Phospho-Tert(y707) Antibody Blocking Peptide

PRODUCT OVERVIEW

Product Name	TERT (Y707), Blocking Peptide
Full Product Name	Phospho-TERT(Y707) Antibody Blocking peptide
Product Gene Name	TERT blocking peptide
Product Synonym Gene Name	EST2; TCS1; TRT
Product Synonym Names	Telomerase reverse transcriptase; HEST2; Telomerase catalytic subunit; Telomerase-associated protein 2; TP2; TERT; EST2; TCS1; TRT
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml.
Specificity	The synthetic peptide sequence used to generate the antibody was selected from the Y707 region of human Phospho-TERT. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	TERT (Y707) peptide (MBS9225208) is used for blocking the activity of TERT (Y707) antibody (MBS9208546)
Molecular Weight	88,965 Da
OMIM	178500
Cellular Location	Nucleus, nucleolus. Nucleus, nucleoplasm. Nucleus. Chromosome, telomere. Cytoplasm. Nucleus, PML body Note: Shuttling between nuclear and cytoplasm depends on cell cycle, phosphorylation states, transformation and DNA damage Diffuse localization in the nucleoplasm. Enriched in nucleoli of certain cell types. Translocated to the cytoplasm via nuclear pores in a CRM1/RAN-dependent manner involving oxidative stress- mediated phosphorylation at Tyr-707. Dephosphorylation at this site by SHP2 retains TERT in the nucleus. Translocated to the nucleus by phosphorylation by AKT
Tissue Location	Expressed at a high level in thymocyte subpopulations, at an intermediate level in tonsil T-lymphocytes, and at a low to undetectable level in peripheral blood T- lymphocytes.
Related Product Information for TERT blocking peptide	Telomerase is a ribonucleoprotein enzyme essential for the replication of chromosome termini in most eukaryotes. Active in progenitor and cancer cells. Inactive, or very low activity, in normal somatic cells. Catalytic component of the teleromerase holoenzyme complex whose main activity is the elongation of telomeres by acting as a reverse transcriptase that adds simple sequence repeats to chromosome ends by copying a template sequence within the RNA component of the enzyme. Catalyzes the RNA- dependent extension of 3'-chromosomal termini with the 6-nucleotide telomeric repeat unit, 5'-TTAGGG-3'. The catalytic cycle involves primer binding, primer extension and release of product once the template boundary has been reached or nascent product translocation followed by further extension. More active on substrates containing 2 or 3 telomeric repeats. Telomerase activity is regulated by a number of factors including telomerase complex-associated proteins, chaperones and polypeptide modifiers. Modulates Wnt signaling. Plays important roles in aging and antiapoptosis.
Other Notes	Small volumes of TERT blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TERT purchase	MBS9225208 is a blocking peptide targeting TERT. Also known as Phospho-TERT(Y707) Antibody Blocking peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TERT. It may not necessarily be applicable to this product.

NCBI GI #	6226780
NCBI GeneID	7015
NCBI Accession #	O14746.1
UniProt Primary Accession #	O14746
UniProt Secondary Accession #	O14783; Q2XS35; Q8N6C3; Q8NG38; Q8NG46
UniProt Related Accession #	O14746
NCBI Official Full Name	Telomerase reverse transcriptase
NCBI Official Synonym Full Names	telomerase reverse transcriptase
NCBI Official Symbol	TERT
NCBI Official Synonym Symbols	TP2; TRT; CMM9; EST2; TCS1; hTRT; DKCA2; DKCB4; hEST2; PFBMFT1
UniProt Protein Name	Telomerase reverse transcriptase
UniProt Synonym Protein Names	HEST2; Telomerase catalytic subunit; Telomerase-associated protein 2; TP2
Protein Family	Telomerase reverse transcriptase
UniProt Gene Name	TERT
UniProt Synonym Gene Names	EST2; TCS1; TRT; TP2
UniProt Entry Name	TERT_HUMAN
NCBI Protein Information	telomerase reverse transcriptase
NCBI Summary for TERT	Telomerase is a ribonucleoprotein polymerase that maintains telomere ends by addition of the telomere repeat TTAGGG. The enzyme consists of a protein component with reverse transcriptase activity, encoded by this gene, and an RNA component which serves as a template for the telomere repeat. Telomerase expression plays a role in cellular senescence, as it is normally repressed in postnatal somatic cells resulting in progressive shortening of telomeres. Deregulation of telomerase expression in somatic cells may be involved in oncogenesis. Studies in mouse suggest that telomerase also participates in chromosomal repair, since de novo synthesis of telomere repeats may occur at double-stranded breaks. Alternatively spliced variants encoding different isoforms of telomerase reverse transcriptase have been identified; the full-length sequence of some variants has not been determined. Alternative splicing at this locus is thought to be one mechanism of regulation of telomerase activity. [provided by RefSeq, Jul 2008]

UniProt Comments for TERT	TERT: telomerase reverse transcriptase is a ribonucleoprotein polymerase that maintains telomere ends by addition of the telomere repeat TTAGGG. The holoenzyme consists of TERT and an RNA component which serves as a template for the telomere repeat. Telomerase expression plays a role in cellular senescence, as it is normally repressed in postnatal somatic cells resulting in progressive shortening of telomeres. Deregulation of telomerase expression in somatic cells may be involved in oncogenesis. Studies in mouse suggest that telomerase also participates in chromosomal repair, since de novo synthesis of telomere repeats may occur at double-stranded breaks. Alternatively spliced isoforms have been identified, although the full-length sequence of some variants has not been determined. Protein type: Transferase; Nucleolus; DNA-binding; EC 2.7.7.49 Chromosomal Location of Human Ortholog: 5p15.33 Cellular Component: chromosome, telomeric region; nuclear chromosome, telomeric region; nuclear telomere cap complex; nucleolus; nucleoplasm; nucleus; PML body; telomerase holoenzyme complex Molecular Function: DNA binding; nucleotidyltransferase activity; protein binding; protein homodimerization activity; RNA binding; RNA-directed DNA polymerase activity; RNA-directed RNA polymerase activity; telomerase activity; telomeric DNA binding; telomeric template RNA reverse transcriptase activity; tRNA binding Biological Process: DNA strand elongation; mitochondrion organization and biogenesis; positive regulation of nitric-oxide synthase activity; positive regulation of protein binding; positive regulation of Wnt receptor signaling pathway; regulation of protein stability; RNA biosynthetic process; RNA interference, production of siRNA; RNA-dependent DNA replication; telomere maintenance; telomere maintenance via telomerase Disease: Aplastic Anemia; Dyskeratosis Congenita, Autosomal Dominant, 1; Pulmonary Fibrosis, Idiopathic
Research Articles on TERT	**1.** The C250T promoter mutation was seen in 2.3% of follicular thyroid cancers. C228T was seen in 10.6%. They were associated with larger tumor size, vascular invasion, higher TNM stage, BRAF(V600E) mutation and persistent/recurrent disease at 6-12 months.
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