

Product datasheet for MR211428

Top3a (NM_009410) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Top3a (NM_009410) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Top3a
Synonyms:	MGC106383
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR211428 representing NM_009410 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGATCTTCCCGGTACCCCTCTTAGCGTTTCAGTGGCACCGACGGCCTGGAGGCCGTGCCCTGTCCCGG
CTGCCATGGAAGTGGCCTCCGAGGAGTGCAGAAAGTTCTCTGCGTGGCGGAGAAAAACGACGCTGCCAA
GGGATCGCCGACTTGTGTCCAACGGGCGTATGAGGCGGAAAGAAGGCCCTTCTAAATTCACAAGATT
TATGAATTTGACTATCATCTGTATGGCCAGAATGTTACTATGATAATGACTTCAGTCTCTGGACATTTGC
TGGCTCATGACTCCAGATGCAGTTTCGAAATGGCAGAGCTGCAATCCCCTTGTCTCTTTGAAGCAGA
AATTGAAAAGTATTGCCAGAAAATTTATAGACATCAAGAAAATCTAGAACGAGAGACACATCATTGT
CAGGCCCTGGTGATCTGGACGGACTGTGATAGGGAAGGTGAGAACATCGGCTTTGAGATTATCCACGTAT
GCAAGGCTGTAACCCAACTACCGGTGCTGAGAGCCCGCTTCTCTGAGATCACGCCACACGCCGTGAG
AACAGCCTGTGAAAACCTAACTGAGCCTGACCAGAGAGTGAAGTGCAGCAGTGGATGTGAGGCAAGAGCTG
GACCTGAGGATCGGAGCTGCCTTCAAGGTTCCAGACCTGCGGCTCCAGAGGATCTTCCCTGAGGTGC
TGGCAGAGCAGCTCATCAGCTACGGCAGTTGCCAGTTCCCAACTGAGGTTTGTGGTGGAGAGGTTCAA
GGCCATTCAGGCTTTTGTGCCAGAAGTCTTCCACAAAATTAAGTAACTCATGACCACAAGATGGGACC
GTAGAGTTCAACTGGAACGATACCGTCTTTAACACACAGCTTGTCTTGTCTTTATCAGTTGTGCA
TGGAGGATCCCATGGCGACTGTGGTAGAGGTGAGTCTAAGCCAAAGAGCAAGTGGAGGCCGAGGCTTT
GGACACGTTGGAGCTAGAGAAAATGGCATCTCGGAAATGAGAATAAATGCCAAAGAAAACCATGAGGATC
GCGAAAAGCTCTATACACAAGGTACATCAGCTACCCCGGACAGAAAACAAACATCTTCCCCAAAGACT
TAAACCTGGTTGCATTGGTAGAACAGCAGACCGTGGATCCACACTGGGGGCTTTTGTCTCAGACATTCT
AGAGCGAGGTGGCCCTACTCCCCGAAACGGGAGCAAGTCTGATCAAGCTCACCTCCCATCACCCACC
AAATACACCAGCGGCTTGCAGGGAGATGATCGGCGACTGTACGAGTTCATTGTTCCGCAATTTCTGGCTT
GCTGCTCTCAGGACGCTCAGGGCAAGAGACTACCGTAGAGATCGACATTGCCAAAGAGCGCTTTGTGGC
CCACGGGCTCATATTCTGGCCGTAACCTAGATGTGTATCCGTATGATCACTGGAGTGACAAGCTC



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CTCCCCGTCTATGAACAAGGCTCCCACTTCCAGCCCAGCACTGTGGAAATGGTGGATGGAGAGACTAGCC
 CACCCCAACTGCTTACCGAAGCTGACCTCATCGCCCTCATGGAGAAACATGGGATCGGTACTGATGCAAC
 TCATGCAGAACACATTGAGACCTCAAAGCCGGATGTATGTGGGACTCACCTCAGACAAGCGGTTCTCTG
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 CTGTTTCGGAAGTGCCACAGTGTAAACAAGGATATGGTCCTCAAGACCAAGAAGAGTGGTGGGTTCTACCT
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 CTGCATCAGGACCCCAAGCAGCTCTGTAGGATGCCCATCCAGTGTAGGCAGCCACATGGATGGGTTTGG
 CAGCCTTGGCAGCGACAGTGTGGAGGTACACCCTGCCTGTGCGGGCAGCCTGCTGTACACGGACTGTT
 CAGAAGGATGGACCAACAAAGGACGCCAGTTCACACCTGTGCCAAGCCACGAGAGCAGCAGTGTGGCT
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 AAAAGCCAGAGACCAGAGGCTGCAAGCAAAAGACCAAGAGCTGGTTCTCAGATGCAGGGTCCACAGTA
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ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR211428 representing NM_009410
 Red=Cloning site Green=Tags(s)

MIFPVTLLAFQWHRPPGGRALSRAMEVAFRGVRKVLCAEKNDAAKGIADLLSNGMRMRKEGLSKFNKI
 YEFDYHLYGQNVMTIMTSVSGHLLAHDFMQFRKWQSCNPLVLEAEIEKYCPENFIDIKKTLERETHHC
 QALVIWTDREGENIGFEIIHVCKAVKPNLRVLRARFSEITPHAVRTACENLTPDQVRVSDAVDVRQEL
 DLRIGAAFTRFQTLRLQRIFPEVLAELISYGSCQFPTLGFVVERFKAIQAFVPEVFHKIKVTHDHDGDT
 VEFNWKRYRLFNHTACLVLQQLCMEDPMATVVEVRSKPKSKWRPQALDTVELEKLASRKLRIKAKETMRI
 AEKLYTQGYISYPRTEINIFPKDLNLVALVEQQTVDPHWGAFQITLERGGTPRNGSKSDQAHPPIHPT
 KYTSLGQDDRRLYEFIVRHFLACCSQDAQGQETTVEIDIAQERFVAHGLIILARNYLDVVPYDHWSDKL
 LPVYEQGSHFQPVSTVEMVDGETSPPQLL TEADL IALMEKHGIGTDATHAEHIETIKARMYVGLTSDKRF
 PGHLMGLVEGYDSMGYEMSKPDLRAELEADLKLICEGKDKFQVLRQQVQYKQVFI EAVAKAKKLDEA
 LSQYLGERTEMAQQEIIYPAMPEPVRKCPQCNKDMVLKTKKSGGFYLSMGMFPECRSAVWFPDSVLEASR
 DNSVCSVCQPPPVYRLKLFKRGSLPPAMPLEFVGCIGGCDETLKEIFGLRFPRALPRASQPSGHLQASQ
 ALNRMDSQHNLSQPLVNRHTRPSKTVAQALLPPTTAGESNSVTCNCGREAVLLTVRKQGPNQGRHFYK
 SNGDCNFFLWADSSHSTGGGTPTSASGPPGSSVSGPSSVSGHMDGFGSLGSDSDGGTTPCLCGQPAVTRTV
 QKDGPNKGRQFHTCAKPREQQCGFFQWVDENVAPGSFAAPAWPGGRGKAQRPEAASKRPRAGSSDAGSTV
 KKPRKCSLCHQPGHTRTFPCQNR

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mm9047_e09.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


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](#)

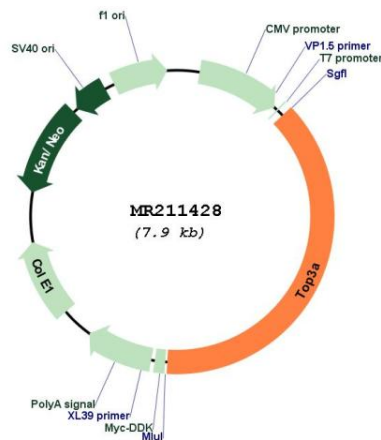
RefSeq Size: 3740 bp

RefSeq ORF: 3012 bp

Locus ID: 21975
UniProt ID: [O70157](#)
Cytogenetics: 11 B2
MW: 112.8 kDa

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]

Product images:



Circular map for MR211428