SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 75 (TR1): sc-13557

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 regulation of protein folding. Heat shock protein 75 mitochondrial precursor (HSP 75), also called tumor necrosis factor type 1 receptor-associated protein (TRAP-1), is a 704 amino acid member of the heat shock protein 90 family. HSP 75 localizes to the mitochondrion. HSP 75 is expressed in a variety of tissues including skeletal muscle, liver, heart, brain, pancreas, lung and placenta and functions as a chaperone that expresses an ATPase activity.

CHROMOSOMAL LOCATION

Genetic locus: TRAP1 (human) mapping to 16p13.3; Trap1 (mouse) mapping to 16 A1.

SOURCE

HSP 75 (TR1) is a mouse monoclonal antibody raised against purified full length HSP 75 of human origin.

PRODUCT

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

HSP 75 (TR1) is available conjugated to agarose (sc-13557 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13557 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13557 PE), fluorescein (sc-13557 FITC), Alexa Fluor® 488 (sc-13557 AF488), Alexa Fluor® 546 (sc-13557 AF546), Alexa Fluor® 594 (sc-13557 AF594) or Alexa Fluor® 647 (sc-13557 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13557 AF680) or Alexa Fluor® 790 (sc-13557 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HSP 75 (TR1) is recommended for detection of HSP 75 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).

Suitable for use as control antibody for HSP 75 siRNA (h): sc-72191, HSP 75 siRNA (m): sc-72192, HSP 75 shRNA Plasmid (h): sc-72191-SH, HSP 75 shRNA Plasmid (m): sc-72192-SH, HSP 75 shRNA (h) Lentiviral Particles: sc-72191-V and HSP 75 shRNA (m) Lentiviral Particles: sc-72192-V.

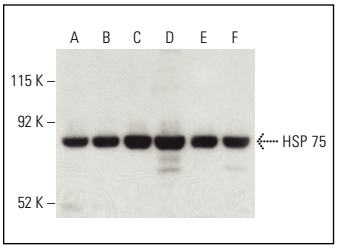
Molecular Weight of HSP 75: 75 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

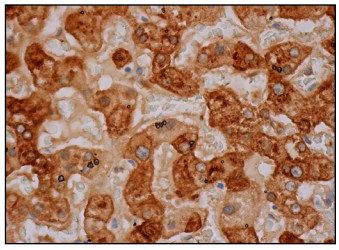
STORAGE

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

DATA



HSP 75 (TR1): sc-13557. Western blot analysis of HSP 75 expression in HL-60 (**A**), Hep G2 (**B**), HeLa (**C**), NCI-H460 (**D**), MCF7 (**E**) and A-673 (**F**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



HSP 75 (TR1): sc-13557. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and membrane staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Montesano Gesualdi, N., et al. 2007. Tumor necrosis factor-associated protein 1 (TRAP-1) protects cells from oxidative stress and apoptosis. Stress 10: 342-350.
2. Maddalena, F., et al. 2011. Sorcin induces a drug-resistant phenotype in human colorectal cancer by modulating Ca^{2+} homeostasis. Cancer Res. 71: 7659-7669.
3. Sisinni, L., et al. 2013. TRAP1 role in endoplasmic reticulum stress protection favors resistance to anthracyclins in breast carcinoma cells. Int. J. Oncol. 44: 573-582.
4. Ciscato, F., et al. 2014. SERPINB3 protects from oxidative damage by chemotherapeutics through inhibition of mitochondrial respiratory complex I. Oncotarget 5: 2418-2427.
5. Agliarulo, I., et al. 2015. TRAP1 controls cell migration of cancer cells in metabolic stress conditions: correlations with AKT/$p70^{S6K}$ pathways. Biochim. Biophys. Acta 1853: 2570-2579.
6. Matassa, D.S., et al. 2016. Oxidative metabolism drives inflammation-induced platinum resistance in human ovarian cancer. Cell Death Differ. 23: 1542-1554.
7. Wong, M.Y., et al. 2018. A high-throughput assay for collagen secretion suggests an unanticipated role for HSP 90 in collagen production. Biochemistry 57: 2814-2827.
8. Montemurro, L., et al. 2019. A novel MYCN-specific antigene oligonucleotide deregulates mitochondria and inhibits tumor growth in MYCN-amplified neuroblastoma. Cancer Res. 79: 6166-6177.
9. Criscuolo, D., et al. 2020. Cholesterol homeostasis modulates platinum sensitivity in human ovarian cancer. Cells 9: 828.

RESEARCH USE

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