SANTA CRUZ BIOTECHNOLOGY, INC.

DnaJB14 (D-17): sc-104202

BACKGROUND

The DnaJ family, one of the largest of all the chaperone families, has evolved with diverse cellular localization and functions. The presence of a J domain defines a protein as a member of the DnaJ family. DnaJ heat-shock induced proteins are derived from the bacterium *Escherichia coli* and are under the control of the htpR regulatory protein. DnaJ proteins play a critical role in the HSP 70 chaperone machine by interacting with HSP 70 to stimulate ATP hydrolysis. Members of this family contain cysteine-rich regions that are composed of zinc fingers that form a peptide-binding domain responsible for chaperone function. DnaJ family members are important mediators of proteolysis and are involved in the regulation of protein degradation, exocytosis and endocytosis. DnaJB14 (DnaJ (Hsp40) homolog, subfamily B, member 14) is a 379 amino acid single-pass membrane protein containing one J domain and is thought to act as a co-chaperone. DnaJB14 exists as two alternatively spliced isoforms.

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.
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: DNAJB14 (human) mapping to 4q23; Dnajb14 (mouse) mapping to 3 G3.

SOURCE

DnaJB14 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DnaJB14 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-104202 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DnaJB14 (D-17) is recommended for detection of DnaJB14 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other DNAJ family members.

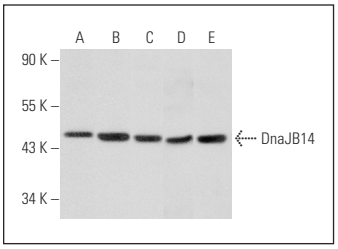
DnaJB14 (D-17) is also recommended for detection of DnaJB14 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DnaJB14 siRNA (h): sc-88854, DnaJB14 siRNA (m): sc-143091, DnaJB14 shRNA Plasmid (h): sc-88854-SH, DnaJB14 shRNA Plasmid (m): sc-143091-SH, DnaJB14 shRNA (h) Lentiviral Particles: sc-88854-V and DnaJB14 shRNA (m) Lentiviral Particles: sc-143091-V.

Molecular Weight of DnaJB14: 43 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-251-MG whole cell lysate: sc-364176 or IMR-32 cell lysate: sc-2409.

DATA



DnaJB14 (D-17): sc-104202. Western blot analysis of DnaJB14 expression in U-251-MG (**A**), K-562 (**B**), IMR-32 (**C**) and NIH/3T3 (**D**) whole cell lysates and human testis tissue extract (**E**).

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.