

TRF2 (h): 293T Lysate: sc-113675

BACKGROUND

Telomeric repeat binding factor 1 (TERF1, PIN2, TRF1, TRBF1) and telomeric repeat binding factor 2 (TERF2, TRF2, TRBF2) are present at telomeres throughout the cell cycle, where they regulate telomerase by acting in *cis* to limit the elongation of individual chromosome ends. Telomerase adds hexameric repeats of 5'-TTAGGG-3' to the ends of chromosomal DNA. This telomerase enzyme plays an influential role in cellular immortalization and cellular senescence. TRF1 negatively regulates telomere elongation, while TRF2 protects the chromosome ends by inhibiting end-to-end fusions. Downregulation of TRF expression in tumor cells may contribute to cell immortalization and malignant progression. TRF1 has an acidic N-terminus while TRF2 has a basic N-terminus. TRF2 localizes in the nucleolus at G₀ and S and diffuses out of the nucleolus in G₂ phase. During mitosis TRF2 disperses from the condensed chromosomes and returns to the nucleolus at cytokinesis.

REFERENCES

1. Aragona, M., et al. 2000. Immunohistochemical telomeric-repeat binding factor-1 expression in gastrointestinal tumors. *Oncol. Rep.* 7: 987-990.
2. Matsutani, N., et al. 2001. Expression of telomeric repeat binding factor 1 and 2 and TRF1-interacting nuclear protein 2 in human gastric carcinomas. *Int. J. Oncol.* 19: 507-512.
3. Yajima, T., et al. 2001. Telomerase reverse transcriptase and telomeric-repeat binding factor protein 1 as regulators of telomerase activity in pancreatic cancer cells. *Br. J. Cancer* 85: 752-757.
4. Seimiya, H., et al. 2002. The telomeric poly(ADP-ribose) polymerase, Tankyrase-1, contains multiple binding sites for telomeric repeat binding factor 1 (TRF1) and a novel acceptor, 182-kDa tankyrase-binding protein (TAB182). *J. Biol. Chem.* 277: 14116-14126.
5. Nakanishi, K., et al. 2003. Expression of mRNAs for telomeric repeat binding factor (TRF)-1 and TRF2 in atypical adenomatous hyperplasia and adenocarcinoma of the lung. *Clin. Cancer Res.* 9: 1105-1111.
6. Yang, S.W., et al. 2003. Expression of the telomeric repeat binding factor gene NgTRF1 is closely coordinated with the cell division program in tobacco BY-2 suspension culture cells. *J. Biol. Chem.* 278: 21395-21407.
7. Zhang, S., et al. 2004. Nucleolar localization of the human telomeric repeat binding factor 2 (TRF2). *J. Cell Sci.* 117: 3935-3945.
8. La Torre, D., et al. 2005. Expression of telomeric repeat binding factor-1 in astroglial brain tumors. *Neurosurgery* 56: 802-810.

CHROMOSOMAL LOCATION

Genetic locus: TERF2 (human) mapping to 16q22.1.

PRODUCT

TRF2 (h): 293T Lysate represents a lysate of human TRF2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

TRF2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TRF2 antibodies. Recommended use: 10-20 µl per lane.

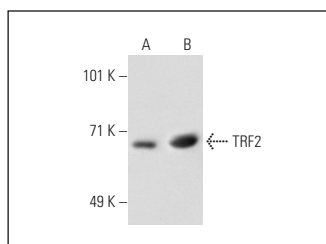
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TRF2 (9F10): sc-47693 is recommended as a positive control antibody for Western Blot analysis of enhanced human TRF2 expression in TRF2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



TRF2 (9F10): sc-47693. Western blot analysis of TRF2 expression in non-transfected: sc-117752 (A) and human TRF2 transfected: sc-113675 (B) 293T whole cell lysates.

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.