

Product datasheet for **SC125522**

Telomerase reverse transcriptase (TERT) (NM_198253) Human Untagged Clone

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | Telomerase reverse transcriptase (TERT) (NM_198253) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Telomerase reverse transcriptase |
| Synonyms: | CMM9; DKCA2; DKCB4; EST2; hEST2; hTERT; PFBMFT1; TCS1; TP2; TRT |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |

Fully Sequenced ORF: >OriGene sequence for NM_198253 edited
 CCGCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGTGCGCAGCCACTACC
 GCGAGGTGCTGCCGCTGGCCACGTTTCGTGCGGCGCTGGGGCCCCAGGGCTGGCGCTGG
 TGCAGCGCGGGGACCCGCGGCTTTCCGCGCGCTGGTGGCCAGTGCCTGGTGTGCGTGC
 CCTGGGACGCACGGCCGCCCCCGCCGCCCTCCTTCCGCCAGGTGTCTGCCTGAAGG
 AGCTGGTGGCCGAGTGTGTCAGAGGCTGTGCGAGCGCGCGCAAGAACGTGCTGGCCT
 TCGGCTTCGCGCTGTGGACGGGGCCGAGGGGGCCCCCGAGGCCCTTACCACCAGCG
 TGCGCAGTACTGCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGG
 TGCTGCTGCGCCGCTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCT
 TTGTGCTGGTGGTCCCAGCTGCGCCTACCAGGTGTGCGGGCCCGCTGTACCAGCTCG
 GCGCTGCCACTCAGGCCCGCCCCGCCACACGCTAGTGGACCCGAAGGCGTCTGGGAT
 GCGAACGGGCTGGAACCATAGCGTCAGGGAGGCGGGGTCCCCCTGGGCTGCCAGCCC
 CGGGTGCGAGGAGGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCAAGAGGCCCA
 GGCGTGGCGCTGCCCTGAGCCGGAGCGGACGCCCGTTGGGACAGGGTCTGGGCCACC
 CGGGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTACCTGCCAGACCCG
 CCGAAGAAGCCACCTCTTTGGAGGTTGCGCTCTCTGGCACGCGCCACTCCCACCCATCCG
 TGGGCCCGCAGCACACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACA
 CGCCTTGTCCCCGGTGTACGCCGAGACCAAGCACTTCTCTACTCCTCAGGCGACAAGG
 AGCAGCTGCGGCCCTCCTTCTACTCAGCTCTCTGAGGCCAGCCTGACTGGCGCTCGGA
 GGCTCGTGGAGACCATCTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGAGGT
 TGCCCCGCTGCCCCAGCGCTACTGGCAAATGCGGCCCTGTTTCTGGAGCTGCTTGGGA
 ACCACGCGCAGTGCCCTACGGGGTGTCTCAAGACGCACTGCCGCTGCGAGCTGCGG
 TCACCCAGCAGCCGGTGTCTGTGCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCG
 AGGAGGAGGACACAGACCCCGTCGCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCT
 GGCAGGTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGGCCCCAGGCCTCTGGG
 GCTCCAGGCACAACGAACGCCGTTCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGA
 AGCATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGGGGACTGCGCTT



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GGCTGCGCAGGAGCCAGGGGTTGGCTGTGTTCCGGCCGACAGCACCCTGCTGCGTGAGG
 AGATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTGCTGAGCTGCTCAGGT
 CTTTCTTTTATGTACGGAGACGACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGA
 GTGTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGC
 GGGAGCTGTGGAAGCAGAGGTCAGGCAGCATCGGAAGCCAGGCCCGCCCTGCTGACGT
 CCAGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACG
 TCGTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGA
 AGGCACTGTTACGCGTGCTCAACTACGAGCGGGCGGGCCCGCCCTCCTGGGCGCCT
 CTGTGCTGGGCTGGACGATATCCACAGGGCTGGCGCACCTTCGTGCTGCGTGTGCGGG
 CCCAGGACCCGCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACA
 CCATCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCAGAACACGT
 ACTGCGTGCCTCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCT
 TCAAGAGCCAGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTC
 ACCTGCAGGAGACGAGCCGCTGAGGGATGCCGTGTCATCGAGCAGAGCTCCTCCCTGA
 ATGAGGCCAGCAGTGGCCTCTTCGACGTGTTCTACGCTTCATGTGCCACCACGCCGTGC
 GCATCAGGGGCAAGTCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCA
 CGCTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGGCGGGATTCCGGC
 GGGACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTGGTGACACCTCACCTCACCC
 ACGCGAAAACCTTCTCAGGACCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGA
 ACTTGGCAAGACAGTGGTGAACCTCCCTGTAGAAGATGAGGCCCTGGGTGGCACGGCTT
 TTGTTTCCAGATGCCGGCCACGGCCTATCCCTGGTGGGCTGCTGCTGGATACCCGGA
 CCCTGGAGGTGCAGAGCGACTACTCCAGCTATGCCGGACCTCCATCAGAGCCAGTCTCA
 CCTTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTGCAAACTCTTTGGGGTCTTGC
 GGCTGAAGTGTACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCA
 CCAACATCTACAAGATCCTCCTGCTGCAGGCGTACAGTTTTCATGCATGTGTGCTGCAGC
 TCCCATTTTCATCAGCAAGTTTGAAGAACCCACATTTTTCTGCGCGTCATCTTGACA
 CGGCTCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCA
 AGGGCGCCCGGCCCTGCCCCTCCGAGGCCGTGCAGTGGTGTGCCACCAAGCATTCC
 TGCTCAAGCTGACTCGACACCGTGTACCTACGTGCCACTCCTGGGGTCACTCAGGACAG
 CCCAGACGCAGCTGAGTCGGAAGCTCCCGGGACGACGCTGACTGCCCTGGAGGCCGAG
 CCAACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCACA
 GCCAGGCCGAGAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCAGGGAGGG
 AGGGGCGGCCACACCCAGGCCCGCACCCTGGGAGTCTAGGCCTGAGTGTGTTTGGC
 CGAGGCCGTGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCGTGAGCGAGTGTCCAG
 CCAAGGGCTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGC
 TCCACCCAGGGCCAGCTTTTCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAAT
 AGTCCATCCCCAGATTGCGCCATTGTTACCCCTCGCCCTGCCCTCCTTTGCCTTCCACCC
 CCACCATCCAGGTGGAGACCTGAGAAGGACCTGGGAGCTCTGGGAATTTGGAGTGACC
 AAAGGTGTGCCCTGTACACAGGCGAGACCTGCACCTGGATGGGGTCCCTGTGGGTCA
 AATTGGGGGAGGTGCTGTGGGAGTAAAAACTGAATATATGAGTTTTTTCAGTTTTGAAA
 AA

Restriction Sites: Please inquire
ACCN: NM_198253
Insert Size: 4000 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_198253.2](#), [NP_937983.2](#)

RefSeq Size: 4018 bp

RefSeq ORF: 3399 bp

Locus ID: 7015

UniProt ID: [O14746](#)

Cytogenetics: 5p15.33

Protein Families: Druggable Genome

Gene Summary:

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]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longer isoform (1).