homolog Hsp60 and its co-chaperonin Hsp10 were expressed in an *E. coli* strain engineered to keep the groE operon under strict regulatory control. The findings demonstrate that expression of Hsp60-Hsp10 enabled successful operation of all essential *in vivo* functions of GroEL and its co-chaperonin, GroES². Consistent with their chaperone role, Hsp60 and Hsp10 may act as docking molecules with a passive role in the maturation of caspase processing. Data demonstrates that recombinant Hsp60 and Hsp10 appear to accelerate the activation of procaspase-3 by cytochrome C and dATP in an ATP-dependent manner³. Hsps are intracellular proteins thought to protect against infection and cellular stress; however, several studies reveal a possible link between members of the Hsp60 family and a number of autoimmune diseases, atherosclerosis and chlamydial disease.

References:

1. Jindal, S., et al. (1989) Mol and Cell Biol **9**, 2279-2283.
2. Nielsen, K.L., et al. (1999) J Bacteriol. **181**, 5871-5875.
3. Samali, A., et al. (1999) EMBO J. **18**, 2040-2048.

Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antibody is required throughout a study.

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