SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 40 (C-20): sc-1800

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Heat shock protein 40 (HSP 40) family proteins bind to HSP 70 through their J-domain and regulate the function of HSP 70 by stimulating HSP 70 ATPase activity. HSP 40, also known as DnaJ, functions together with DnaK (HSP 70) and GrpE as a molecular chaperone, involving them in assembly and disassembly of protein complexes, protein folding, renaturation of denatured proteins, prevention of protein aggregation and protein export. HSP 40 stimulates the association between HSC 70 and HIP and translocates rapidly from the cytoplasm to the nuclei, and especially to the nucleoli, upon heat shock. There are five known HSP 40 family proteins.

REFERENCES

1. Ohtsuka, K., et al. 1993. Effect of ATP on the release of HSP 70 and HSP 40 from the nucleus in heat-shocked HeLa cells. Exp. Cell Res. 209: 357-366.
2. Yamane, M., et al. 1995. Cotranslocation and colocalization of HSP 40 (DnaJ) with HSP 70 (DnaK) in mammalian cells. Cell Struct. Funct. 20: 157-166.
3. Kaneko, R., et al. 1995. Heat-shock protein 40, a novel predictor of thermotolerance in murine cells. Radiat. Res. 142: 91-97.
4. Hoe, K.L., et al. 1998. Isolation of a new member of DnaJ-like heat shock protein 40 (HSP 40) from human liver. Biochim. Biophys. Acta 1383: 4-8.

CHROMOSOMAL LOCATION

Genetic locus: DNAJB1 (human) mapping to 19p13.12; Dnajb1 (mouse) mapping to 8 C2.

SOURCE

HSP 40 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HSP 40 protein 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

HSP 40 (C-20) is recommended for detection of HSP 40 of human and, to a lesser extent, mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

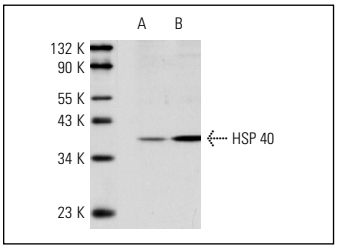
HSP 40 (C-20) is also recommended for detection of HSP 40 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HSP 40 siRNA (h): sc-35599, HSP 40 siRNA (m): sc-40656, HSP 40 shRNA Plasmid (h): sc-35599-SH, HSP 40 shRNA Plasmid (m): sc-40656-SH, HSP 40 shRNA (h) Lentiviral Particles: sc-35599-V and HSP 40 shRNA (m) Lentiviral Particles: sc-40656-V.

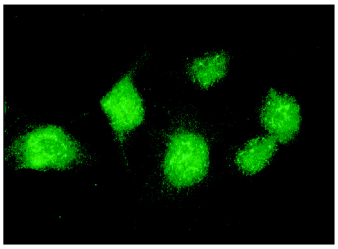
Molecular Weight of HSP 40: 40 kDa.

Positive Controls: HeLa + heat shock cell lysate: sc-2272, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

DATA



HSP 40 (C-20): sc-1800. Western blot analysis of HSP 40 expression in untreated (**A**) and heat-shock activated (**B**) HeLa whole cell lysates.



HSP 40 (C-20): sc-1800. Immunofluorescence staining of methanol-fixed HeLa cells showing localization of HSP 40.

SELECT PRODUCT CITATIONS

1. Gebauer, M., et al. 1997. Proteins interacting with the molecular chaperone hsp70/hsc70: physical associations and effects on refolding activity. FEBS Lett. 417: 109-113.
2. Kiang, J.G., et al. 2006. Geldanamycin prevents hemorrhage-induced ATP loss by overexpressing inducible HSP70 and activating pyruvate dehydrogenase. Am. J. Physiol. Gastrointest. Liver Physiol. 291: G117-G127.
3. Raychaudhuri, S. 2012. MicroRNAs overexpressed in growth-restricted rat skeletal muscles regulate the glucose transport in cell culture targeting central TGF-β factor SMAD4. PLoS ONE 7: e34596.