SANTA CRUZ BIOTECHNOLOGY, INC.

TERT (H-231): sc-7212

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: TERT (human) mapping to 5p15.33; Tert (mouse) mapping to 13 C1.

SOURCE

TERT (H-231) is a rabbit polyclonal antibody raised against amino acids 900-1130 mapping at the C-terminus of TERT of human origin.

PRODUCT

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

APPLICATIONS

TERT (H-231) is recommended for detection of TERT of mouse, rat and human 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)], 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 TERT siRNA (h): sc-36641, TERT siRNA (m): sc-36642, TERT shRNA Plasmid (h): sc-36641-SH, TERT shRNA Plasmid (m): sc-36642-SH, TERT shRNA (h) Lentiviral Particles: sc-36641-V and TERT shRNA (m) Lentiviral Particles: sc-36642-V.

Molecular Weight of TERT: 120 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, SK-BR-3 nuclear extract: sc-2134 or HeLa nuclear extract: sc-2120.

STORAGE

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

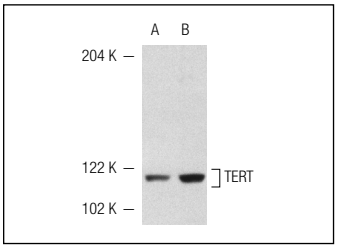
PROTOCOLS

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

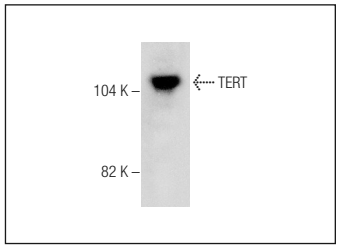
RESEARCH USE

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

DATA



TERT (H-231): sc-7212. Western blot analysis of TERT expression in HeLa (**A**) and SK-BR-3 (**B**) nuclear extracts.



TERT (H-231): sc-7212. Western blot analysis of TERT expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Liu, K., et al. 2001. Cutting edge: telomerase activation in human T lymphocytes does not require increase in telomerase reverse transcriptase (hTERT) protein but is associated with hTERT phosphorylation and nuclear translocation. J. Immunol. 166: 4826-4830.
2. Lin, Z., et al. 2001. Down-regulation of telomerase activity in malignant lymphomas by radiation and chemotherapeutic agents. Am. J. Pathol. 159: 711-719.
3. Bravaccini, S., et al. 2009. The current role of telomerase in the diagnosis of bladder cancer. Indian J. Urol. 25: 40-46.
4. Song, L.L., et al. 2010. Interferon-inducible IFI16, a negative regulator of cell growth, down-regulates expression of human telomerase reverse transcriptase (hTERT) gene. PLoS ONE 5: e8569.
5. Chen, Y., et al. 2010. Nuclear translocation of telomerase reverse transcriptase: a critical process in chemical induced hepatocellular carcinogenesis. Neoplasma 57: 222-227.
6. Kamranvar, S.A., et al. 2011. The Epstein-Barr virus nuclear antigen-1 promotes telomere dysfunction via induction of oxidative stress. Leukemia 25: 1017-1025.
7. Makino, N., et al. 2011. Antioxidant therapy attenuates myocardial telomerase activity reduction in superoxide dismutase-deficient mice. J. Mol. Cell. Cardiol. 50: 670-677.
8. Marconett, C.N., et al. 2011. Indole-3-carbinol downregulation of telomerase gene expression requires the inhibition of estrogen receptor-α and Sp1 transcription factor interactions within the hTERT promoter and mediates the G_1 cell cycle arrest of human breast cancer cells. Carcinogenesis 32: 1315-1323.

MONOS Satisfaction Guaranteed

Try **TERT (A-6): sc-393013** or **TERT (C-12): sc-377511**, our highly recommended monoclonal alternatives to TERT (H-231). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TERT (A-6): sc-393013**.