SANTA CRUZ BIOTECHNOLOGY, INC.

DnaJB2 (57.8): sc-100715

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. DnaJB2 (DnaJ homolog subfamily B member 2), also known as HSJ1 or HSPF3, is expressed almost exclusively in the brain, with the highest levels in the frontal cortex and hippocampus. Two isoforms are produced due to alternative splicing.

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 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.

CHROMOSOMAL LOCATION

Genetic locus: DNAJB2 (human) mapping to 2q35; Dnajb2 (mouse) mapping to 1 C3.

SOURCE

DnaJB2 (57.8) is a mouse monoclonal antibody raised against recombinant DnaJB2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml 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

DnaJB2 (57.8) is recommended for detection of DnaJB2 of mouse 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 DnaJB2 siRNA (h): sc-94376, DnaJB2 siRNA (m): sc-143092, DnaJB2 shRNA Plasmid (h): sc-94376-SH, DnaJB2 shRNA Plasmid (m): sc-143092-SH, DnaJB2 shRNA (h) Lentiviral Particles: sc-94376-V and DnaJB2 shRNA (m) Lentiviral Particles: sc-143092-V.

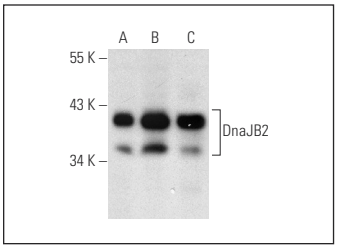
Molecular Weight of DnaJB2: 36 kDa.

Positive Controls: Ramos cell lysate: sc-2216, SW480 cell lysate: sc-2219 or HISM cell lysate: sc-2229.

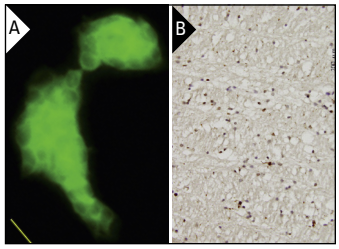
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



DnaJB2 (57.8): sc-100715. Western blot analysis of DnaJB2 expression in Ramos (**A**), SW480 (**B**) and HISM (**C**) whole cell lysates.



DnaJB2 (57.8): sc-100715 Immunofluorescence staining of paraformaldehyde-fixed A-431 cells showing membrane and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lateral ventricle wall tissue showing nuclear and cytoplasmic localization (**B**).

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.