

TIPIN (4C9): sc-135580

BACKGROUND

TIPIN (Timeless interacting protein) is a 301 amino acid protein that localizes to both the nucleus and the cytoplasm and belongs to the CSM3 family. Expressed abundantly in liver, thymus, brain and gastrointestinal tract, TIPIN interacts with Timeless and is required for both normal cell cycle progression and for cell survival after DNA damage or replication stress. Additionally, TIPIN may be required to pass the ATR replication checkpoint that is induced by UV light or Hydroxyurea. Human TIPIN shares 72% amino acid identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding TIPIN maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Gotter, A.L. 2003. TIPIN, a novel Timeless-interacting protein, is developmentally coexpressed with Timeless and disrupts its self-association. *J. Mol. Biol.* 331: 167-176.
2. Chou, D.M. and Elledge, S.J. 2006. TIPIN and Timeless form a mutually protective complex required for genotoxic stress resistance and checkpoint function. *Proc. Natl. Acad. Sci. USA* 103: 18143-18147.
3. Kaufmann, W.K. 2007. Initiating the uninitiated: replication of damaged DNA and carcinogenesis. *Cell Cycle* 6: 1460-1467.
4. Yoshizawa-Sugata, N. and Masai, H. 2007. Human Tim/Timeless-interacting protein, TIPIN, is required for efficient progression of S phase and DNA replication checkpoint. *J. Biol. Chem.* 282: 2729-2740.
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6. Unsal-Kaçmaz, K., et al. 2007. The human Tim/TIPIN complex coordinates an intra-S checkpoint response to UV that slows replication fork displacement. *Mol. Cell. Biol.* 27: 3131-3142.
7. Errico, A., et al. 2007. TIPIN is required for stalled replication forks to resume DNA replication after removal of aphidicolin in *Xenopus* egg extracts. *Proc. Natl. Acad. Sci. USA* 104: 14929-14934.
8. Kondratov, R.V. and Antoch, M.P. 2007. Circadian proteins in the regulation of cell cycle and genotoxic stress responses. *Trends Cell Biol.* 17: 311-317.
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CHROMOSOMAL LOCATION

Genetic locus: TIPIN (human) mapping to 15q22.31.

SOURCE

TIPIN (4C9) is a mouse monoclonal antibody raised against recombinant TIPIN protein of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TIPIN (4C9) is recommended for detection of TIPIN of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TIPIN siRNA (h): sc-90290, TIPIN shRNA Plasmid (h): sc-90290-SH and TIPIN shRNA (h) Lentiviral Particles: sc-90290-V.

Molecular Weight (predicted) of TIPIN: 35 kDa.

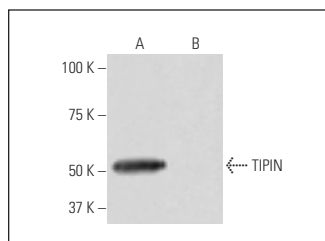
Molecular Weight (observed) of TIPIN: 48 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, SHP-77 whole cell lysate: sc-364258 or human TIPIN transfected 293T whole cell lysate.

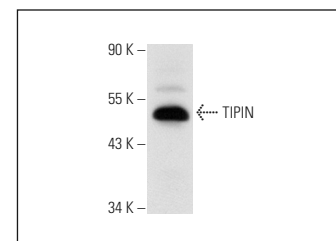
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TIPIN (4C9): sc-135580. Western blot analysis of TIPIN expression in human TIPIN transfected (A) and non-transfected (B) 293T whole cell lysates.



TIPIN (4C9): sc-135580. Western blot analysis of TIPIN expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Chakraborty, A., et al. 2020. Knock-down of the TIM/TIPIN complex promotes apoptosis in melanoma cells. *Oncotarget* 11: 1846-1861.
2. Zhang, S., et al. 2022. DNA polymerase δ interacting protein 3 facilitates the activation and maintenance of DNA damage checkpoint in response to replication stress. *Animal Model. Exp. Med.* E-published.

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.