

HSP 60 (N-20): sc-1052

BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes, and the regulation of protein folding. HSPs (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The constitutively expressed mitochondrial protein HSP 60 shares the ability to recognize and stabilize proteins during folding, assembly and disassembly with other HSP family members. The mitochondrial and cytosolic localization of HSP 60, combined with its binding and catalysis of folding of newly synthesized proteins destined for the mitochondrial matrix, classify this protein as a molecular chaperone. An additional role of HSP 60 is to act as a cell surface marker for γ/δ T cell recognition.

CHROMOSOMAL LOCATION

Genetic locus: HSPD1 (human) mapping to 2q33.1; Hspd1 (mouse) mapping to 1 C1.2.

SOURCE

HSP 60 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HSP 60 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1052 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HSP 60 (N-20) is recommended for detection of HSP 60 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HSP 60 (N-20) is also recommended for detection of HSP 60 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HSP 60 siRNA (h): sc-29351, HSP 60 siRNA (m): sc-35604, HSP 60 shRNA Plasmid (h): sc-29351-SH, HSP 60 shRNA Plasmid (m): sc-35604-SH, HSP 60 shRNA (h) Lentiviral Particles: sc-29351-V and HSP 60 shRNA (m) Lentiviral Particles: sc-35604-V.

Molecular Weight of HSP 60: 60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

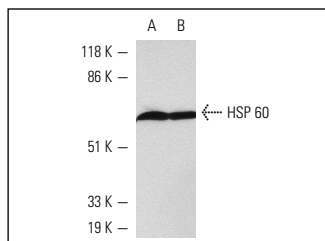
RESEARCH USE

For research use only, not for use in diagnostic procedures.

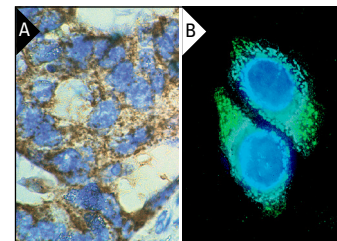
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



HSP 60 (N-20): sc-1052. Western blot analysis of HSP 60 expression in NIH/3T3 (A) and HeLa (B) whole cell lysates.



HSP 60 (N-20): sc-1052. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing cytoplasmic staining of tumor cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial immunostaining and nuclear DAPI counterstain (B).

SELECT PRODUCT CITATIONS

- Shirakawa, R, et al. 2000. Small GTPase Rab 4 regulates Ca^{2+} induced α -granule secretion in platelets. *J. Biol. Chem.* 275: 33844-33849.
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- Amoroso, M.R., et al. 2011. TRAP1 and the proteasome regulatory particle TBP7/Rpt3 interact in the endoplasmic reticulum and control cellular ubiquitination of specific mitochondrial proteins. *Cell Death Differ.* 19: 592-604.
- Pennisi, G., et al. 2011. Redox regulation of cellular stress response in multiple sclerosis. *Biochem. Pharmacol.* 82: 1490-1499.
- Cheng, Z., et al. 2011. Mitochondrial translocation of Nur77 mediates cardiomyocyte apoptosis. *Eur. Heart J.* 32: 2179-2188.
- Cappello, F., et al. 2011. Convergent sets of data from *in vivo* and *in vitro* methods point to an active role of Hsp60 in chronic obstructive pulmonary disease pathogenesis. *PLoS ONE* 6: e28200.
- Satoh, J., et al. 2012. Gene expression profile of THP-1 monocytes following knockdown of DAP12, a causative gene for Nasu-Hakola disease. *Cell. Mol. Neurobiol.* 32: 337-343.
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