

Product datasheet for RC221568

Topoisomerase II alpha (TOP2A) (NM_001067) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Topoisomerase II alpha (TOP2A) (NM_001067) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Topoisomerase II alpha
Synonyms:	TOP2; TOP2alpha; TOPIIA; TP2A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC221568 representing NM_001067 Red=Cloning site Blue=ORF Green=Tags(s)

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Protein Sequence: >RC221568 representing NM_001067
 Red=Cloning site Green=Tags(s)

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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_001067

ORF Size: 4593 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 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_001067.4](#)

RefSeq Size: 5698 bp

RefSeq ORF: 4596 bp

Locus ID: 7153

UniProt ID: [P11388](#)

Cytogenetics: 17q21.2

Domains: DNA_gyraseB, DNA_topoisoIV, HATPase_c

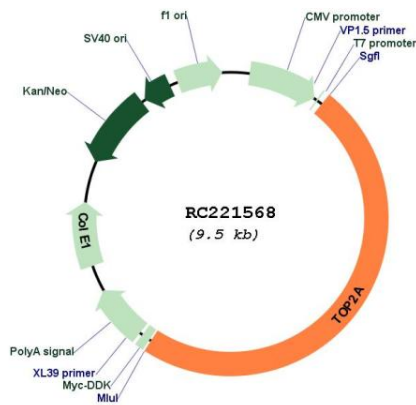
Protein Families: Druggable Genome

MW: 174.2 kDa

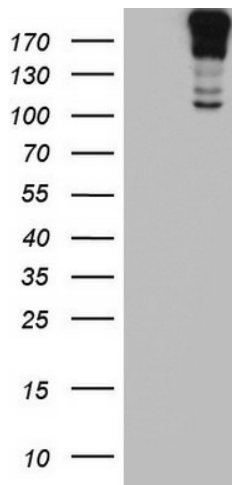
Gene Summary:

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, alpha, is localized to chromosome 17 and the beta gene is localized to chromosome 3. 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. [provided by RefSeq, Jul 2010]

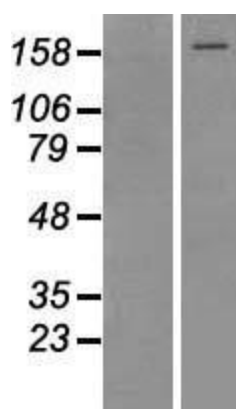
Product images:



Circular map for RC221568



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TOP2A (Cat# RC221568, 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-TOP2A (Cat# [TA802384]). Positive lysates [LY420704] (100ug) and [LC420704] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY420704]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221568 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).