SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 60 (24): sc-136291

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.

REFERENCES

1. Ritossa, F. 1962. A new puffing pattern induced by temperature shock and DNP in *Drosophila.* Experientia 18: 571-573.
2. Lemeaux, P.G., et al. 1978. Transient rates of synthesis of individual polypeptides in *E. coli* following temperature shifts. Cell 13: 427-434.
3. Kelley, P. and Schlesinger, M.J. 1978. The effect of amino acid analogues and heat shock on gene expression in chicken embryo fibroblasts. Cell 15: 1277-1286.

CHROMOSOMAL LOCATION

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

SOURCE

HSP 60 (24) is a mouse monoclonal antibody raised against amino acids 1-200 of HSP 60 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSP 60 (24) is recommended for detection of HSP60 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

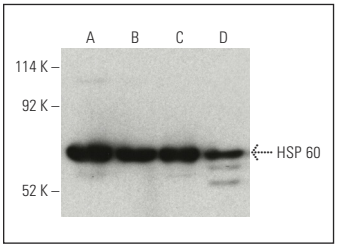
Molecular Weight of HSP 60: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

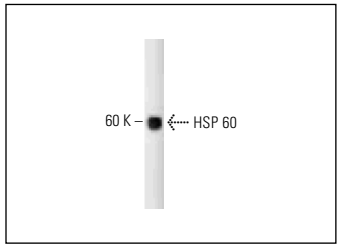
STORAGE

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

DATA



HSP 60 (24): sc-136291. Western blot analysis of HSP 60 expression in Jurkat (**A**), K-562 (**B**) and HeLa (**C**) whole cell lysates and human kidney tissue extract (**D**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



HSP 60 (24): sc-136291. Western blot analysis of HSP 60 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bonior, J., et al. 2007. Endotoxemia in the infant rats modulates HSP60 protein level in the pancreatic acinar cells. J. Physiol. Pharmacol. 58: 189-198.
2. Jaworek, J., et al. 2008. Effect of neonatal endotoxemia on the pancreas of adult rats. J. Physiol. Pharmacol. 59: 87-102.
3. Jolanta, J., et al. 2011. Does endotoksemia in the infant rats modulate heat shock protein 60 in the pancreatic acinar cells via activation of Toll-like receptor 4? Interdisciplinary Res. Nursing Past Present 66: 161-169.
4. Bonior, J., et al. 2012. Long-lasting effect of infant rats endotoxemia on heat shock protein 60 in the pancreatic acinar cells: involvement of Toll-like receptor 4. Int. J. Inflam. 2012: 354904.
5. Doiron, K., et al. 2017. The dynamic interacting landscape of MAPL reveals essential functions for SUMOylation in innate immunity. Sci. Rep. 7: 107.
6. He, X., et al. 2019. RNF34 functions in immunity and selective mitophagy by targeting MAVS for autophagic degradation. EMBO J. 38: e100978.
7. Chávez, E., et al. 2020. Role of autophagy in the chemopreventive effect of the IFC-305 compound in the sequential model of cirrhosis-hepatocellular carcinoma in the rat and *in vitro.* Am. J. Cancer Res. 10: 1844-1856.
8. Tilokani, L., et al. 2022. AMPK-dependent phosphorylation of MTFR1L regulates mitochondrial morphology. Sci. Adv. 8: eabo7956.
9. Kafkova, A., et al. 2023. Selective and reversible disruption of mitochondrial inner membrane protein complexes by lipophilic cations. Mitochondrion 68: 60-71.
10. Ma, D., et al. 2023. Temporal relationship of the orphan receptor TR3 translocation and expression with zinc-induced apoptosis in prostate cancer cells. Transl. Androl. Urol. 12: 444-454.

RESEARCH USE

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