

HSP 40-4 (H-53): sc-135152

BACKGROUND

DnaJ-like proteins interact with HSP 70 molecular chaperones and function to facilitate protein folding and mitochondrial protein import. HSP 40-4, also known as HDJ2, is the human DnaJ homolog that functions as a cochaperone with a cysteine-rich zinc finger domain. The cellular redox enzyme thioredoxin interacts with HSP 40-4, and oxidation and reduction reversibly regulate HSP 40-4 function in response to the changing redox states of the cell. The zinc finger domain of HSP 40-4 may act as a redox sensor of chaperone-mediated protein-folding machinery, since HSP 40-4 inactivation leads to the oxidation of cysteine thiols and a simultaneous release of coordinated zinc. Loss of the HSP 40-4 protein may be linked to severe defects in spermatogenesis that involve aberrant androgen signaling.

REFERENCES

- Chellaiyah, A., et al. 1993. Cloning of a unique human homologue of the *Escherichia coli* DNAJ heat shock protein. *Biochim. Biophys. Acta* 1174: 111-113.
- Kanazawa, M., et al. 1997. HSDJ, a human homolog of DnaJ, is farnesylated and is involved in protein import into mitochondria. *J. Biochem.* 121: 890-895.

CHROMOSOMAL LOCATION

Genetic locus: DNAJA1 (human) mapping to 9p21.1; Dnaj1 (mouse) mapping to 4 A5.

SOURCE

HSP 40-4 (H-53) is a rabbit polyclonal antibody raised against amino acids 308-360 mapping near the C-terminus of HSP 40 protein 4 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.

APPLICATIONS

HSP 40-4 (H-53) is recommended for detection of HSP 40-4 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). HSP 40-4 (H-53) is also recommended for detection of HSP 40-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HSP 40-4 siRNA (h): sc-60816, HSP 40-4 siRNA (m): sc-60817, HSP 40-4 shRNA Plasmid (h): sc-60816-SH, HSP 40-4 shRNA Plasmid (m): sc-60817-SH, HSP 40-4 shRNA (h) Lentiviral Particles: sc-60816-V and HSP 40-4 shRNA (m) Lentiviral Particles: sc-60817-V.

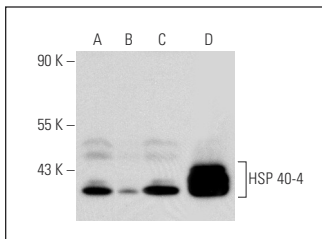
Molecular Weight of HSP 40-4: 44/46 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HSP 40-4 (H-53): sc-135152. Western blot analysis of HSP 40-4 expression in Jurkat (A), Hep G2 (B), Raji (C) and PC-12 (D) whole cell lysates.

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.

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Try **HSP 40-4 (KA2A5.6): sc-59554** or **HSP 40-4 (A-9): sc-376544**, our highly recommended monoclonal alternatives to HSP 40-4 (H-53).