SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 60 (C-10): sc-376240

The Power to Question

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 (C-10) 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 µg IgM 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-376240 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HSP 60 (C-10) 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 µg per 100-500 µg 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: SH-SY5Y cell lysate: sc-3812, HL-60 whole cell lysate: sc-2209 or A549 cell lysate: sc-2413.

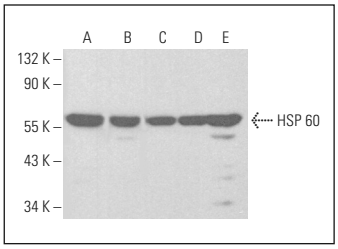
STORAGE

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

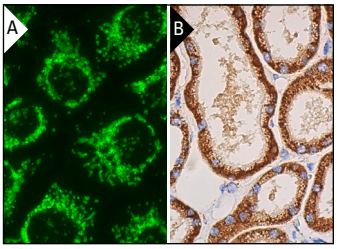
RESEARCH USE

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

DATA



HSP 60 (C-10): sc-376240. Western blot analysis of HSP 60 expression in A549 (**A**), THP-1 (**B**), SH-SY5Y (**C**), U-251-MG (**D**) and HL-60 (**E**) whole cell lysates.



HSP 60 (C-10): sc-376240. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Rodriguez-Miguelez, P., et al. 2014. Role of Toll-like receptor 2 and 4 signaling pathways on the inflammatory response to resistance training in elderly subjects. Age 36: 9734.
2. Guo, W., et al. 2017. Tyrosine phosphatase SHP2 negatively regulates NLRP3 inflammasome activation via ANT1-dependent mitochondrial homeostasis. Nat. Commun. 8: 2168.
3. Li, X.X., et al. 2018. Nuclear receptor Nur77 facilitates melanoma cell survival under metabolic stress by protecting fatty acid oxidation. Mol. Cell 69: 480-492.e7.
4. Ma, D., et al. 2018. Upon infection the cellular WD repeat-containing protein 5 (WDR5) localizes to cytoplasmic inclusion bodies and enhances measles virus replication. J. Virol. 92: e01726-17.
5. Agarwal, R., et al. 2019. Dynamic molecular monitoring reveals that SWI-SNF mutations mediate resistance to ibrutinib plus venetoclax in mantle cell lymphoma. Nat. Med. 25: 119-129.
6. Burr, M.L., et al. 2019. An evolutionarily conserved function of polycomb silences the MHC class I antigen presentation pathway and enables immune evasion in cancer. Cancer Cell 36: 385-401.e8.
7. MacPherson, L., et al. 2020. HBO1 is required for the maintenance of leukaemia stem cells. Nature 577: 266-270.
8. Sarti, A.C., et al. 2021. Mitochondrial P2X7 receptor localization modulates energy metabolism enhancing physical performance. Function 2: zqab005.
9. Cao, Y., et al. 2022. Sonodynamic therapy promotes efferocytosis via CD47 down-regulation in advanced atherosclerotic plaque. Int. Heart J. 63: 131-140.

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.