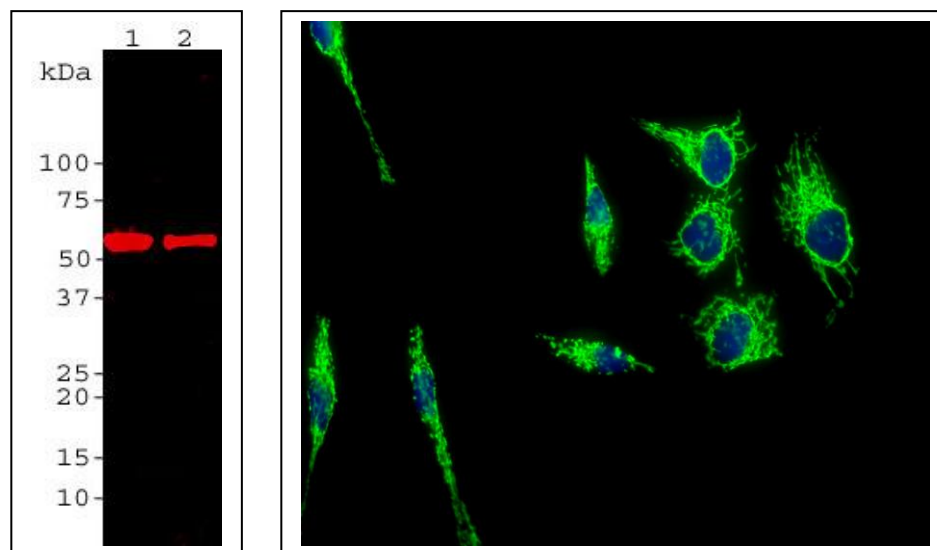


Catalogue# RPCA-HSP60: Rabbit Polyclonal Antibody to Hsp60

The Immunogen: The heat shock proteins were discovered, as the name suggests, since they are heavily upregulated when cells are stressed by temperatures above the normal physiological range. They are expressed in unstressed cells also and have a normal function as chaperones, helping other proteins to fold correctly, and are required in much greater amounts if the cell or tissue is stressed by heat. The increased levels are generated transcriptionally under the influence of a powerful transcription factor, the heat shock factor 1 (HSF1).

The different heat shock proteins were originally named based on their SDS-PAGE mobility, so HSP60 has an apparent molecular weight of 60 kDa. It is an abundant protein in mitochondria and is typically responsible for the transportation and refolding of proteins from the cytoplasm into the mitochondrial matrix. HSP60 aids in the folding and conformation maintenance of approximately 15-30% of all cellular proteins (1). In addition to its role as a heat shock protein, HSP60 plays an important role in the transport and maintenance of mitochondrial proteins as well as the transmission and replication of mitochondrial DNA (2, 3). HSP60 has been implicated in the initiation and/or progression of some subtypes of Cardiovascular Disease (CVD), implying its potential as a biomarker with applications for diagnosis, assessing prognosis and response to treatment, as well as for preventing and treating CVD (4). The HGNC name for this protein is [HSPD1](#).



Figures: Left: Western blot analysis of RPCA-HSP60. Blot of HeLa cells lysate (lane 1) and rat brain extract (lane 2) was probed with RPCA-HSP60. This antibody recognizes cleanly and strongly the Hsp60 protein band at 60 kDa. **Right:** HeLa cells grown in culture were stained with RPCA-HSP60 (green). Blue is DAPI staining of DNA. The RPCA-HSP60 antibody reveals strong staining in mitochondria.

Antibody characteristics: RPCA-HSP60 was raised against recombinant human Hsp60 purified from *E. coli* and is supplied as an aliquot of crude serum. RPCA-HSP60 recognizes human and rodents Hsp60 both in western blot and in immunocytochemical experiments.

Suggestions for use: Try at dilutions of 1:2,000-5,000 for immunofluorescence and Western blots.

Omim link: <http://omim.org/entry/118190>

References:

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2. Koll H, Guiard B, Rassow J, Ostermann J, Horwich AL, Neupert W, Hartl FU. Antifolding activity of hsp60 couples protein import into the mitochondrial matrix with export to the intermembrane space. [Cell 68:1163-75 \(1992\).](#)
3. Kaufman BA, Kolesar JE, Perlman PS, Butow RA. A function for the mitochondrial chaperonin Hsp60 in the structure and transmission of mitochondrial DNA nucleoids in *Saccharomyces cerevisiae*. [J Cell Biol 163:457-61\(2003\).](#)
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