

DnaJA4 (LL2): sc-100714

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. DnaJA4 (DnaJ homolog subfamily A member 4) is a SREBP-regulated chaperone that is thought to regulate the cholesterol biosynthesis pathway.

REFERENCES

1. Saito, H., et al. 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 HSP 70 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. Robichon, C., et al. 2006. DnaJA4 is a SREBP-regulated chaperone involved in the cholesterol biosynthesis pathway. *Biochim. Biophys. Acta* 1761: 1107-1113.

CHROMOSOMAL LOCATION

Genetic locus: DNAJA4 (human) mapping to 15q25.1; Dnaja4 (mouse) mapping to 9 A5.3.

SOURCE

DnaJA4 (LL2) is a mouse monoclonal antibody raised against recombinant DnaJA4 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

DnaJA4 (LL2) is recommended for detection of DnaJA4 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 DnaJA4 siRNA (h): sc-90169, DnaJA4 siRNA (m): sc-105305, DnaJA4 shRNA Plasmid (h): sc-90169-SH, DnaJA4 shRNA Plasmid (m): sc-105305-SH, DnaJA4 shRNA (h) Lentiviral Particles: sc-90169-V and DnaJA4 shRNA (m) Lentiviral Particles: sc-105305-V.

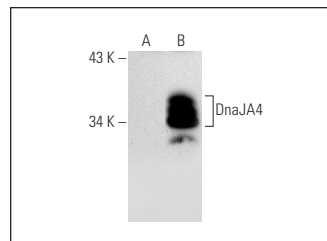
Molecular Weight of DnaJA4: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or DnaJA4 (m): 293T Lysate: sc-119795.

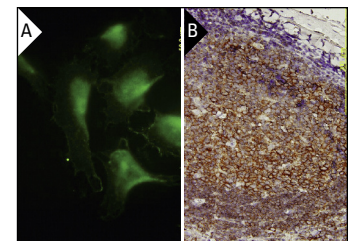
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DnaJA4 (LL2): sc-100714. Western blot analysis of DnaJA4 expression in non-transfected: sc-117752 (A) and mouse DnaJA4 transfected: sc-119795 (B) 293T whole cell lysates.



DnaJA4 (LL2): sc-100714. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing membrane localization (B).

SELECT PRODUCT CITATIONS

1. Moos, P.J., et al. 2011. Responses of human cells to ZnO nanoparticles: a gene transcription study. *Metallomics* 3: 1199-1211.

STORAGE

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