SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 60 (H-1): sc-13115

SANTA CRUZ BIOTECHNOLOGY

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 (H-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 28-62 near the N-terminus of HSP 60 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-13115 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HSP 60 (H-1) 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 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).

HSP 60 (H-1) 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.

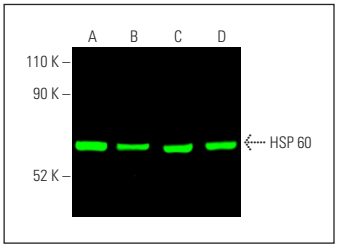
Molecular Weight of HSP 60: 60 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, F9 cell lysate: sc-2245 or HEK293T whole cell lysate: sc-45137.

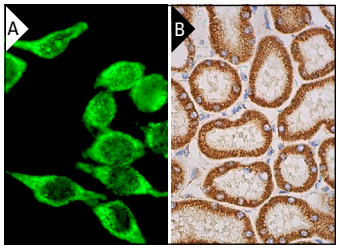
STORAGE

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

DATA



HSP 60 (H-1): sc-13115. Near-Infrared western blot analysis of HSP 60 expression in K-562 (**A**), HEK293T (**B**), F9 (**C**) and NIH/3T3 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_3 BP-CFL 680: sc-533677.



HSP 60 (H-1): sc-13115. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Skokos, D., et al. 2003. Mast cell-derived exosomes induce phenotypic and functional maturation of dendritic cells and elicit specific immune responses *in vivo*. J. Immunol. 170: 3037-3045.
2. Zhu, L., et al. 2018. TBK-binding protein 1 regulates IL-15-induced autophagy and NKT cell survival. Nat. Commun. 9: 2812.
3. Yu, T., et al. 2019. Modulation of M2 macrophage polarization by the crosstalk between Stat6 and Trim24. Nat. Commun. 10: 4353.
4. Landa-Galvan, H.V., et al. 2020. Metabolic syndrome diminishes Insulin-induced Akt activation and causes a redistribution of Akt-interacting proteins in cardiomyocytes. PLoS ONE 15: e0228115.
5. Braga, R.R., et al. 2021. Exercise alters the mitochondrial proteostasis and induces the mitonuclear imbalance and UPR^{mt} in the hypothalamus of mice. Sci. Rep. 11: 3813.
6. Key, J., et al. 2022. CLPP depletion causes diplotene arrest; underlying testis mitochondrial dysfunction occurs with accumulation of perrault proteins ERAL1, PEO1, and HARS2. Cells 12: 52.
7. Zhang, S., et al. 2023. LINC00116-encoded microprotein mitoregulin regulates fatty acid metabolism at the mitochondrial outer membrane. iScience 26: 107558.
8. Kim, J.E., et al. 2024. Mitochondrial SIRT3 as a protective factor against cyclosporine A-induced nephrotoxicity. Sci. Rep. 14: 10143.

RESEARCH USE

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

CONJUGATES

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.