

## Hsp60 Monoclonal Antibody (LK-1)

### Product Specifications

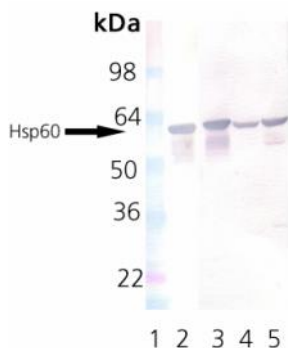
<b>Catalog Number:</b>	SPA-806										
<b>Source:</b>	Mouse										
<b>Isotype:</b>	IgG <sub>1</sub>										
<b>Species Reactivity:</b>	Human, mouse, rat, bovine, chicken, <i>Drosophila</i> <sup>7</sup> , guinea pig, hamster, monkey, pig, rabbit, sheep, and <i>Xenopus</i> . Other species not tested.										
<b>Applications:</b>	<b>WB:</b> 1:1000 <b>IP</b> <sup>5</sup> 1:80 <b>Flow</b> 1:100 Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i>										
<b>Predicted M.W.:</b>	~ 60 kDa										
<b>Concentration:</b>	See product label										
<b>Purification:</b>	Protein G Affinity										
<b>Format:</b>	PBS, pH 7.2, 0.09% azide, 50% glycerol										
<b>Storage:</b>	-20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>										
<b>Immunogen:</b>	Recombinant human Hsp60 protein <sup>4</sup>										
<b>Related Products:</b>	<table border="0"> <tr> <td>LYC-HL101</td> <td>HeLa Cell Lysate (Heat Shocked)</td> </tr> <tr> <td>NSP-540</td> <td>Hsp60 Active Recombinant Protein</td> </tr> <tr> <td>LYC-PC100F</td> <td>PC-12 Cell Lysate</td> </tr> <tr> <td>LYC-3T101F</td> <td>3T3 Cell Lysate (Heat Shocked)</td> </tr> <tr> <td>SAB-101</td> <td>Goat anti-Mouse IgG Polyclonal</td> </tr> </table>	LYC-HL101	HeLa Cell Lysate (Heat Shocked)	NSP-540	Hsp60 Active Recombinant Protein	LYC-PC100F	PC-12 Cell Lysate	LYC-3T101F	3T3 Cell Lysate (Heat Shocked)	SAB-101	Goat anti-Mouse IgG Polyclonal
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### Background:

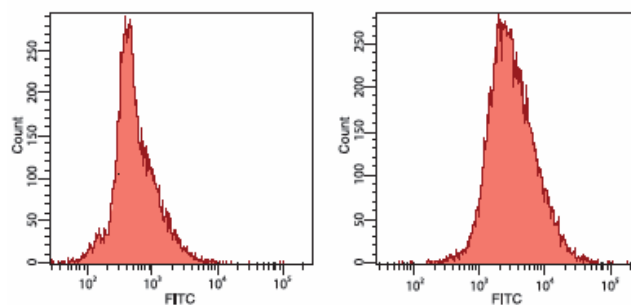
The human Hsp60 belongs to a highly conserved family of molecular chaperones from species such as plant Hsp60 (known as Rubisco binding protein), the *E. coli* Hsp60 GroEL, and the 65 kDa major antigen of mycobacteria. In eukaryotes, Hsp60 is localized in the mitochondrial matrix, and the plant Hsp60 in the chloroplast. Hsp60s from 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 Mg<sup>2+</sup> and ATP; ATPase activity; and a role in folding and assembly of oligomeric protein structures<sup>1</sup>. 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, GroES<sup>2</sup>. Several studies reveal a possible link between members of the Hsp60 family and a number of autoimmune diseases, atherosclerosis and chlamydial disease. Overexpression of self Hsp60 is seen in the synovial tissue of rheumatoid arthritis (RA) patients, and can accompany both cellular and humoral reactivity against Hsp60 in RA<sup>3</sup>. Chlamydial heat shock protein Hsp60, a homolog of *E. coli* GroEL, appears capable of eliciting macrophage activation, and several studies reveal a correlation between Hsp60 responses and the immunopathologic manifestations of human 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. Van Roon, J.A.-G., et al. (1997) J Clin. Invest. **100**, 459-463.
4. Boog, C.J.P. et al. (1992) J Exp Med. **175**, 1805-1810.
5. Gao, Y.L., et al. (1995) J of Immunol. **154**, 3548-3556.
6. Kondo, T., et al. (2000) J Biol Chem. **275**, 8872-8879.
7. Lakhotia, S.C. et al. (2002) Cell Stress Chaperones **7**, 347-356.



**Western Blot Analysis:** Lane 1: MW Marker, Lane 2: Hsp60 Active Recombinant Protein, Lane 3: HeLa Cell Lysate (heat shocked), Lane 4: PC-12 Cell Lysate, Lane 5: 3T3 Cell Lysate (heat shocked)



Human hepatoma QGY cells analyzed by flow cytometry using isotype control antibody (left) or Hsp60 antibody (LK-1) (right).

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