SANTA CRUZ BIOTECHNOLOGY, INC.

TIN2 (M-15): sc-13651

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Telomeres are DNA-protein structures that protect the ends of linear chromosomes and help maintain genomic stability and cell phenotype. Mammalian telomeric proteins consist of TRF1 (telomeric repeat binding factor), TRF2, tankyrase, and TIN2, which have no recognized orthologs in the budding yeast, *Saccharomyces cerevisiae*, and RAP1, which is an ortholog to the yeast telomeric protein scRap1. Like scRap1, mammalian RAP1 regulates telomere elongation. RAP1 interacts with two proteins, Rif1 and Rif2, which contribute to telomere length homeostasis. Unlike scRap1, which binds telomeric DNA directly, RAP1 is recruited to telomeres by TRF2. The functional and structural similarities of scRap1 to mammalian RAP1 suggest that the budding yeast preserved RAP1 at telomeres, but lost the TRF component. The telomeric protein TRF1 requires TIN2 to control telomere length in human cells.

REFERENCES

1. Marcand, S., Gilson, E., and Shore, D. 1997. A protein-counting mechanism for telomere length regulation in yeast. Science 275: 986-990.
2. Wotten, D. and and Shore, D. 1997. A novel Rap1p-interacting factor, Rif2p, cooperates with Rif1p to regulate telomere length in *Saccharomyces cerevisiae*. Genes Dev. 11: 748-760.
3. Kim, S.H., Kaminker, P., and Campisi, J. 1999. TIN2, a new regulator of telomere length in human cells. Nat. Genet. 23: 405-412.
4. Scherthan, H., Jerratsch, M., Li, B., Smith, S., Hulten, M., Lock, T., and de Lange, T. 2000. Mammalian meiotic telomeres: protein composition and redistribution in relation to nuclear pores. Mol. Cell. Biol. 11: 4189-203.
5. Li, B., Oestreich, S., and de Lange, T. 2000. Identification of human Rap1: implications for telomere evolution. Cell 101: 471-483.

CHROMOSOMAL LOCATION

Genetic locus: TINF2 (human) mapping to 14q12; Tinf2 (mouse) mapping to 14 C3.

SOURCE

TIN2 (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TIN2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13651 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TIN2 (M-15) is recommended for detection of TIN2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 TIN2 siRNA (m): sc-38553.

TIN2 (M-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TIN2: 40 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols