SANTA CRUZ BIOTECHNOLOGY, INC.

TRF2 (36): sc-136110

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 G_0 and S and diffuses out of the nucleolus in G_2 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.

CHROMOSOMAL LOCATION

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

SOURCE

TRF2 (36) is a mouse monoclonal antibody raised against amino acids 316-427 of TRF2 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

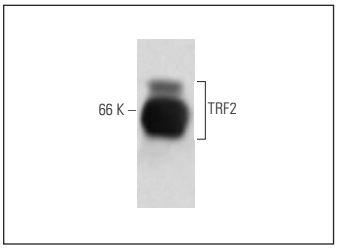
TRF2 (36) is recommended for detection of TRF2 of human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TRF2 siRNA (h): sc-38505, TRF2 shRNA Plasmid (h): sc-38505-SH and TRF2 shRNA (h) Lentiviral Particles: sc-38505-V.

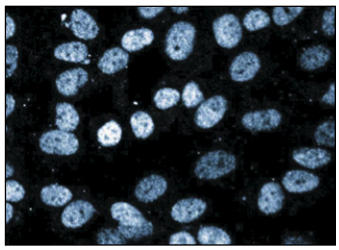
Molecular Weight of TRF2: 70 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

DATA



TRF2 (36): sc-136110. Western blot analysis of TRF2 expression in Jurkat whole cell lysate.



TRF2 (36): sc-136110. Immunofluorescence staining of human endothelial cells showing nuclear staining.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.