

## Product datasheet for **MR230100**

### Terf2 (NM\_001286200) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Terf2 (NM_001286200) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Terf2
Synonyms:	TRF2
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>MR230100 representing NM\_001286200  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCTGCGGGAGCCGGGACAGCGGGCCCTGCTTCCGGCCCGGGGCTTGTGCGTGACCCGATGGCGTCAC  
 AGCCAAGGAAACGGCCAGTCGGGAGGGCGGGGAGGGCGGGGAGGGCGAGCGGGCTCGAACACGATGGC  
 GGGAGGAGGCGGGAGCAGCGATAGCAGCGGGCGGGCGGGAGCCGACGGGCATCGCGCAGCGGGCGGG  
 GCTCGACGGGGCGACACGAGCCAGGGTTGGGAGGCGGGCGGGAGCGGGGCGGGGGAAGCTCGCTGG  
 AGGAGGGCGTCAACCGCTGGGTGCTCAAGTTCTATTTCCACGAGGCGCTGCGGGCCTTTCGGAGTAGCCG  
 GTACCGGGACTTCAGGCAGATCCGGGACATCATGCAGGCGTTGCTTGTGACGGCCCTTGGGAAGGAGCAT  
 ACGGTGTCCCGTTGCTGCGGGTTATGCAGTGTCTGTCGCGCATTGAAGAAGGAGAAAATTTAGACTGTT  
 CCTTTGATATGGAGGCTGAGCTCACACCCTTGAATCAGCTATCAATGTGCTGGAGATGATTAACAGAG  
 GTTCACACTGACAGACTCTATGGTTGAATCCAGCAGAAAAGTGGTCAAGGAGGCTGCTGTCATTATTTGT  
 ATCAAAAACAAAGAAATTTGAAAAGGCTTCAAAGATTTTAAAAAATACATGTCTAAGGACCCCACTC  
 AGAAGCTGAGAACTGATCTCCTGAACATATCCGGGAAAAGAAGTGGCCACCCCTGTTATCCAGAAGT  
 TTCTATGAGGCTTCCAGCAGAAGATGCTGCGTTTCTAGAGAGCCACCTGGATGACACGGAGCCCTAC  
 CTCCTCACGATGGCTAAAAAGCTTTGAAATCTGAATCAGCTGCTTCAAGTACAATGAGGGAAGAAAAGC  
 ACCCAGAGCCAGTGAAAAACCCTTAGAGAGCCCTCAAGACAGCCTCAGAACCCTCCAGCCACCATCGG  
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 CTGGACCAGAAAGATCTGGCTGGGACGTGATGTTTCAATGATGAAGATGCCTGAAAACTGACAGCGAGT  
 TTGAACATTGTGTAGTGAATCCCAAAGCATCAAAGACAAGTGGAAACAGCCCTAACCGGGCTTGAAGAAA  
 GGAAGTTTGGTTGGAAGAGGACCACTGTTTGAAGTTCAGGCACCAAGTGAAGACAGGTCAATCCAGTTTA  
 ACAAGAAAGCAGAAGTGACCATAGAAGAAAGCGAGTGGGTGAAGGATGGAGTGCACAAATACGGGGAAG  
 GAAACTGGGCTGCCATTTCTAAAAGTTACCCCTTGTCAACCGAACAGCTGTGATGATTAAGACCGCTG  
 GCGGACCATGAAAAAAGTGGCATGAAC

**ACGCGT**ACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR230100 representing NM\_001286200  
 Red=Cloning site Green=Tags(s)

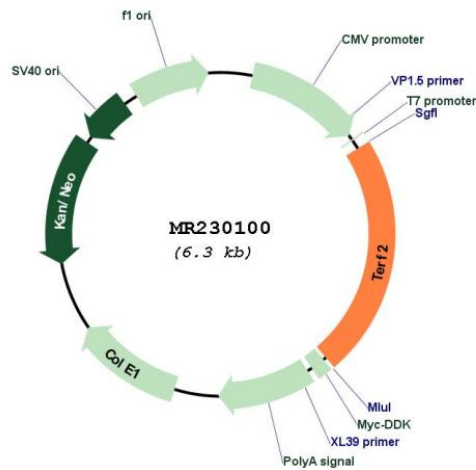
MAAGAGTAGPASGPGVVRDPMASQPRKRSREGGEGGEGERRSNTMAGGGSSDSSGRAASRRASRSGGR  
 ARRGRHEPGLGGAERGAGEARLEEAVNRWVLFYFHEALRAFRRSSRYRDFRQIRDIMQALLVRPLGKEH  
 TVSRLLRVMQCLSRIEEENLDCSFDMEAE TPLESAINVLEMIKTEFTLTDSMVESSRKLKVEAAVVIC  
 IKNKEFEKASKILKMYMSKDPTTQKLRTDLLNI IREKNLAHPVIONFSYEVFQQKMLRFLESHLDDTEPY  
 LLTMAKKALKSESAASSTMREEKHPEPVEKPLREPPRQPQNPPATIGIRTLKAAFALSTAQDSEAAFAK  
 LDQKDLAGTCMFMYEDAWKTDSEFEHCVVNPKASKDKWNSPNGLLEEKEVWLEEDQLFEVQAPGEDRSSSL  
 TRKQKWTIEESEWVKDGVRYGEGNWAASISKSYPFVNRATAVMIKDRWRMTMKKLGMM

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_001286200

**ORF Size:** 1428 bp

**OTI Disclaimer:** 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](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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\\_001286200.1](#), [NP\\_001273129.1](#)

**RefSeq Size:** 2472 bp

**RefSeq ORF:** 1431 bp

**Locus ID:** 21750

**UniProt ID:** [O35144](#)

**Cytogenetics:** 8 53.59 cM

**MW:** 54 kDa

**Gene Summary:** Binds the telomeric double-stranded 5'-TTAGGG-3' repeat and plays a central role in telomere maintenance and protection against end-to-end fusion of chromosomes. In addition to its telomeric DNA-binding role, required to recruit a number of factors and enzymes required for telomere protection, including the shelterin complex, TERF2IP/RAP1 and DCLRE1B/Apollo. Component of the shelterin complex (telosome) that is involved in the regulation of telomere length and protection. Shelterin associates with arrays of double-stranded 5'-TTAGGG-3' repeats added by telomerase and protects chromosome ends; without its protective activity, telomeres are no longer hidden from the DNA damage surveillance and chromosome ends are inappropriately processed by DNA repair pathways. Together with DCLRE1B/Apollo, plays a key role in telomeric loop (T loop) formation by generating 3' single-stranded overhang at the leading end telomeres: T loops have been proposed to protect chromosome ends from degradation and repair. Required both to recruit DCLRE1B/Apollo to telomeres and activate the exonuclease activity of DCLRE1B/Apollo. Preferentially binds to positive supercoiled DNA. Together with DCLRE1B/Apollo, required to control the amount of DNA topoisomerase (TOP1, TOP2A and TOP2B) needed for telomere replication during fork passage and prevent aberrant telomere topology. Recruits TERF2IP/RAP1 to telomeres, thereby participating in to repressing homology-directed repair (HDR), which can affect telomere length. [UniProtKB/Swiss-Prot Function]