SANTA CRUZ BIOTECHNOLOGY, INC.

DnaJB4 (R-07): sc-100711

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The DnaJ family is one of the largest of all the chaperone families and has evolved with diverse cellular localization and functions. The presence of the J domain defines a protein as a member of the DnaJ family. DnaJ heat shock induced proteins are from the bacterium *Escherichia coli* and are under the control of the htpR regulatory protein. The DnaJ proteins play a critical role in the HSP 70 chaperone machine by interacting with HSP 70 to stimulate ATP hydrolysis. The proteins contain cysteine rich regions that are composed of zinc fingers that form a peptide binding domain responsible for the chaperone function. DnaJ proteins are important mediators of proteolysis and are involved in the regulation of protein degradation, exocytosis and endocytosis. DnaJB4 (DnaJ homolog subfamily B member 4), also known as HLJ1, is expressed in skeletal muscle, heart and pancreas, and lower expression in brain, placenta and liver.

REFERENCES

1. Saito, H. and Uchida, H. 1978. Organization and expression of the DnaJ and DnaK genes of *Escherichia coli* K12. Mol. Gen. Genet. 164: 1-8.
2. Georgopoulos, C.P., et al. 1980. Identification of the *E. coli* DnaJ gene product. Mol. Gen. Genet. 178: 583-588.
3. Suh, W.C., et al. 1998. Interaction of the Hsp70 molecular chaperone, DnaK, with its cochaperone DnaJ. Proc. Natl. Acad. Sci. USA 95: 15223-15228.
4. Tomoyasu, T., et al. 1998. Levels of DnaK and DnaJ provide tight control of heat shock gene expression and protein repair in *Escherichia coli*. Mol. Microbiol. 30: 567-581.
5. Stewart, G.R., et al. 2004. Analysis of the function of mycobacterial DnaJ proteins by overexpression and microarray profiling. Tuberculosis 84: 180-187.
6. Shi, Y.Y., et al. 2005. The C-terminal (331-376) sequence of *Escherichia coli* DnaJ is essential for dimerization and chaperone activity: a small angle X-ray scattering study in solution. J. Biol. Chem. 280: 22761-22768.
7. Qiu, X.B., et al. 2006. The diversity of the DnaJ/Hsp40 family, the crucial partners for HSP 70 chaperones. Cell. Mol. Life Sci. 63: 2560-2570.

CHROMOSOMAL LOCATION

Genetic locus: DNAJB4 (human) mapping to 1p31.1; Dnajb4 (mouse) mapping to 3 H3.

SOURCE

DnaJB4 (R-07) is a mouse monoclonal antibody raised against recombinant DnaJB4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 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

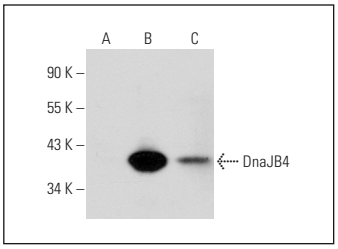
DnaJB4 (R-07) is recommended for detection of DnaJB4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DnaJB4 siRNA (h): sc-88157, DnaJB4 siRNA (m): sc-105306, DnaJB4 shRNA Plasmid (h): sc-88157-SH, DnaJB4 shRNA Plasmid (m): sc-105306-SH, DnaJB4 shRNA (h) Lentiviral Particles: sc-88157-V and DnaJB4 shRNA (m) Lentiviral Particles: sc-105306-V.

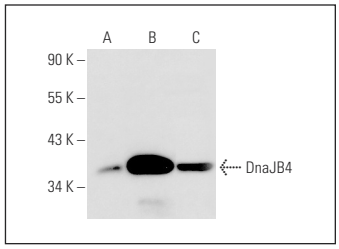
Molecular Weight of DnaJB4: 38 kDa.

Positive Controls: DnaJB4 (m): 293T Lysate: sc-119798, DnaJB4 (h): 293T Lysate: sc-113695 or Jurkat whole cell lysate: sc-2204.

DATA



DnaJB4 (R-07): sc-100711. Western blot analysis of DnaJB4 expression in non-transfected 293T: sc-117752 (**A**), human DnaJB4 transfected 293T: sc-113695 (**B**) and Jurkat (**C**) whole cell lysates.



DnaJB4 (R-07): sc-100711. Western blot analysis of DnaJB4 expression in non-transfected 293T: sc-117752 (**A**), mouse DnaJB4 transfected 293T: sc-119798 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, C.H., et al. 2010. Acidic stress facilitates tyrosine phosphorylation of HLJ1 to associate with actin cytoskeleton in lung cancer cells. Exp. Cell Res. 316: 2910-2921.
2. Uretmen Kagiali, Z.C., et al. 2019. Systems-level analysis reveals multiple modulators of epithelial-mesenchymal transition and identifies DnaJB4 and CD81 as novel metastasis inducers in breast cancer. Mol. Cell. Proteomics 18: 1756-1771.
3. Miao, W., et al. 2019. HSP 90 inhibitors stimulate DNAJB4 protein expression through a mechanism involving N^6-methyladenosine. Nat. Commun. 10: 3613.

RESEARCH USE

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

PROTOCOLS

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