SANTA CRUZ BIOTECHNOLOGY, INC.

TRF2 (B-5): sc-271710

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. Down-regulation 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.

CHROMOSOMAL LOCATION

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

SOURCE

TRF2 (B-5) is a mouse monoclonal antibody raised against amino acids 49-300 of TRF2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRF2 (B-5) is available conjugated to agarose (sc-271710 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271710 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271710 PE), fluorescein (sc-271710 FITC), Alexa Fluor® 488 (sc-271710 AF488), Alexa Fluor® 546 (sc-271710 AF546), Alexa Fluor® 594 (sc-271710 AF594) or Alexa Fluor® 647 (sc-271710 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271710 AF680) or Alexa Fluor® 790 (sc-271710 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

TRF2 (B-5) is recommended for detection of TRF2 of 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 TRF2 siRNA (h): sc-38505, TRF2 shRNA Plasmid (h): sc-38505-SH and TRF2 shRNA (h) Lentiviral Particles: sc-38505-V.

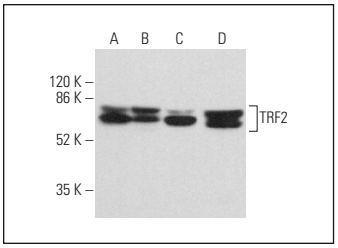
Molecular Weight of TRF2: 70 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, NAMALWA cell lysate: sc-2234 or Jurkat whole cell lysate: sc-2204.

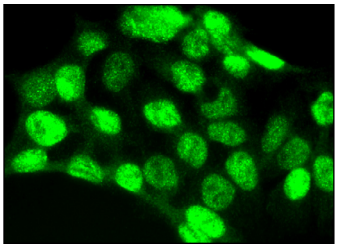
RECOMMENDED SUPPORT REAGENTS

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). 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



TRF2 (B-5): sc-271710. Western blot analysis of TRF2 expression in K-562 (**A**), Jurkat (**B**), NAMALWA (**C**) and MOLT-4 (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TRF2 (B-5): sc-271710. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Qiu, W., et al. 2019. Determination of local chromatin interactions using a combined CRISPR and peroxidase APEX2 system. Nucleic Acids Res. 47: e52.
2. Stroik, S., et al. 2020. EXO1 resection at G-quadruplex structures facilitates resolution and replication. Nucleic Acids Res. 48: 4960-4975.
3. Stolarova, L., et al. 2020. Identification of germline mutations in melanoma patients with early onset, double primary tumors, or family cancer history by NGS analysis of 217 genes. Biomedicines 8: 404.
4. Nelson, C.B., et al. 2021. Telomeric double strand breaks in G_1 human cells facilitate formation of 5' C-rich overhangs and recruitment of TERRA. Front. Genet. 12: 644803.
5. Pennarun, G., et al. 2021. Increase in Lamin B1 promotes telomere instability by disrupting the shelterin complex in human cells. Nucleic Acids Res. 49: 9886-9905.

STORAGE

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

PROTOCOLS

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