

Product datasheet for **RR204378**

Top1mt (NM_001002798) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Top1mt (NM_001002798) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Top1mt
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



[View online »](#)

ORF Nucleotide Sequence:

>RR204378 representing NM_001002798
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGCTGCTGCTATGGCTCAGAGCTCTGTGCCGGCTTCCAGCATGTCCCCGCCGCTCCCCAGCCGCC
 AAGTGTCCCGGGCTCGAAGGCGAGCAGAGCCGGTGGGAGAGACGAGCAAGAGCAGTGTGAAGTGGAA
 GCAACTGGAGCACAAGGGTCCGTGCTTCGCCCCAGCCTATGAGCCCTTCTGATGGAGTACGTTTCTTC
 TATGATGGCAAGCCAGTGAAGCTGAGCTTGGCAGCGGAGGAGTTGCTACTTTCTATGGGAAATGCTGC
 ATCTCGAGTGTACGACCAAGGAAGTCTCCGGAGGAAGTCTTCAGCGACTGGCAGAAGGAAATGACAGC
 TGAGGAGAGGAAGCTCATCACACACCTGGACAAGTGCAGCTTCTCGGAGATCCATAGGCACCTCATGGAA
 AGAGCTGAGGCCCGCAGGACCTTCCCAGGGAGCAGAAGCAGAACTAAAAGAAGAGGCAGAGAAGCTTC
 AGCAGGAGTTGGCTACTGTATTTAGATGGCCACAGAGAGAAAATAGGCAATTTCAAGACGGAACCACC
 CGGCTTGTCCGCGGCCGAGGCGACCATCCAAGATGGGGATGTTGAAGAGGAGGGTCATGCCAGAGGAT
 GTGGTCATTAAGTGTAGCAGAGATTCGAAGATCCAGAGCCCCCGCTGGTCATCAGTGGAAAGAGGTCC
 GCTCGGATAACACAGTCATGTGGCTGGCTGCTGGGTGGAGAACATCCAGAACTCCTTCAAGTACATCAT
 ACTGAACCCAGCTCCAAGCCGAAGGGAGAGATGGATTGGCAGAAGTATGAGGTAGCACGACGCTTGAAG
 GGGGTTGTGGACAAGATCCGTGCTCAGTATCAGGCTGACTGGAAGTACCAGAAAATGAAGAAAAGGCAGC
 TGGCTGTAGCCCTTTATTTTATTGATAAGCTGGCACTGCGAACAGGAAATGAGAAGGAAGAGGGTGAGAC
 GGCCGACACCGTGGGCTGCTGTTTCGCTCCGAGTGGAGCACGTCCGACTGCACACGCCCGCAGATGGCCAG
 GAGCATGTGGTAGAGCTGGACTTCTTGGGAAGGATCCATCCGTTATAAGAATCAGTGCAGGTTGGAGA
 AGCTTGTGTTCCAGAACCTTCAGCACTTCATGGAAGACAAGGACCTAGGAGCAGCTCTTCGATGCAT
 GACTACTTCCAGCTGAACAAGCACTTGCAGGACTTGCAGGACTTGCAGGAGGGCTGACAGCCAAGGTGTTCCGACC
 TACAATGCCTCCATCACTCTGCAGGAGCAGCTGCGGGTGTGACCCGTGCTGAAGACAGCCTAACCTGCA
 AAGTCTTAGCTTACAACCGGGCAAACCGGGCTGTGGCGTCTCTGTAACCATCAGAGAGCAATTCCTAA
 GACCTTCGAGGAGTCCATGCAGACACTGCAGAAAAAGATTGAGACAAAAGAAGGCACAGGTGGCTGAGGCA
 CAGGTGGAGTGCAGAAGGCAGAGACTGACCTTAGAATGAGAGGGGACAGCAAGTCCAAAAGTTTCTTTC
 AGAAGCAGCAGCGGCTGCTGAAGCTGGAGGAGCAGCTGGCTCGACTGTGCACGAAGGCCACAGACAAGGA
 GGAGAATAAGCAAGTGGCCCTGGGACCCCAAGCTCAACTACCTGGACCCCGGATCAGCATTGCATGG
 TGTAAGAGATTTGGTGTGCCGTAGAGAAGATCTACAACAAGACCCAGAGAGAGAGGTTTGTGGGCTT
 TCAACCAGGCAGGTGAAGACTTTGAATTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR204378 representing NM_001002798
 Red=Cloning site Green=Tags(s)

MLLLWLRALCRRFQHVPRRVPVSRQVSRGSKASRAGWGETSKSSVKWKQLEHKGPCFAPAYEPLPDGVRFF
 YDGKPVRLSLAAEEVATFYGKMLHLECTTKEVFRNFFSDWQKEMTAERKLIHLDKCDFSEIHRHFME
 RAEARRTLPREQKQKLKEEAELQQEFGYICLDGHREKIGNFKTEPPGLFRGRGDHPKMGMLKRRVMPED
 VVINCSRDSKIPEPPAGHQWKEVRSNTVMWLAAWVENIQNSFKYIILNPSKPKGEMDWQKYEVARRLK
 GVVDKIRAQYQADWKSPEMKRQLAVALYFIDKLALRTGNEKEEGETADTVGCCSLRVEHVRLHTPADGQ
 EHVVELDFLGKDSIRYKNHVTVEKLVFQNLQHFMEDKDPRDDLFDALTTSSLNKHLQDLMEGLTAKVFRF
 YNASITLQEQLRVLTRAEDSLTKVLAYNRANRAVAVLCNHQRAIPKTFEESMQLTKKIIETKKAQVAEA
 QVELQKAETDLMRGDSKSKSFLQKQRLKLEEQRLARLCTKATDKEENKQVALGTAKLNYLDPRISIAW
 CKRFGVPVEKIYNKTQRERFAWAFNQAGEDFEF

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

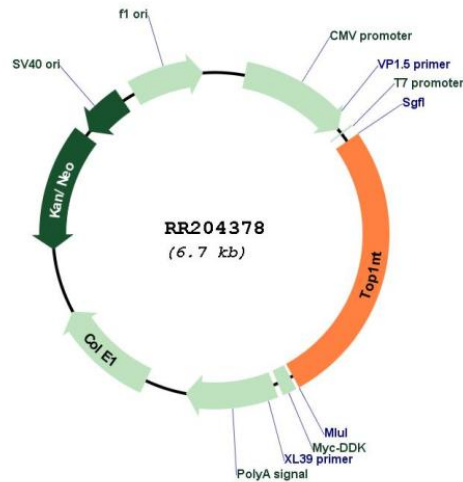
Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN:

NM_001002798

ORF Size:	1779 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:	<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_001002798.1 , NP_001002798.1
RefSeq Size:	1887 bp
RefSeq ORF:	1782 bp
Locus ID:	300029
UniProt ID:	Q6IM78
Cytogenetics:	7q34
MW:	69 kDa
Gene Summary:	Releases the supercoiling and torsional tension of DNA introduced during duplication of mitochondrial DNA 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-(3'-phosphotyrosyl)-enzyme intermediate and the expulsion of a 5'-OH DNA strand. The free DNA strand then rotates around the intact phosphodiester bond on the opposing strand, thus removing DNA supercoils. Finally, in the religation step, the DNA 5'-OH attacks the covalent intermediate to expel the active-site tyrosine and restore the DNA phosphodiester backbone (By similarity).[UniProtKB/Swiss-Prot Function]