

HSP 40-4 (SPM251): sc-56400

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 co-chaperone 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.

CHROMOSOMAL LOCATION

Genetic locus: DNAJA1 (human) mapping to 9p21.1; Dnaja1 (mouse) mapping to 4 A5.

SOURCE

HSP 40-4 (SPM251) is a mouse monoclonal antibody raised against amino acids 1-179 of HSP 40-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSP 40-4 (SPM251) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells); non cross-reactive with HSP 40 protein 1.

HSP 40-4 (SPM251) is also recommended for detection of HSP 40-4 in additional species, including 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: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or c4 whole cell lysate: sc-364186.

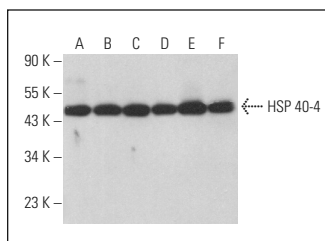
STORAGE

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

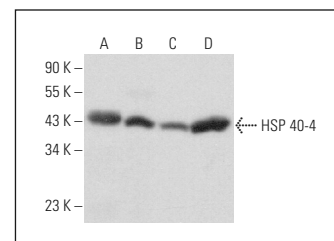
RESEARCH USE

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

DATA



HSP 40-4 (SPM251): sc-56400. Western blot analysis of HSP 40-4 expression in Jurkat (A), HeLa (B), ALL-SIL (C), JAR (D), F9 (E) and BYDP (F) whole cell lysates.



HSP 40-4 (SPM251): sc-56400. Western blot analysis of HSP 40-4 expression in Ramos (A), c4 (B), MCF7 (C) and NIH/3T3 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Guillemin, N., et al. 2011. Functional analysis of beef tenderness. *J. Proteomics* 75: 352-365.
- Cassar-Malek, I., et al. 2011. Expression of DNAJA1 in bovine muscles according to developmental age and management factors. *Animal* 5: 867-874.
- Guillemin, N., et al. 2011. Variations in the abundance of 24 protein biomarkers of beef tenderness according to muscle and animal type. *Animal* 5: 885-894.
- Gagaoua, M., et al. 2015. Understanding early post-mortem biochemical processes underlying meat color and pH decline in the longissimus thoracis muscle of young blond d'Aquitaine bulls using protein biomarkers. *J. Agric. Food Chem.* 63: 6799-6809.
- Gagaoua, M., et al. 2017. The study of protein biomarkers to understand the biochemical processes underlying beef color development in young bulls. *Meat Sci.* 134: 18-27.
- Gagaoua, M., et al. 2017. Associations among protein biomarkers and pH and color traits in longissimus thoracis and rectus abdominis muscles in protected designation of origin Maine-Anjou cull cows. *J. Agric. Food Chem.* 65: 3569-3580.
- Gagaoua, M., et al. 2018. Reverse phase protein arrays for the identification/validation of biomarkers of beef texture and their use for early classification of carcasses. *Food Chem.* 250: 245-252.
- Gagaoua, M., et al. 2018. Reverse phase protein array for the quantification and validation of protein biomarkers of beef qualities: the case of meat color from Charolais breed. *Meat Sci.* 145: 308-319.
- Picard, B., et al. 2018. Beef tenderness and intramuscular fat proteomic biomarkers: muscle type effect. *PeerJ* 6: e4891.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.