OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for SC117267

Topoisomerase III alpha (TOP3A) (NM_004618) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Topoisomerase III alpha (TOP3A) (NM_004618) Human Untagged Clone
Tag:	Tag Free
Symbol:	Topoisomerase III alpha
Synonyms:	MGRISCE2; PEOB5; TOP3; ZGRF7
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>NCBI ORF sequence for NM_004618, the custom clone sequence may differ by one or more nucleotides

ATGATCTTTCCTGTCGCCCGCTACGCGCTCCGGTGGCTGCGACGGCCCGAAGACCGTGCCTTTTCCCGCG
CCGCCATGGAGATGGCCCTCCGAGGCGTGCGGAAAGTCCTCTGTGTGGCCGAAAAAAACGACGCGGCCAA
GGGGATCGCCGACCTGCTGTCAAACGGTCGCATGAGGCGGAGAGAAGGACTTTCAAAATTCAACAAGATC
TATGAATTTGATTATCATCTGTATGGCCAGAATGTTACCATGGTAATGACTTCAGTTTCTGGACATTTAC
TGGCTCATGATTTCCAGATGCAGTTTCGAAAATGGCAGAGCTGCAACCCTCTTGTCCTCTTTGAAGCAGA
AATTGAAAAGTACTGCCCAGAGAATTTTGTAGACATCAAGAAAACTTTGGAACGAGAGACTCGCCAGTGC
CAGGCTCTGGTGATCTGGACTGACTGTGATAGAGAAGGCGAAAACATCGGGTTTGAGATTATCCACGTGT
GTAAGGCTGTAAAGCCCAATCTGCAGGTGTTGCGAGCCCGATTCTCTGAGATCACACCCCATGCCGTCAG
GACAGCTTGTGAAAACCTGACCGAGCCTGATCAGAGGGTGAGCGATGCTGTGGATGTGAGGCAGGAGCTG
GACCTGAGGATTGGAGCTGCCTTTACTAGGTTCCAGACCCTGCGGCTTCAGAGGATTTTTCCTGAGGTGC
TGGCAGAGCAGCTCATCAGTTACGGCAGCTGCCAGTTCCCCACACTGGGCTTTGTGGTGGAGCGGTTCAA
AGCCATTCAGGCTTTTGTACCAGAAATCTTCCACAGAATTAAAGTAACTCATGACCACAAAGATGGTATC
GTAGAATTCAACTGGAAAAGGCATCGACTCTTTAACCACACGGCTTGCCTAGTTCTCTATCAGTTGTGTG
TGGAGGATCCCATGGCAACTGTGGTAGAGGTCAGATCTAAGCCCAAGAGCAAGTGGCGGCCTCAAGCCTT
GGACACTGTGGAGCTTGAGAAGCTGGCTTCTCGAAAGTTGAGAATAAATGCTAAAGAAACCATGAGGATT
GCTGAGAAGCTCTACACTCAAGGGTACATCAGCTATCCCCGAACAGAAACAAACATTTTTCCCAGAGACT
TAAACCTGACGGTGTTGGTGGAACAGCAGACCCCCGATCCACGCTGGGGGGCCTTTGCCCAGAGCATTCT
AGAGCGGGGTGGTCCCACCCCACGCAATGGGAACAAGTCTGACCAAGCTCACCCTCCCATTCACCCCACC
AAATACACCAACAACTTACAGGGAGATGAACAGCGACTGTACGAGTTTATTGTTCGCCATTTCCTGGCTT
GCTGCTCCCAGGATGCTCAGGGGCAGGAGACCACAGTGGAGATCGACATCGCTCAGGAACGCTTTGTGGC
CCATGGCCTCATGATTCTGGCCCGAAACTATCTGGATGTGTATCCATATGATCACTGGAGTGACAAGATC
CTCCCTGTCTATGAGCAAGGATCCCACTTTCAGCCCAGCACCGTGGAGATGGTGGACGGGGAGACCAGCC
CACCCAAGCTGCTCACCGAGGCCGACCTCATTGCCCTCATGGAGAAGCATGGCATTGGTACGGATGCCAC
TCATGCGGAGCACATCGAGACCATCAAAGCCCGGATGTACGTGGGCCTCACCCCAGACAAGCGGTTCCTC
CCTGGGCACCTGGGCATGGGACTTGTGGAAGGTTATGATTCCATGGGCTATGAAATGTCTAAGCCTGACC
TCCGGGCTGAACTGGAAGCTGATCTGAAGCTGATCTGTGATGGCAAAAAGGACAAATTTGTGGTTCTAAG
GCAGCAAGTGCAGAAATACAAGCAGGTTTTCATTGAAGCGGTGGCTAAAGCAAAGAAATTGGACGAGGCC
TTGGCCCAGTACTTTGGGAATGGGACAGAGTTGGCCCAGCAAGAAGATATCTACCCAGCCATGCCAGAGC
CCATCAGGAAGTGCCCACAGTGCAACAAGGACATGGTCCTTAAGACCAAGAAGAATGGCGGGTTCTACCT
CAGCTGCATGGGTTTCCCAGAGTGTCGCTCAGCTGTGTGGCTTCCTGACTCGGTGCTGGAGGCCAGCAGG
GACAGCAGTGTGTGTCCAGTTTGTCAGCCACACCCTGTGTACAGGTTAAAGTTAAAGTTTAAGCGCGGTA
GCCTTCCCCCGACCATGCCTCTGGAGTTTGTTTGCTGCATCGGCGGATGCGACGACACCCTGAGGGAGAT
CCTGGACCTGAGATTTTCAGGGGGCCCCCCCAGGGCTAGCCAGCCCTCTGGCCGCCTGCAGGCTAACCAG
TCCCTGAACAGGATGGACAACAGCCAGCACCCCCAGCCTGCTGACAGCAGACAGACTGGGTCCTCAAAGG
CTCTGGCCCAGACCCTCCCACCACCCACGGCTGCTGGTGAAAGCAATTCTGTGACCTGCAACTGTGGCCA
GGAGGCTGTGCTGCTCACTGTCCGTAAGGAGGGCCCCAACCGGGGCCGGCAGTTCTTTAAGTGCAACGGA
GGTAGCTGCAACTTCTTCCTGTGGGCAGACAGCCCCAATCCGGGAGCAGGAGGGCCTCCTGCCTTGGCAT
ATAGACCCCTGGGCGCCTCCCTGGGATGCCCACCAGGCCCAGGGATCCACCTAGGTGGGTTTGGCAACCC
TGGTGATGGCAGTGGTAGTGGCACATCCTGCCTTTGCAGCCAGCCCTCCGTCACACGGACTGTGCAGAAG
GATGGACCCAACAAGGGGCGCCAGTTCCACACATGTGCCAAGCCGAGAGAGCAGCAGTGTGGCTTTTTCC
AGTGGGTCGATGAGAACACCGCTCCAGGGACTTCTGGAGCCCCGTCCTGGACAGGAGACAGAGGAAGAAC
CCTGGAGTCGGAAGCCAGAAGCAAAAGGCCCCGGGCCAGTTCCTCAGACATGGGGTCCACAGCAAAGAAA
CCCCGGAAATGCAGCCTTTGCCACCAGCCTGGACACACCCGTCCCTTTTGTCCTCAGAACAGATGA

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_004618 unedited
GTTCAAATTTTGTAATACGACTCACTATAGGGACTGGCCGCGATTCGGCACGAGGAGTGA
CTGAAGCTCCAAAGGCCAGCAGGCTGGTGGGGACGTGACCGAAGCGAGGCTCTGGTTCCC
TTTCGGTGGGCGCCATTTGAGCCTCATCTCTGGCTTCCCCAGGATGCGCCGGCAGCCGGG
GAGCGGCTCCGGGCGCGAGGTCTGAGGATGATCTTTCCTGTCGCCCGCTACGCGCTCCGG
TGGCTGCGACGGCCCGAAGACCGTGCCTTTTCCCGCGCCGCCATGGAGATGGCCCTCCGA
GGCGTGCGGAAAGTCCTCTGTGTGGCCGAAAAAAACGACGCGGCCAAGGGGATCGCCGAC
CTGCTGTCAAACGGTCGCATGAGGCGGAGAGAAGGACTTTCAAAATTCAACAAGATCTAT
GAATTTGATTATCATCTGTATGGCCAGAATGTTACCATGGTAATGACTTCAGTTTCTGGA
CATTTACTGGCTCATGATTTCCAGATGCAGTTTCGAAAATGGCAGAGCTGCAACCCTCTT
GTCCTCTTTGAAGCAGAAATTGAAAAGTACTGCCCAGAGAATTTTGTAGACATCAAGAAA
ACTTTGGAACGAGAGACTCGCCAGTGCCAGGCTCTGGTGATCTGGACTGACTGTGATAGA
GAAGGCGAAAACATCGGGTTTGAGATTATCCACGTGTGTAAGGCTGTAAAGCCCAATCTG
CANGTGTTGCGAGCCCGATTCTCATAGATCACACCCCATGCCGTCAGGACAGCTTGTGAA
AACCTGACCGAGCCTGATCANAGGGTGAGCGATGCTGTGGATGTGAGGCAGGAGCTGGAC
CCTGAGATTGGAGCTGCCTTTACTANGTTCCAGACCCCTGCGCTTCAGNANATTNTTCCC
TGAGTGCTGGCAGACAGCTCATCAGTACGGAGCTGC

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_004618 unedited
TACCGCGGCACGCAATCTAGTATCGAGTTTTTTTTTTTTTTTTTTAAATTTTTAAATTTT
TTTTGAGACTGAGTCTCGCTCTGTCGTCCAGTGGCGCAATCTCAGCTAACTGCAACCTCC
GCCTCCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCTGAGTAGCCGGGTCCACAGGCG
CACACCGCCACACCTGGCTAATTTTTTGTATTTCAGCAGAGACAGGGTTTCACCATGTTG
CCCTGGCTGGTCTCGAACTCCTGAGCTCAGGCAATCCGCCCCCCACAGCCTCCCAAAGTG
CTGGGATTACAGGCATGATCCACTGCACCCGGCCTGGGTTCTTTATTAAAGCAATGAATT
CTGGATGTCCTGGCTTAACTAGATTAAGAGGGAATGAAGCTTCTTCTGAAGGATCAGTGT
TACCACAGCCATTTCCTTGCATTACACCGTCCTTCTCAGGACGTCTATGATAAGCCCTGG
GCAGCCTGGACAGGGACTACCCCATGAGTGCTGGTGGCTCACTTGGGGCTTTCTGCAGGT
GAAGGAAGCAGCCCTGGGAGCTTCTTCCTTTGGCACACAGTGGGCTTCAGCTGGGACTGC
ACCAATCCTCTGCTAACAGCAACCATCCTTGGGGGGTCCGAGGGAGCAGCTGCGTGACTT
TTCAGCAGTGGCTATGGTCACTCCTGAGGCCCTGGAAGAGGTCACTGTCCAGCAGAGCTG
GCCTGCTCCAGATGATCTGGACCTCGGGCCCTTACACAAGAGGCCCGACTCCAAGGCCAC
ACTGTCCCTTAGTTTCCAGGACACTATAGCCACTTGGCCTGGGTAACTATTTTTAACACA
AAGGGACGGTCTGGAAATTGGGTTCCTACCCTACTGGACCTTTGTCTGAGCACAAGGGAG
GGGGGGCCAGCTGTGCAAAAGGTATTTCCCGGGTTTTTGTTGGGACCAATTTGTGAATTG
CCGGGCCTCTTTTCTGTTCCGAATCAGGTTTTCCCCGTCCTTGAAAAAGGGCCAAATCA

Restriction Sites: NotI-NotI

ACCN: NM_004618

Insert Size: 3570 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_004618.3, NP_004609.1
RefSeq Size:	4116 bp
RefSeq ORF:	3006 bp
Locus ID:	7156
UniProt ID:	Q13472
Cytogenetics:	17p11.2
Domains:	Topoisom_bac, zf-CCHC, TOP1Bc, TOP1Ac, TOPRIM, Toprim
Protein Families:	Druggable Genome
Protein Pathways:	Homologous recombination

Gene Summary: 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 reducing the number of supercoils and altering the topology of DNA. This enzyme forms a complex with BLM which functions in the regulation of recombination in somatic cells. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Mar 2016]
Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.