Datasheet for ABIN6655122

anti-TERT antibody (C-Term)

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Overview

Quantity:	25 µL
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:	hTERT 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:	TERT (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: IP 2µL per mg lysate ELISA_Dilution: 1:10,000 - 1:50,000 Immunohistochemistry_Dilution: 1:500 IF_Microscopy_Dilution: 1:500 Western_Blot_Dilution: 1:500
Comment:	Suggested Applications: ChIP, FISH, IHC, Multiplex

Application Details

	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:	-20 °C
Storage Comment:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated

Handling

	above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiry Date:	3 months

Publications

Product cited in:

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).

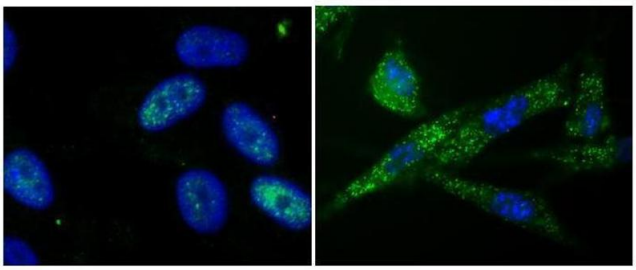
Reilly, Myllymäki, Redd, Padmanaban, Karunakaran, Tesmer, Tsai, Gibson, Rana, Zhong, Saber, Spellman, Hu, Orr, Chen, De Vivo, DeAngelo, Cutler, Antin, Neuberg, Garber, Nandakumar, Agarwal, Lindsley: "The clinical and functional effects of TERT variants in myelodysplastic syndrome." in: **Blood**, Vol.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

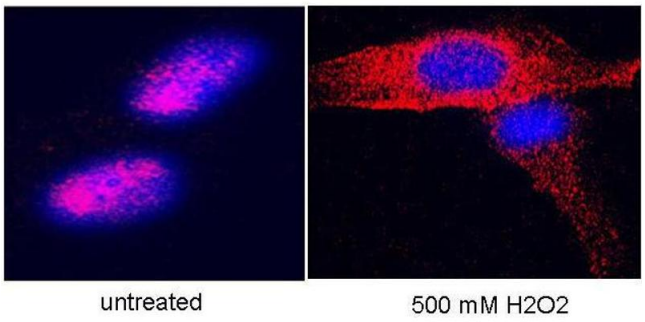
Gómez-Ferrer, Villanueva-Badenas, Sánchez-Sánchez, Sánchez-López, Baquero, Sepúlveda, Dorronsoro: "HIF-1α and Pro-Inflammatory Signaling Improves the Immunomodulatory Activity of MSC-Derived Extracellular Vesicles." in: **International journal of molecular sciences**, Vol. 22, Issue 7, (2021) (PubMed).

There are more publications referencing this product on: Product page



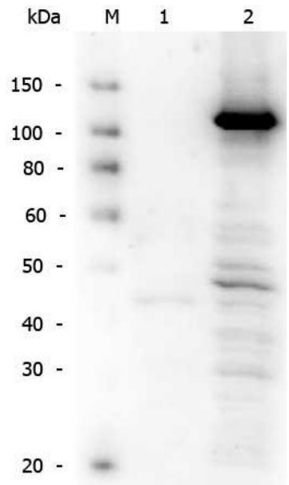
Immunofluorescence

Image 1. anti-hTERT antibody-Immunofluorescence. Two different lots of anti-hTERT antibody were used to stain hTERT on hTERT-over-expressing fibroblasts. Cells were fixed in 4% PFA (in PBS) for 10 min and frozen in -80 after 3 min air-drying before incubation with anti hTERT 1:2000 overnight and staining with a 1:2000 dilution of Alexafluor488 secondary Ab. Confocal images provided by G. Saretzki, Institute for Ageing and Health, Newcastle University, UK. See Ahmed et. Al. for more information.



Immunofluorescence

Image 2. 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.



Western Blotting

Image 3. Rabbit anti-hTERT WB Western Blot of Rabbit anti-Telomerase catalytic subunit antibody. Lane 1: HeLa HV. Lane 2: HeLa 6-2. Load: 10 µg per lane. Primary antibody: Telomerase catalytic subunit antibody at 1:1,000 for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:40,000 for 45 min at RT. Block: Blocking Buffer for Fluorescent Western Blotting . Predicted/Observed size: 127 kDa, 127 kDa for Telomerase catalytic subunit.

Please check the product details page for more images. Overall 6 images are available for ABIN6655122.