

TERT (C-12): sc-377511



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 (C-12) is a mouse monoclonal antibody raised against amino acids 900-1130 mapping at the C-terminus of TERT of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TERT (C-12) is available conjugated to agarose (sc-377511 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-377511 PE), fluorescein (sc-377511 FITC), Alexa Fluor® 488 (sc-377511 AF488), Alexa Fluor® 546 (sc-377511 AF546), Alexa Fluor® 594 (sc-377511 AF594) or Alexa Fluor® 647 (sc-377511 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377511 AF680) or Alexa Fluor® 790 (sc-377511 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TERT (C-12) is recommended for detection of TERT of mouse, rat and 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), 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 siRNA (m): sc-36642, TERT siRNA (r): sc-270378, TERT shRNA Plasmid (h): sc-36641-SH, TERT shRNA Plasmid (m): sc-36642-SH, TERT shRNA Plasmid (r): sc-270378-SH, TERT shRNA (h) Lentiviral Particles: sc-36641-V, TERT shRNA (m) Lentiviral Particles: sc-36642-V and TERT shRNA (r) Lentiviral Particles: sc-270378-V.

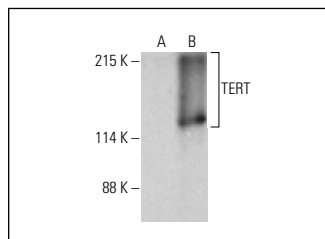
Molecular Weight of TERT: 120 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132.

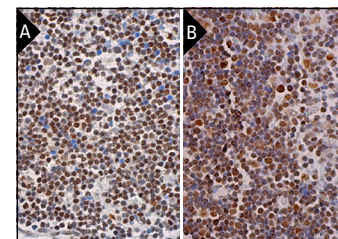
STORAGE

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

DATA



TERT (C-12): sc-377511. Western blot analysis of TERT expression in non-transfected (A) and human TERT transfected (B) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TERT (C-12): sc-377511. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in non-germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fetal thymus tissue showing nuclear staining of cortical cells and medullary cells (B).

SELECT PRODUCT CITATIONS

- Zakaria, M.K., et al. 2014. Combination of hepatocyte specific delivery and transformation dependent expression of shRNA inducing transcriptional gene silencing of c-Myc promoter in hepatocellular carcinoma cells. *BMC Cancer* 14: 582.
- Lavanya, C., et al. 2016. RNA interference mediated downregulation of human telomerase reverse transcriptase (hTERT) in LN18 cells. *Cytotechnology* 68: 2311-2321.
- Xie, X., et al. 2018. Establishment and characterization of a telomerase-immortalized porcine bronchial epithelial cell line. *J. Cell. Physiol.* 233: 9763-9776.
- Laudadio, I., et al. 2019. AGO2 promotes telomerase activity and interaction between the telomerase components TERT and TERC. *EMBO Rep.* 20: e45969.
- Zhang, Y., et al. 2021. Upregulation of antioxidant capacity and nucleotide precursor availability suffices for oncogenic transformation. *Cell Metab.* 33: 94-109.e8.
- Li, J., et al. 2022. Telomerase reverse transcriptase (TERT) promotes neurogenesis after hypoxic-ischemic brain damage in neonatal rats. *Neurol. Res.* 44: 819-829.
- Ho, T.J., et al. 2022. *Artemisia argyi* exhibits anti-aging effects through decreasing the senescence in aging stem cells. *Aging* 14: 6187-6201.
- Xie, H., et al. 2023. Dual function of CCAT2 in regulating luminal subtype of breast cancer depending on the subcellular distribution. *Cancers* 15: 538.

RESEARCH USE

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

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