

TERT (C-20): sc-7215



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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

TERT (C-20) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-7215 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TERT (C-20) is recommended for detection of TERT of 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), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-36641-SH and TERT shRNA (h) Lentiviral Particles: sc-36641-V.

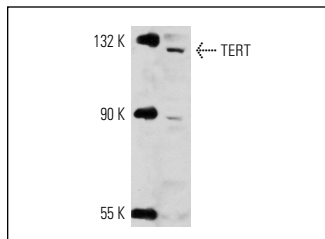
Molecular Weight of TERT: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat nuclear extract: sc-2132 or SK-BR-3 nuclear extract: sc-2134.

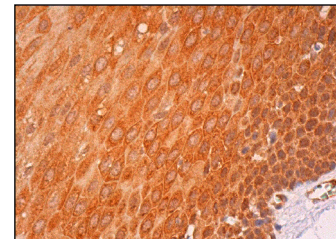
STORAGE

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

DATA



TERT (C-20): sc-7215. Western blot analysis of TERT expression in HeLa whole cell lysate.



TERT (C-20): sc-7215. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Koshiji, M., et al. 2004. HIF-1 α induces cell cycle arrest by functionally counteracting Myc. *EMBO J.* 23: 1949-1956.
2. Hashimoto, N., et al. 2004. Bone marrow-derived progenitor cells in pulmonary fibrosis. *J. Clin. Invest.* 113: 243-252.
3. Bu, X., et al. 2007. Coupled down-regulation of mTOR and telomerase activity during fluorouracil-induced apoptosis of hepatocarcinoma cells. *BMC Cancer* 7: 208.
4. Cao, Y., et al. 2008. Amplification of telomerase reverse transcriptase gene in human mammary epithelial cells with limiting telomerase RNA expression levels. *Cancer Res.* 68: 3115-3123.
5. Handa, H., et al. 2010. Flow cytometric detection of human telomerase reverse transcriptase (hTERT) expression in a subpopulation of bone marrow cells. *Leuk. Res.* 34: 177-183.
6. Clarke, C.J., et al. 2010. Inducible activation of IFI 16 results in suppression of telomerase activity, growth suppression and induction of cellular senescence. *J. Cell. Biochem.* 109: 103-112.

RESEARCH USE

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

PROTOCOLS

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

Try **TERT (A-6): sc-393013** or **TERT (C-12): sc-377511**, our highly recommended monoclonal alternatives to TERT (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TERT (A-6): sc-393013**.