Datasheet for ABIN6655270

anti-TERT antibody (C-Term)

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Overview

Quantity:	100 µg
Target:	TERT
Binding Specificity:	C-Term
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This TERT antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunofluorescence (IF), Immunoprecipitation (IP), Fluorescence Microscopy (FM)

Product Details

Purpose:	Telomerase catalytic subunit Antibody
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the carboxy terminal end of hTERT (accession number AF018167).
Isotype:	IgG
Cross-Reactivity (Details):	Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum.
Purification:	Affinity Purified Anti-hTERT Antibody was prepared from monospecific antiserum by immunoaffinity chromatography using synthetic peptide coupled to agarose beads.
Sterility:	Sterile filtered

Target Details

Target:	TERT
Alternative Name:	Telomerase catalytic subunit (TERT Products)
Background:	Synonyms: rabbit anti-TERT antibody, rabbit anti-Telomerase catalytic subunit antibody, hTERT, Telomerase reverse transcriptase, HEST2, Telomerase-associated protein 2, TP2, EST2, TCS1, TRT Background: Telomerase is a reverse transcriptase that adds telomeric repeats (TTAGGG)n to chromosomal ends, compensating for the telomere shortening that occurs with DNA replication. In normal human somatic cells, telomerase is repressed and telomeres progressively shorten, leading to limited lifespan and senescence. Reactivation of telomerase activity is associated with human cancer and cell immortalization. Approximately 85 % of human cancers, including breast, prostate, stomach, bladder, colon, and liver cancer, have telomerase activity, whereas most normal somatic cells do not. The specificity of telomerase to human cancer has led to investigations of telomerase activity and expression as a tumor marker. For example, the presence of telomerase activity in human urine has been identified as a marker for human bladder carcinoma. Human telomerase consists of three major subunits: a catalytic protein subunit called hTERT (for human Telomerase Reverse Transcriptase), a template RNA called hTR, and telomerase-associated protein (TEP-1). TERT and hTR are minimally required to reconstitute telomerase activity in vitro. In human cells, hTR is constitutively expressed. TERT transcription is a primary mechanism for regulation of telomerase activity. Gene Name: TERT
Gene ID:	7015
NCBI Accession:	NP_001180305
UniProt:	O14746
Pathways:	Telomere Maintenance

Application Details

Application Notes:	Immunoprecipitation_Dilution: 2 µL per mg of lysate ELISA_Dilution: 1:10,000 - 1:50,000 Immunohistochemistry_Dilution: 1:500 IF_Microscopy_Dilution: 1:500 Western_Blot_Dilution: 1:500- 1:2,000 Other: User Optimized

Application Details

Comment:	Suggested Applications: ChIP, FISH, IHC, Multiplex Anti-Telomerase catalytic subunit antibody has been tested for use in ELISA, immunoblotting, immunoprecipitation, and immunofluorescence microscopy. In these assays, the antibody detects ectopically-expressed hTERT and high levels of endogenous hTERT. A SY5Y cell nuclear extract can be used as a positive control. This antibody primarily detects hTERT, but several non-specific bands appear on immunoblots. In immunofluorescence microscopy assays, staining with anti-TERT-16 was specific to the nuclei of cells with ectopic TERT expression. In immunoblot assays, whole cell or nuclear extracts were loaded at a concentration of 100 µg protein per well. A working dilution of 1:500 anti-TERT antibody was used followed by a 1:3,000 dilution of HRP goat anti-rabbit IgG as the secondary antibody. For immunofluorescence microscopy staining, a working dilution of 1:500 was used followed by a 1:200 dilution of rhodamine-conjugated donkey anti-rabbit IgG as a secondary antibody. Immunoprecipitation was performed using 20 µL of protein A beads and 2 µL of the anti-TERT serum per 1mg protein from cell lysate. A working dilution of 1:500 is also suggested for immunohistochemistry. To detect TERT, fix cells in 2% paraformaldehyde (in PBS) for 10'. Wash the slides twice in PBS for 5' each. Permeabilize the cells in 0.5% NP-40 for 10'. Wash as before in PBS. Block the cells using PBG buffer (0.2% cold water fish gelatin (Sigma G-7765) and 0.5% BSA in PBS) for 20' at room temperature. Incubate in primary antibody (diluted in PBG) for 1-2 hours at RT or overnight at 4°C. Wash the slides three times in PBG for 5' each. Incubate with secondary antibody (diluted in PBG) for 1 hour at RT in the dark. Wash the slides three times in PBG for 5' each. Mount in DAPI-containing medium.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 Stabilizer: None Preservative: 0.01 % (w/v) Sodium Azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended

Handling

	storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiry Date:	12 months

Publications

Product cited in:

Alabiad, Said, Adim, Alorini, Shalaby, Samy, Elshorbagy, Mandour, Saber, Yahia, Khairy: " Evaluation of Some Prognostic Biomarkers in Human Papillomavirus-Related Multiphenotypic Sinonasal Carcinoma." in: **Iranian journal of medical sciences**, Vol. 49, Issue 3, pp. 156-166, (2024) (PubMed).

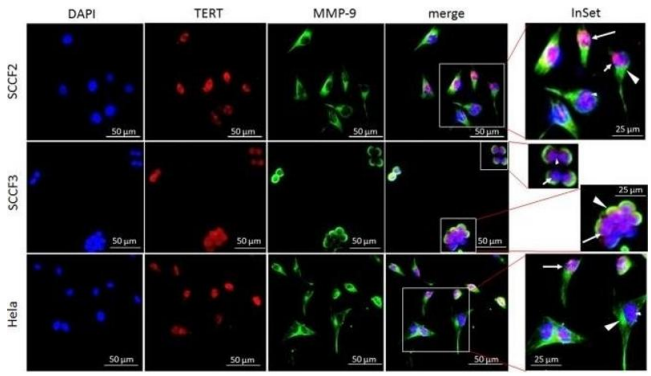
Muranyi, Schwerk, Herold, Stump-Guthier, Lampe, Fallier-Becker, Weiß, Sticht, Ishikawa, Schroten: "Immortalized human choroid plexus endothelial cells enable an advanced endothelial-epithelial two-cell type in vitro model of the choroid plexus." in: **iScience**, Vol. 25, Issue 6, pp. 104383, (2022) (PubMed).

Reilly, Myllymäki, Redd, Padmanaban, Karunakaran, Tesmer, Tsai, Gibson, Rana, Zhong, Saber, Spellman, Hu, Orr, Chen, De Vivo, DeAngelo, Cutler, Antin, Neuberg, Garber, Nandakumar, Agarwal, Lindsley: "The clinical and functional effects of TERT variants in myelodysplastic syndrome." in: **Blood**, Vol. 138, Issue 10, pp. 898-911, (2021) (PubMed).

Chatterjee, Hofer, Costa, Lu, Batkai, Gupta, Bolesani, Zweigerdt, Megias, Streckfuss-Bömeke, Brandenberger, Thum, Bär: "Telomerase therapy attenuates cardiotoxic effects of doxorubicin." in: **Molecular therapy : the journal of the American Society of Gene Therapy**, Vol. 29, Issue 4, pp. 1395-1410, (2021) (PubMed).

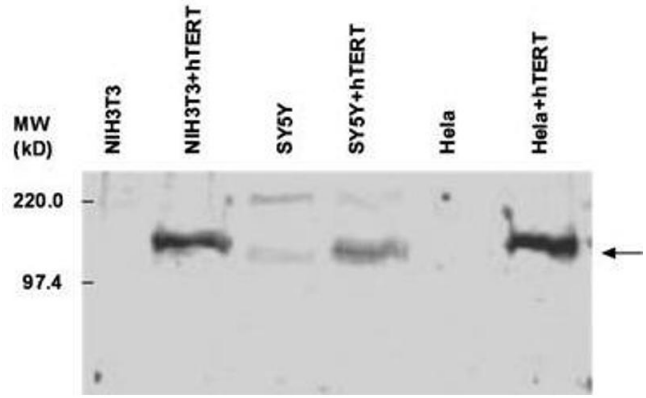
Lagnado, Leslie, Ruchaud-Sparagano, Victorelli, Hirsova, Ogrodnik, Collins, Vizioli, Habiballa, Saretzki, Evans, Salmonowicz, Hruby, Geh, Pavelko, Dolan, Reeves, Grellscheid, Wilson, Pandanaboyana, Doolittle, von Zglinicki, Oakley, Gallage, Wilson, Birch,: "Neutrophils induce paracrine telomere dysfunction and senescence in ROS-dependent manner." in: **The EMBO journal**, Vol. 40, Issue 9, pp. e106048, (2021) (PubMed).

There are more publications referencing this product on: Product page



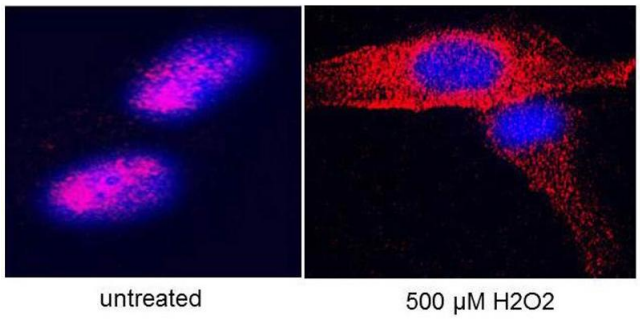
Immunofluorescence (Cultured Cells)

Image 1. Sub-cellular localization of TERT and MMP-9 in SCCF2 and SCCF3. Cells were grown on coverslips and subjected to double indirect IF staining for TERT (red fluorescence) and MMP-9 (green fluorescence). Nuclei were counterstained with DAPI. Inset shows higher magnification of merge panel. TERT was localized in the whole nuclear area (long arrow), compartmentalized in proximity of nuclear membrane (short arrow) or in dot-like spots (small arrowhead). MMP-9 was expressed in the cytoplasm (large arrowhead). Hela were stained to ensure antibody reactivity. - figure provided by CiteAb. Source: PMID32292795



Western Blotting

Image 2. Anti-hTERT Anitbody - Western Blot. Western blot using anti-hTERT antibody (1:500 dilution). Endogenous levels of mTERT in NIH 3T3 cells (lane 1) and hTERT in HeLa cells (lane 5) are not detectable. After transduction with an hTERT expression vector, both cell types show high levels of hTERT protein (lanes 2 and 6). SY5Y cells, which have high endogenous levels of hTERT, have detectable hTERT protein in both untransduced (lane 3) and transduced (lane 4) cells. The arrow indicates a molecular weight of approximately 127kD, the expected size of hTERT protein.



Immunofluorescence

Image 3. Anti-hTERT Antibody - Immunofluorescence Microscopy anti hTERT antibody-Immunofluorescence# anti hTERT antibody was used to stain hTERT on hTERT-over-expressing fibroblasts. Cells were untreated (Left) or treated (Right) with 500 uM H202, fixed in 4% PFA (in PBS) for 10 min and frozen in -80 after 3 min air-drying before staining with anti hTERT 1:2000 overnight. Confocal images provided by G. Saretzki, Institute for Ageing and Health,

Newcastle University, UK. See Ahmed et. Al. for more information.

Please check the product details page for more images. Overall 8 images are available for ABIN6655270.