

Zuotin-1 (A-12): sc-393426

BACKGROUND

Zuotin-1 (DnaJ homolog subfamily C member 2, M-phase phosphoprotein 11) is a ribosome-associated DnaJ molecular chaperone that contains one J domain and two SANT domains. Zuotin-1 is of the DnaJ family, which is one of the largest of all the chaperone families and has evolved with diverse cellular localization and functions. DnaJ heat-shock induced proteins 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 the chaperone function. Such DnaJ ribosome-associated molecular chaperones are believed to be the first line of defense against protein aggregation as translating polypeptides emerge from the ribosome.

REFERENCES

- Hughes, R., et al. 1995. Cloning and chromosomal localization of a mouse cDNA with homology to the *Saccharomyces cerevisiae* gene zuotin. *Genomics* 29: 546-550.
- Yan, W., et al. 1998. Zuotin, a ribosome-associated DnaJ molecular chaperone. *EMBO J.* 17: 4809-4817.
- Craig, E.A., et al. 2003. Ribosome-tethered molecular chaperones: the first line of defense against protein misfolding? *Curr. Opin. Microbiol.* 6: 157-162.
- Otto, H., et al. 2005. The chaperones MPP11 and Hsp70L1 form the mammalian ribosome-associated complex. *Proc. Natl. Acad. Sci. USA* 102: 10064-10069.
- Hundley, H.A., et al. 2005. Human Mpp11 J protein: ribosome-tethered molecular chaperones are ubiquitous. *Science* 308: 1032-1034.
- Raychaudhuri, S., et al. 2006. Zuotin, a DnaJ molecular chaperone, stimulates cap-independent translation in yeast. *Biochem. Biophys. Res. Commun.* 350: 788-795.
- Qiu, X.B., et al. 2006. The diversity of the DnaJ/Hsp40 family, the crucial partners for Hsp70 chaperones. *Cell. Mol. Life Sci.* 63: 2560-2570.

CHROMOSOMAL LOCATION

Genetic locus: DNAJC2 (human) mapping to 7q22.1; Dnajc2 (mouse) mapping to 5 A3.

SOURCE

Zuotin-1 (A-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 10-29 at the N-terminus of Zuotin-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-393426 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Zuotin-1 (A-12) is recommended for detection of Zuotin-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Zuotin-1 siRNA (h): sc-77019, Zuotin-1 siRNA (m): sc-77020, Zuotin-1 shRNA Plasmid (h): sc-77019-SH, Zuotin-1 shRNA Plasmid (m): sc-77020-SH, Zuotin-1 shRNA (h) Lentiviral Particles: sc-77019-V and Zuotin-1 shRNA (m) Lentiviral Particles: sc-77020-V.

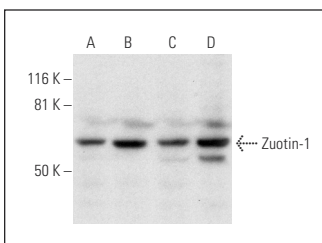
Molecular Weight of Zuotin-1: 72 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

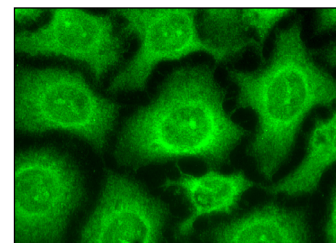
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Zuotin-1 (A-12): sc-393426. Western blot analysis of Zuotin-1 expression in HeLa (A), PC-3 (B), Hep G2 (C) and NIH/3T3 (D) whole cell lysates.



Zuotin-1 (A-12): sc-393426. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

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 for detailed protocols and support products.