

HSP 60 (F-9): sc-376261

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 (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 533-569 near the C-terminus of HSP 60 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376261 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HSP 60 (F-9) is recommended for detection of HSP 60 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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

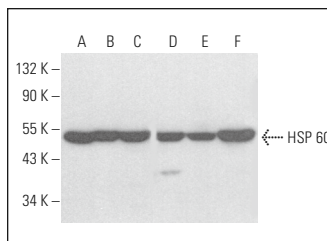
STORAGE

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

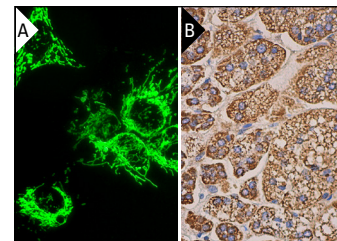
RESEARCH USE

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

DATA



HSP 60 (F-9): sc-376261. Western blot analysis of HSP 60 expression in KNRK (A), HeLa (B), Jurkat (C) and NIH/3T3 (D) whole cell lysates and mouse placenta (E) and human kidney (F) tissue extracts.



HSP 60 (F-9): sc-376261. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Liu, H.L., et al. 2012. Low-pressure pulsed focused ultrasound with micro-bubbles promotes an anticancer immunological response. *J. Transl. Med.* 10: 221.
- Serban, A.I., et al. 2015. AGEs-induced IL-6 synthesis precedes RAGE up-regulation in HEK 293 cells: an alternative inflammatory mechanism? *Int. J. Mol. Sci.* 16: 20100-20117.
- Szargel, R., et al. 2016. The PINK1, synphilin-1 and SIAH-1 complex constitutes a novel mitophagy pathway. *Hum. Mol. Genet.* 25: 3476-3490.
- Zhang, L., et al. 2017. Differential protein acetylation assists import of excess SOD2 into mitochondria and mediates SOD2 aggregation associated with cardiac hypertrophy in the murine SOD2-tg heart. *Free Radic. Biol. Med.* 108: 595-609.
- Zhou, C., et al. 2018. Oncogenic HSP 60 regulates mitochondrial oxidative phosphorylation to support Erk1/2 activation during pancreatic cancer cell growth. *Cell Death Dis.* 9: 161.
- Chen, D., et al. 2020. Systematic analysis of a mitochondrial disease-causing ND6 mutation in mitochondrial deficiency. *Mol. Genet. Genomic Med.* 8: e1199.
- Yan, F., et al. 2021. Autophagic flux in cancer cells at the invasive front in the tumor-stroma border. *Aging* 13: 20229-20245.
- Eugin Simon, S., et al. 2022. New synthetic phenylquinazoline derivatives induce apoptosis by targeting the pro-survival members of the BCL-2 family. *Bioorg. Med. Chem. Lett.* 67: 128731.



See **HSP 60 (LK1): sc-59567** for HSP 60 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.