

Product datasheet for **MG211428**

Top3a (NM_009410) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Top3a (NM_009410) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Top3a
Synonyms:	MGC106383
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG211428 representing NM_009410
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGATCTTCCCGTACCCTCTTAGCGTTTCAGTGGCACCGCCTGGAGCCGTGCCCTGTCCCGC
 CTGCCATGGAAGTGGCCTTCCGAGGAGTGCAGAAAAGTTCTCTGCGTGGCGGAGAAAAACGACGCTGCCAA
 GGGGATCGCCGACTTGCTGTCCAACGGCGTATGAGGCGAAAAGAAGCCTTTCTAAATTCAACAAGATT
 TATGAATTTGACTATCATCTGTATGGCCAGAATGTTACTATGATAATGACTTCAGTCTCTGGACATTTGC
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 AAAAAGCCTCGGAAATGTAGCCTTTGTACCAGCCTGGACACACCCGAACCTTTTGTCTCAGAACAAGA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG211428 representing NM_009410
 Red=Cloning site Green=Tags(s)

MIFPVTLLAFQWHRPPGGRALSRAAMEVAFRGVRKVLCAEKNDAAKGIADLLSNGMRMRKEGLSKFNKI
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 QALVIWTDGCDREGENIGFEIIHVCKAVKPNLRVLRARFSEITPHAVRTACENLTPDQRVSDAVDVRQEL
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 LPVYEQGSHFQPSTVEMVDGETSPPQLL TEADLI ALMEKHGIGTDATHAEHIETIKARMYVGLTSDKRFL
 PGHLMGLVEGYDSMGYEMSKPDLRAELEADLKLICEGKKDKFQVLRQQVQKQVQVIEAVAKAKLDEA
 LSQYLGERTEMAQQEEIYPAMPEPVRKCPQCNKDMVLKTKKSGGFYLSMGFPECRSAVWFPSVLEASR
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 SNGDCNFFLWADSSHSTGGGTPTSASGPPGSSVGCPSVSGSHMDGFGSLGSDSDGGTPCLCGQPAVTRTV
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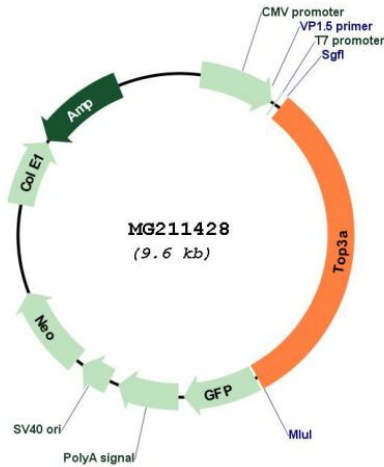
TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_009410

ORF Size: 3009 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_009410.3](#)

RefSeq Size: 3740 bp

RefSeq ORF: 3012 bp

Locus ID: 21975

UniProt ID: [O70157](#)

Cytogenetics: 11 B2

Gene Summary:

Releases the supercoiling and torsional tension of DNA introduced during the DNA replication and transcription by transiently cleaving and rejoining one strand of the DNA duplex. Introduces a single-strand break via transesterification at a target site in duplex DNA. The scissile phosphodiester is attacked by the catalytic tyrosine of the enzyme, resulting in the formation of a DNA-(5'-phosphotyrosyl)-enzyme intermediate and the expulsion of a 3'-OH DNA strand. The free DNA strand then undergoes passage around the unbroken strand thus removing DNA supercoils. Finally, in the religation step, the DNA 3'-OH attacks the covalent intermediate to expel the active-site tyrosine and restore the DNA phosphodiester backbone. As an essential component of the RMI complex it is involved in chromosome separation and the processing of homologous recombination intermediates to limit DNA crossover formation in cells. Has DNA decatenation activity. It is required for mtDNA decatenation and segregation after completion of replication, in a process that does not require BLM, RMI1 and RMI2.[UniProtKB/Swiss-Prot Function]