SANTA CRUZ BIOTECHNOLOGY, INC.

TERT (h): 293T Lysate: sc-371923

BACKGROUND

Telomerase is an RNA-dependent DNA polymerase that catalyzes the addition of telomeric repeat sequences to chromosome ends. In most human somatic cells, telomerase activity is undetectable, and telomeres shorten with successive cell divisions. However, telomerase activity is detectable in immortal cells and in many human tumors. Two candidate mammalian telomerase proteins have been cloned. Human TP1 (for telomerase-associated protein 1), also designated TLP1 in rat (for telomerase protein component 1), is homologous to the Tetrahymena p80 telomerase protein and has been shown to interact with mammalian telomerase RNA. Human TERT (for telomerase reverse transcriptase), also designated hEST2 (for ever shorter telomeres), is homologous to the p123 telomerase protein from Euplotes and to the yeast Est2 protein. Expression of TERT mRNA has been shown to correlate with telomerase activity in various cell lines.

REFERENCES

1. Counter, C.M., et al. 1992. Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity. EMBO J. 11: 1921-1929.
2. Kim, N.W., et al. 1994. Specific association of human telomerase activity with immortal cells and cancer. Science 266: 2011-2015.
3. Greider, C.W. 1996. Telomere length regulation. Annu. Rev. Biochem. 65: 337-365.
4. Harrington, L., et al. 1997. A mammalian telomerase-associated protein. Science 275: 973-977.
5. Nakayama, J., et al. 1997. TLP1: a gene encoding a protein component of mammalian telomerase is a novel member of WD repeats family. Cell 88: 875-884.
6. Nakamura, T.M., et al. 1997. Telomerase catalytic subunit homologs from fission yeast and human. Science 277: 955-959.
7. Meyerson, M., et al. 1997. hEST2, the putative human telomerase catalytic subunit gene, is up-regulated in tumor cells and during immortalization. Cell 90: 785-795.

CHROMOSOMAL LOCATION

Genetic locus: TERT (human) mapping to 5p15.33.

PRODUCT

TERT (h): 293T Lysate represents a lysate of human TERT 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.

PROTOCOLS

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

APPLICATIONS

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

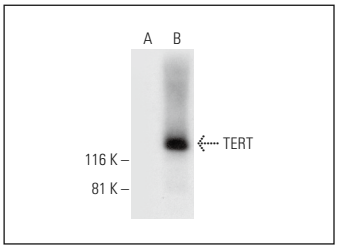
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TERT (A-6): sc-393013 is recommended as a positive control antibody for Western Blot analysis of enhanced human TERT expression in TERT transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

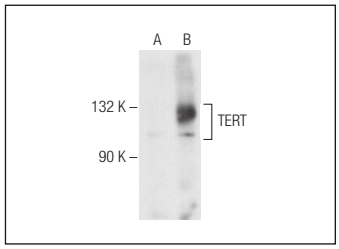
RECOMMENDED SUPPORT REAGENTS

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



TERT (A-6): sc-393013. Western blot analysis of TERT expression in non-transfected: sc-117752 (**A**) and human TERT transfected: sc-371923 (**B**) 293T whole cell lysates.



TERT (C-12): sc-377511. Western blot analysis of TERT expression in non-transfected: sc-117752 (**A**) and human TERT transfected: sc-371923 (**B**) 293T whole cell lysates.

RESEARCH USE

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