SANTA CRUZ BIOTECHNOLOGY, INC.

TERT (A-6): sc-393013

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.

SOURCE

TERT (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1087-1113 near the C-terminus of TERT of human origin.

PRODUCT

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

TERT (A-6) is available conjugated to agarose (sc-393013 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-393013 PE), fluorescein (sc-393013 FITC), Alexa Fluor® 488 (sc-393013 AF488), Alexa Fluor® 546 (sc-393013 AF546), Alexa Fluor® 594 (sc-393013 AF594) or Alexa Fluor® 647 (sc-393013 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393013 AF680) or Alexa Fluor® 790 (sc-393013 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393013 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TERT (A-6) is recommended for detection of TERT 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), 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.

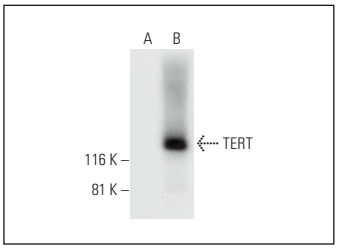
Molecular Weight of TERT: 120 kDa.

Positive Controls: TERT (h): 293T Lysate: sc-371923.

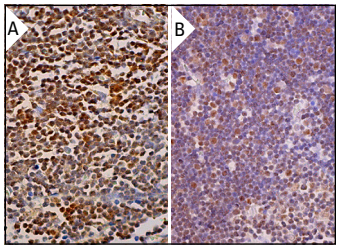
STORAGE

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

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 (A-6): sc-393013. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node 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

1. Wu, X., et al. 2015. Antitumor effect of COOH-terminal polypeptide of human TERT is associated with the declined expression of hTERT and NFκB p65 in HeLa cells. Oncol. Rep. 34: 2909-2916.
2. Jaiswal, R.K., et al. 2017. Proteomic identification of proteins differentially expressed following overexpression of hTERT (human telomerase reverse transcriptase) in cancer cells. PLoS ONE 12: e0181027.
3. Jaiswal, R.K., et al. 2018. hTERT promotes tumor progression by enhancing TSPAN13 expression in osteosarcoma cells. Mol. Carcinog. 57: 1038-1054.
4. Li, Y., et al. 2019. Investigating the impact of local inflammation on granulosa cells and follicular development in women with ovarian endometriosis. Fertil. Steril. 112: 882-891.e1.
5. Yang, L., et al. 2021. TAZ maintains telomere length in TNBC cells by mediating Rad51C expression. Breast Cancer Res. 23: 89.
6. Jayaraj, P., et al. 2022. Immunohistochemical and mutational status of telomerase reverse transcriptase in conjunctival squamous cell carcinoma. Indian J. Ophthalmol. 70: 971-975.
7. Hu, W., et al. 2022. Angiotensin-(1-7) promotes mitochondrial translocation of human telomerase reverse transcriptase in HUVECs through the TOM20 complex. Arch. Biochem. Biophys. 722: 109218.
8. Issa, H., et al. 2023. Nanoparticle-mediated targeting of the fusion gene RUNX1/ETO in t(8;21)-positive acute myeloid leukaemia. Leukemia 37: 820-834.
9. Jung, E.J., et al. 2023. *Artemisia annua* L. polyphenols enhance the anticancer effect of β-Lapachone in oxaliplatin-resistant HCT116 colorectal cancer cells. Int. J. Mol. Sci. 24: 17505.

RESEARCH USE

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