SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. 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.
2. Yan, W., et al. 1998. Zuotin, a ribosome-associated DnaJ molecular chaperone. EMBO J. 17: 4809-4817.
3. Craig, E.A., et al. 2003. Ribosome-tethered molecular chaperones: the first line of defense against protein misfolding? Curr. Opin. Microbiol. 6: 157-162.
4. Otto, H., et al. 2005. The chaperones MPP11 and Hsp70L1 form the mammalian ribosome-associated complex. Proc. Natl. Acad. Sci. USA 102: 10064-10069.
5. Hundley, H.A., et al. 2005. Human Mpp11 J protein: ribosome-tethered molecular chaperones are ubiquitous. Science 308: 1032-1034.
6. Raychaudhuri, S., et al. 2006. Zuotin, a DnaJ molecular chaperone, stimulates cap-independent translation in yeast. Biochem. Biophys. Res. Commun. 350: 788-795.
7. Qiu, X.B., et alL. 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.

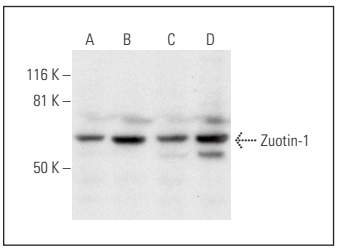
Molecular Weight of Zuotin-1: 72 kDa.

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

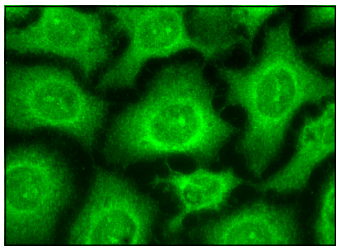
RECOMMENDED SUPPORT REAGENTS

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.