

HSP 40 (5): sc-135943

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

- Ohtsuka, K., Utsumi, K.R., Kaneda, T. and Hattori, H. 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.
- Yamane, M., Hattori, H., Sugito, K., Hayash, Y., Tohnai, I., Ueda, M., Nishizawa, K. and Ohtsuka, K. 1995. Co-translocation and co-localization of HSP 40 (DnaJ) with HSP 70 (DnaK) in mammalian cells. *Cell. Struct. Funct.* 20: 157-166.
- Kaneko, R., Hattori, H., Hayashi, Y., Tohnai, I., Ueda, M. and Ohtsuka, K. 1995. HSP 40, a novel predictor of thermotolerance in murine cells. *Radiat. Res.* 142: 91-97.
- Hoe, K.L. 1998. Isolation of a new member of DnaJ-like heat shock protein 40 (HSP 40) from human liver. *Biochim. Biophys. Acta* 1383: 4-8.
- Michels, A.A., Kanon, B., Bensaude, O. and Kampinga, H.H. 1999. Heat shock protein (HSP) 40 mutants inhibit HSP 70 in mammalian cells. *J. Biol. Chem.* 274: 36757-36763.
- Suzuki, T., Usuda, N., Murata, S., Nakazawa, A., Ohtsuka, K. and Takagi, H. 1999. Presence of molecular chaperones, heat shock cognate (HSC) 70 and heat shock proteins (HSP) 40, in the postsynaptic structures of rat brain. *Brain Res.* 816: 99-110.
- Ohtsuka, K. and Hata, M. 2000. Mammalian HSP 40/DnaJ homologs: cloning of novel cDNAs and a proposal for their classification and nomenclature. *Cell Stress Chaperones* 5: 98-112.

CHROMOSOMAL LOCATION

Genetic locus: DNAJB1 (human) mapping to 19p13.12.

SOURCE

HSP 40 (5) is a mouse monoclonal antibody raised against amino acids 97-217 of HSP 40 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

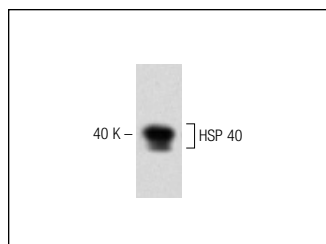
HSP 40 (5) is recommended for detection of HSP 40 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

Molecular Weight of HSP 40: 40 kDa.

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

DATA



HSP 40 (5): sc-135943. Western blot analysis of HSP 40 expression in HeLa whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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