

Product datasheet for **SC309899**

Topoisomerase II beta (TOP2B) (NM_001068) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Topoisomerase II beta (TOP2B) (NM_001068) Human Untagged Clone
Tag:	Tag Free
Symbol:	Topoisomerase II beta
Synonyms:	top2beta; TOPIIB
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene ORF sequence for NM_001068 edited
 ATGGCCAAGTCGGGTGGCTGCGGCGGGAGCCGGCGTGGGCGGCAACGGGGCACTG
 ACCTGGGTGAACAATGCTGCAAAAAAAGAAGAGTCAGAAATGCCAACAAAAATGATTCT
 TCAAAGAAGTTGTCTGTTGAGAGAGTGTATCAGAAGAAGACACAACCTGAACACATTCTT
 CTTCTGCTGATACATATATTGGGTCAGTGGAGCCATTGACGCAGTTCATGTGGGTGTAT
 GATGAAGATGTAGGAATGAATTGCAGGGAGGTTACCTTTGTGCCAGGTTTATACAAGATC
 TTTGATGAAATTTGGTTAATGCTGCTGACAATAAACAGAGGGATAAGAACATGACTTGT
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 CTTTTAACATCCAGTAACTATGATGATGATGAGAAAAAGTTACAGGTGGTCGTAATGGT
 TATGGTGCAAACTTTGTAATATTTTCAGTACAAAGTTTACAGTAGAAACAGCTTGCAAA
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GCTGAAATAAATAATATTATTAATAAGTTGGTCTACAATATAAGAAAAGTTACGATGAT
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GATGGTCTCACATAAAAGGCCTGCTTATTAATTTTCATCCATCACAATTGGCCATCACTT
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TCAGAATTTGGCATTCCAAGAAGACTACAACACCAAAAGGTAAGGCCGAGGGGCAAG
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AAAACAACAAGCAAGAAACCGAAGAAGACATCTTTTGATCAGGATTCAGATGTGGACATC
TTCCCCTCAGACTTCCCTACTGAGCCACCTTCTCTGCCACGAACCGGTCGGGCTAGGAAA
GAAGTAAATATTTTGCAGAGTCTGATGAAGAAGAAGATGATGTTGATTTGCAATGTTT
AATTAA
    
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Restriction Sites:	Please inquire
ACCN:	NM_001068
Insert Size:	5500 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
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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:	<ol style="list-style-type: none"> 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_001068.2 , NP_001059.2
RefSeq Size:	5189 bp
RefSeq ORF:	4866 bp
Locus ID:	7155
UniProt ID:	Q02880
Cytogenetics:	3p24.2
Domains:	DNA_gyraseB, DNA_topoisolV, HATPase_c
Protein Families:	Druggable Genome

Gene Summary:

This gene encodes a DNA topoisomerase, an enzyme that controls and alters the topologic states of DNA during transcription. This nuclear enzyme is involved in processes such as chromosome condensation, chromatid separation, and the relief of torsional stress that occurs during DNA transcription and replication. It catalyzes the transient breaking and rejoining of two strands of duplex DNA which allows the strands to pass through one another, thus altering the topology of DNA. Two forms of this enzyme exist as likely products of a gene duplication event. The gene encoding this form, beta, is localized to chromosome 3 and the alpha form is localized to chromosome 17. The gene encoding this enzyme functions as the target for several anticancer agents and a variety of mutations in this gene have been associated with the development of drug resistance. Reduced activity of this enzyme may also play a role in ataxia-telangiectasia. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2016]

Transcript Variant: This variant (2) contains an alternate in-frame splice site in the 5' coding region, compared to variant 1. It encodes isoform 2, which is shorter than isoform 1.