SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 10 (D-8): sc-376313

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 poly-peptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (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 low molecular weight family includes HSP 10, HSP 20, HSP 27, HSP 32 and HSP 40. HSP 10, a 102 amino acid protein, forms a heptameric ring of seven identical subunits. This RING binds at either end of HSP 60 to form a functional heterodimer.

CHROMOSOMAL LOCATION

Genetic locus: HSPE1 (human) mapping to 2q33.1; Hspe1 (mouse) mapping to 1 C1.2.

SOURCE

HSP 10 (D-8) is a mouse monoclonal antibody raised against amino acids 1-102 representing full length HSP 10 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.

HSP 10 (D-8) is available conjugated to agarose (sc-376313 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376313 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376313 PE), fluorescein (sc-376313 FITC), Alexa Fluor® 488 (sc-376313 AF488), Alexa Fluor® 546 (sc-376313 AF546), Alexa Fluor® 594 (sc-376313 AF594) or Alexa Fluor® 647 (sc-376313 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376313 AF680) or Alexa Fluor® 790 (sc-376313 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HSP 10 (D-8) is recommended for detection of HSP 10 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).

HSP 10 (D-8) is also recommended for detection of HSP 10 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HSP 10 siRNA (h): sc-40654, HSP 10 siRNA (m): sc-40655, HSP 10 shRNA Plasmid (h): sc-40654-SH, HSP 10 shRNA Plasmid (m): sc-40655-SH, HSP 10 shRNA (h) Lentiviral Particles: sc-40654-V and HSP 10 shRNA (m) Lentiviral Particles: sc-40655-V.

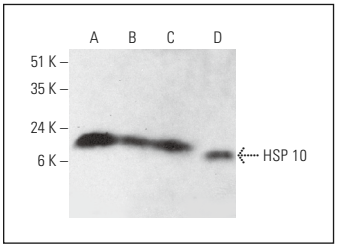
Molecular Weight of HSP 10: 10 kDa.

Positive Controls: MES-SA/Dx5 cell lysate: sc-2284, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

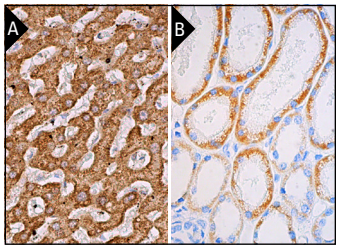
STORAGE

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

DATA



HSP 10 (D-8): sc-376313. Western blot analysis of HSP 10 expression in MES-SA/Dx5 (**A**), HeLa (**B**), Hep G2 (**C**) and PC-12 (**D**) whole cell lysates.



HSP 10 (D-8): sc-376313. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**A**). HSP 10 (D-8) HRP: sc-376313 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Li, L., et al. 2013. Global microRNA expression profiling reveals differential expression of target genes in 6-hydroxydopamine-injured MN9D cells. Neuromolecular Med. 15: 593-604.
2. Antczak, C., et al. 2014. A high content assay to assess cellular fitness. Comb. Chem. High Throughput Screen. 17: 12-24.
3. Fan, W., et al. 2017. Elevated expression of HSP 10 protein inhibits apoptosis and associates with poor prognosis of astrocytoma. PLoS ONE 12: e0185563.
4. Szego, É.M., et al. 2019. Cytosolic trapping of a mitochondrial heat shock potein is an early pathological event in synucleinopathies. Cell Rep. 28: 65-77.e6.
5. Zhou, H., et al. 2020. Loss of high-temperature requirement protein A2 protease activity induces mitonuclear imbalance via differential regulation of mitochondrial biogenesis in sarcopenia. IUBMB Life 72: 1659-1679.
6. Tang, Y., et al. 2021. Overexpression of HSP 10 correlates with HSP 60 and Mcl-1 levels and predicts poor prognosis in non-small cell lung cancer patients. Cancer Biomark. 30: 85-94.
7. Shkedi, A., et al. 2022. Selective vulnerabilities in the proteostasis network of castration-resistant prostate cancer. Cell Chem. Biol. 29: 490-501.e4.
8. Basset, C.A., et al. 2022. The chaperone system in salivary glands: Hsp90 prospects for differential diagnosis and treatment of malignant tumors. Int. J. Mol. Sci. 23: 9317.

RESEARCH USE

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