

## Product datasheet for **RC215658**

### Topoisomerase I (TOP1) (NM\_003286) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Topoisomerase I (TOP1) (NM_003286) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Topoisomerase I
Synonyms:	TOPI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>RC215658 representing NM\_003286  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

ATGAGTGGGGACCACCTCCACAACGATTCCAGATCGAAGCGGATTTCCGATTGAATGATTCTCATAAAC  
ACAAAGATAAACACAAAGATCGAGAACACCGGCACAAAGAACACAAAGAAGGAGAAGGACCGGAAAAGTC  
CAAGCATAGCAACAGTGAACATAAAGATTCTGAAAAGAAACACAAAGAGAAGGAGAAGACCAAACACAAA  
GATGGAAGCTCAGAAAAGCATAAAGACAAAATAAAGACAGAGACAAGGAAAAACGAAAAGAGGAAAAGG  
TTCGAGCCTCTGGGGATGCAAAAATAAAGAAGGAGAAGGAAAAATGGCTTCTCTAGTCCACCACAAATTA  
AGATGAACCTGAAGATGATGGCTATTTTGTTCCTCTAAAGAGGATATAAAGCCATTAAGAGACCTCGA  
GATGAGGATGATGCTGATTATAACCTAAGAAAATTAACACAGAAGATACCAAGAAGGAGAAGAAAAGAA  
AACTAGAAGAAGAAGAGGATGGTAAATTGAAAAACCAAGAATAAGATAAAGATAAAAAAGTTCTCTGA  
GCCAGATAACAAGAAAAAGAAGCCGAAGAAAGAAGAGGAACAGAAGTGGAAATGGTGGGAAGAAGAGCGC  
TATCCTGAAGGCATCAAGTGGAAATTCCTAGAACATAAAGGTCCAGTATTTGCCCCACCATATGAGCCTC  
TTCCAGAGAATGTCAAGTTTTATTATGATGGTAAAGTCATGAAGCTGAGCCCAAAGCAGAGGAAGTAGC  
TACGTTCTTTGCAAAAATGCTCGACCATGAATATACTACCAAGGAAATATTTAGGAAAAATTTCTTTAA  
GACTGGAGAAAGGAAATGACTAATGAAGAGAAGAAATTTATCACCAACCTAAGCAATGTGATTTTACCC  
AGATGAGCCAGTATTTCAAAGCCAGACGGAAGCTCGGAAACAGATGAGCAAGGAAGAGAAAAGTAAAA  
CAAAGAGGAGAATGAAAAATTAAGAAAGAAATGATTCTGTATTATGGATAACCAAAAGAGAGGATT  
GCTAACTCAAGATAGACCTCCTGGACTTTCCGTGGCCGCGCAACCACCCCAAGATGGGCATGCTGA  
AGAGACGAATCATGCCCGAGGATATAATCATCACTGTAGCAAAGATGCCAAGTTCTCTCTCCTCTCC  
AGGACATAAGTGGAAAGAAGTCCGGCATGATAACAAGTTACTTGCTGGTTTCTTGACAGAGAACATC  
CAAGGTTCCATTAATACATCATGCTTAACCCTAGTTCACGAATCAAGGGTGAGAAGGACTGGCAGAAAT  
ACGAGACTGCTCGGCGGCTGAAAAATGTGTGGACAAGATCCGGAACAGTATCGAGAAGACTGGAAGTC  
CAAAGAGATGAAAGTCCGGCAGAGAGCTGTAGCCCTGACTTCATCGACAAGCTTGCTCTGAGAGCAGGC  
AATGAAAAGGAGGAAGGAGAAACAGCGGACACTGTGGCTGTGCTCACTTCGTGTGGAGCACATCAATC  
TACACCCAGAGTTGGATGGTCAGGAATATGTGGTAGAGTTTGACTTCTCGGGAAGGACTCCATCAGATA  
CTATAACAAGTCCCTGTTGAGAAACGAGTTTTTAAGAACCTACAATTTTATGGAGAACAAGCAGCCC  
GAGGATGATCTTTTTGATAGACTCAATACTGGTATTCTGAATAAGCATCTTCAGGATCTCATGGAGGGCT  
TGACAGCCAAGGTATTCGTACATACAATGCCTCCATCACGCTACAGCAGCAGCTAAAAGAACTGACAGC  
CCCGGATGAGAACATCCCAGCGAAGATCCTTTCTTATAACCGTGCCAATCGAGCTGTTGCAATCTTTGT  
AACCATCAGAGGGCACCACAAAACCTTTTGAAGTCTATGATGAACTGCAAACCTAAGATTGATGCCA  
AGAAGGAACAGCTAGCAGATGCCCGGAGAGACCTGAAAAGTGCTAAGGCTGATGCCAAGGTCATGAAGGA  
TGCAAAGACGAAGAAGGTAGTAGAGTCAAAGAAGAAGGCTGTTCCAGAGACTGGAGGAACAGTTGATGAAG  
CTGGAAGTTCAAGCCACAGACCGAGAGGAAAAATAACAGATTGCCCTGGGAACCTCCAACTCAATTATC  
TGGACCTAGGATCACAGTGGCTTGGTGAAGAAGTGGGGTGTCCAATTGAGAAGATTTACAACAAAAC  
CCAGCGGAGAAGTTTGCCTGGCCATTGACATGGCTGATGAAGACTATGAGTTT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC215658 representing NM\_003286  
 Red=Cloning site Green=Tags(s)

MSGDHLHNSQIEADFRLNDSHKHKDKHKDREHRHKEHKKEKDREKSKHSNSEHKDSEKKHKEKEKTKHK  
 DGSSEKHKDKHKDRDKEKRKEEKVRSAGDAIKKEKENGFSPPQIKDEPEDDGYFVPPKEDIKPLKRPR  
 DEDDADYKPKKIKTEDTKKEKRRKLEEEEDGKLLKPKNKDKDKKVPEDNKKKKPKKEEQKWKWEEER  
 YPEGIKWKFLEHKGPVFAPPYEPLPENVKFYDYGKVMKLSPKAAEVATFFAKMLDHEYTTKEIFRKNFFK  
 DWRKEMTNEEKNIITNLSKCDFTQMSQYFKAQTEARKQMSKEEKLKIKEENEKLLKEYGFCIMDNHKERI  
 ANFKIEPPGLFRGRGNHPKMGLKRRIMPEDIIINCSKDAKVPSPPPGHKWKEVRHDNKVTWLVSWTENI  
 QGSIKYIMLNPSRIKGEKDWQKYETARLKKCVDKIRNQYREDWKSKEMKVRQRAVALYFIDKLALRAG  
 NEKEEGETADTVGCCSLRVEHINLHPELDGQEYVVEFDLKGDSIRYNYKVPVEKRVFKNLQLFMENKQP  
 EDDLFDRLNTGILNHLQDLMEGLTAKVFRTYNASITLQQQLKELTAPDENIPAKILSYNRRANRAVAIIC  
 NHQRAPPKTFEKSMMNLQTKIDAKKEQLADARRDLKSAKADAKVMKDAKTKKVVESKKAQVQRLEEQLMK  
 LEVQATDREENKQIALGTSKLNYLDPRI TVAWCKKWGVP IEKIYNKTQREKFAWAIDMADEYEF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



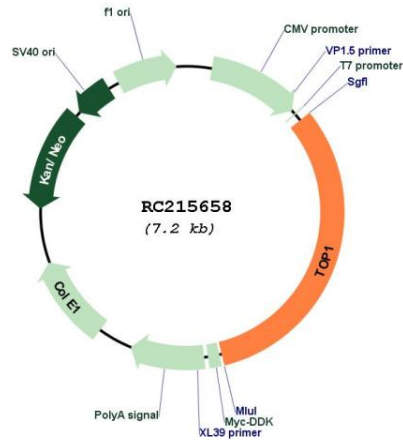
\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_003286

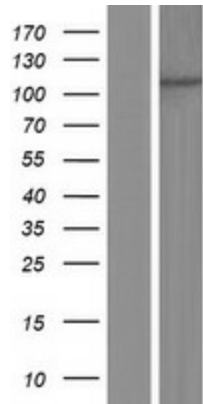
**ORF Size:** 2295 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_003286.4</a>
<b>RefSeq Size:</b>	3734 bp
<b>RefSeq ORF:</b>	2298 bp
<b>Locus ID:</b>	7150
<b>UniProt ID:</b>	<a href="#">P11387</a>
<b>Cytogenetics:</b>	20q12
<b>Domains:</b>	TOPEUc
<b>Protein Families:</b>	Druggable Genome
<b>MW:</b>	90.5 kDa
<b>Gene Summary:</b>	This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This enzyme catalyzes the transient breaking and rejoining of a single strand of DNA which allows the strands to pass through one another, thus altering the topology of DNA. This gene is localized to chromosome 20 and has pseudogenes which reside on chromosomes 1 and 22. [provided by RefSeq, Jul 2008]

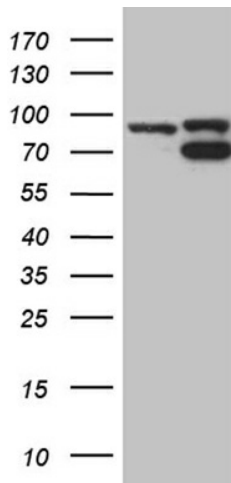
Product images:



Circular map for RC215658



Western validation with an anti-DDK antibody; L: Control HEK293 lysate R: Over-expression lysate



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TOP1 (Cat# RC215658, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-TOP1 (Cat# [TA809934])(1:2000). Positive lysates [LY401133] (100ug) and [LC401133] (20ug) can be purchased separately from OriGene.