

DnaJA2 (E-13): sc-107520

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. DnaJA2 (DnaJ homolog subfamily A member 2), also known as HIRA-interacting protein 4 or cell cycle progression restoration gene 3 protein, contains one CR-type zinc finger and is a co-chaperone of HSC 70.

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 co-chaperone 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/HSP 40 family, the crucial partners for HSP 70 chaperones. *Cell. Mol. Life Sci.* 63: 2560-2570.
8. Genevaux, P., et al. 2007. The HSP 70 chaperone machines of *Escherichia coli*: a paradigm for the repartition of chaperone functions. *Mol. Microbiol.* 66: 840-857.
9. Acebrón, S.P., et al. 2008. DnaJ recruits DnaK to protein aggregates. *J. Biol. Chem.* 283: 1381-1390.

CHROMOSOMAL LOCATION

Genetic locus: DNAJA2 (human) mapping to 16q11.2; Dnaja2 (mouse) mapping to 8 C3.

SOURCE

DnaJA2 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DnaJA2 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-107520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DnaJA2 (E-13) is recommended for detection of DnaJA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

DnaJA2 (E-13) is also recommended for detection of DnaJA2 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for DnaJA2 siRNA (h): sc-93101, DnaJA2 siRNA (m): sc-143089, DnaJA2 shRNA Plasmid (h): sc-93101-SH, DnaJA2 shRNA Plasmid (m): sc-143089-SH, DnaJA2 shRNA (h) Lentiviral Particles: sc-93101-V and DnaJA2 shRNA (m) Lentiviral Particles: sc-143089-V.

Molecular Weight of DnaJA2: 46 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.