**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 MC223078

## Top3a (NM_009410) Mouse Untagged Clone

### Product data:

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|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | Top3a (NM_009410) Mouse Untagged Clone |
| **Tag:** | Tag Free |
| **Symbol:** | Top3a |
| **Synonyms:** | MGC106383 |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **Cell Selection:** | Neomycin |

**Fully Sequenced ORF:**

>MC223078 representing NM_009410
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGATCTTCCCGGTCACCCTCTTAGCGTTTCAGTGGCACCGACGGCCTGGAGGCCGTGCCCTGTCCCGCG
CTGCCATGGAAGTGGCCTTCCGAGGAGTGCGAAAAGTTCTCTGCGTGGCGGAGAAAAACGACGCTGCCAA
GGGGATCGCCGACTTGCTGTCCAACGGGCGTATGAGGCGGAAAGAAGGCCTTTCTAAATTCAACAAGATT
TATGAATTTGACTATCATCTGTATGGCCAGAATGTTACTATGATAATGACTTCAGTCTCTGGACATTTGC
TGGCTCATGACTTCCAGATGCAGTTTCGGAAATGGCAGAGCTGCAATCCCCTTGTCCTCTTTGAAGCAGA
AATTGAAAAGTATTGCCCAGAAAATTTTATAGACATCAAGAAAACTCTAGAACGAGAGACACATCATTGT
CAGGCCCTGGTGATCTGGACGGACTGTGATAGGGAAGGTGAGAACATCGGCTTTGAGATTATCCACGTAT
GCAAGGCTGTAAAACCCAATCTACGGGTGCTGAGAGCCCGCTTCTCTGAGATCACGCCACACGCCGTCAG
AACAGCCTGTGAAAACCTAACTGAGCCTGACCAGAGAGTGAGTGACGCAGTGGATGTGAGGCAAGAGCTG
GACCTGAGGATCGGAGCTGCCTTCACAAGGTTCCAGACCCTGCGGCTCCAGAGGATCTTCCCTGAGGTGC
TGGCAGAGCAGCTCATCAGCTACGGCAGTTGCCAGTTCCCAACACTGGGGTTTGTGGTGGAGAGGTTCAA
GGCCATTCAGGCTTTTGTGCCAGAAGTCTTCCACAAAATTAAAGTAACTCATGACCACAAAGATGGGACC
GTAGAGTTCAACTGGAAACGATACCGTCTCTTTAACCACACAGCTTGTCTTGTCCTTTATCAGTTGTGCA
TGGAGGATCCCATGGCGACTGTGGTAGAGGTCAGATCTAAGCCAAAGAGCAAGTGGAGGCCGCAGGCTTT
GGACACGGTGGAGCTAGAGAAACTGGCATCTCGGAAATTGAGAATAAATGCCAAAGAAACCATGAGGATC
GCGGAAAAGCTCTATACACAAGGGTACATCAGCTACCCCCGGACAGAAACAAACATCTTCCCCAAAGACT
TAAACCTGGTTGCATTGGTAGAACAGCAGACCGTGGATCCACACTGGGGGGCTTTTGCTCAGACCATTCT
AGAGCGAGGTGGCCCTACTCCCCGAAACGGGAGCAAGTCTGATCAAGCTCACCCTCCCATTCACCCCACC
AAATACACCAGCGGCTTGCAGGGAGATGATCGGCGACTGTACGAGTTCATTGTTCGCCATTTCCTGGCTT
GCTGCTCTCAGGACGCTCAGGGGCAAGAGACTACCGTAGAGATCGACATTGCCCAAGAGCGCTTTGTGGC
CCACGGGCTCATCATTCTGGCCCGTAACTACCTAGATGTGTATCCGTATGATCACTGGAGTGACAAGCTC
CTCCCCGTCTATGAACAAGGCTCCCACTTCCAGCCCAGCACTGTGGAAATGGTGGATGGAGAGACTAGCC



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CACCCCAACTGCTTACCGAAGCTGACCTCATCGCCCTCATGGAGAAACATGGGATCGGTACTGATGCAAC
TCATGCAGAACACATTGAGACCATCAAAGCCCGGATGTATGTGGGACTCACCTCAGACAAGCGGTTCCTG
CCGGGGCACCTGGGCATGGGACTTGTAGAAGGTTACGATTCCATGGGTTATGAGATGTCCAAGCCTGACC
TCCGTGCCGAGCTGGAAGCTGATCTCAAGCTGATCTGTGAGGGCAAGAAGGATAAGTTTCAAGTTCTAAG
GCAGCAAGTGCAAAAATACAAGCAGGTTTTCATTGAAGCAGTGGCGAAGGCAAAGAAGTTGGATGAGGCT
TTATCTCAGTACTTAGGAGAAAGAACAGAGATGGCCCAGCAAGAAGAGATCTACCCAGCCATGCCAGAGC
CTGTTCGGAAGTGCCCACAGTGTAACAAGGATATGGTCCTCAAGACCAAGAAGAGTGGTGGGTTCTACCT
CAGCTGCATGGGGTTCCCAGAGTGTCGGTCAGCTGTGTGGTTTCCTGACTCGGTGCTGGAGGCCAGCAGG
GACAACAGTGTGTGTTCTGTTTGTCAGCCACCCCCTGTGTACAGGTTGAAGTTGAAGTTTAAGCGTGGTA
GCCTTCCCCCAGCTATGCCCCTGGAGTTTGTCGGCTGCATAGGTGGATGTGATGAGACTTTGAAGGAAAT
CTTCGGCCTGCGATTTCCACGGGCTCTCCCAAGAGCTAGCCAGCCCTCTGGCCACCTGCAGGCCAGCCAG
GCCCTCAACAGGATGGACAGCAGTCAGCATAACCTGTCTCAACCTCTGGTTAACAGACATACTAGACCTT
CAAAGACAGTGGCCCAAGCCTTGCTACCACCCACTACTGCTGGTGAAAGCAACTCTGTGACTTGCAATTG
TGGCCGGGAGGCTGTGCTGCTCACTGTCCGCAAGCAGGGCCCCAACCAGGGCCGGCATTTCTACAAGTGC
AGTAATGGTGACTGCAACTTCTTCCTGTGGGCTGACAGCAGCCATTCCACTGGAGGAGGGACCCCCACCT
CTGCATCAGGACCCCCAGGCAGCTCTGTAGGATGCCCATCCAGTGTAGGCAGCCACATGGATGGGTTTGG
CAGCCTTGGCAGCGACAGTGATGGAGGTACACCCTGCCTGTGCGGGCAGCCTGCTGTCACACGGACTGTT
CAGAAGGATGGACCCAACAAAGGACGCCAGTTCCACACCTGTGCCAAGCCACGAGAGCAGCAGTGTGGCT
TCTTTCAGTGGGTGGATGAGAATGTGGCCCCAGGAAGTTTTGCAGCCCCTGCATGGCCAGGAGGCAGAGG
AAAAGCCCAGAGACCAGAGGCTGCAAGCAAAAGACCAAGAGCTGGTTCCTCAGATGCAGGGTCCACAGTA
AAAAAGCCTCGGAAATGTAGCCTTTGTCACCAGCCTGGACACACCCGAACCTTTTGTCCTCAGAACAGAT
GA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI

**ACCN:** NM_009410

**Insert Size:** 3012 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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_009410.2, NP_033436.1

**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] |