

Product datasheet for **MG208278**

Apex2 (NM_029943) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Apex2 (NM_029943) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Apex2
Synonyms:	ape2; C430040P13Rik
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208278 representing NM_029943
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTGCGCGTGGTAAGCTGGAACATCAATGGGATCCGGAGTCCCCTGCAAGCCTTGCATGCCAGGAAC
 CCAGCAGCTGTCCACGGCCTTGCACGCGTTTTGGACGAGCTGGATGCTGATATTGTCTGTCTCCAGGA
 GACCAAAGTGACCAGAGATGTAAGTACGAGACGCCCTGGCTATTGTTGAGGGTTATAACTCTATTTTCAGC
 TTCAGCCGACGCCGAGTGGCTATTCTGGTGTGGCTACCTTCTGTAAGGACAGTGTACCCAGTAGCTG
 CTGAAGAAGGCCTGAGTGGTGTGTTGCCACCCTGAATGGAGATATTGGTTGCTATGAAACATGGATGA
 GTTCACGCAAGAGGAACCCGGGTTCTGGATAGTGGGGCCGGCCCTTACACAGCACAAGATCCGC
 ACATTGGAAGGGAAGGAGAAGACTTTGACCCTGATCAATGTGTACTGCCCTCACGCGGATCTGGGAAGC
 CTGAGCGGCTGACCTTCAAGATGCGCTTCTATCGCCTGCTCCAGATGCGAGCAGAAGCGCTCTGGCAGC
 TGGCAGTCACGTGATAATCCTGGGGACCTGAATACAGCCACCGACCCATTGACCACTGCGATGCAAGT
 AGTCTGGAATGCTTTGAAGAGGACCCAGGGCGTAAGTGGATGGATGGCTTGCCTCAGTAACCCAGGGGATG
 AGGCTGGACCCACATAGGGCTTTCATGGATAGCTACCGCTACTTGCATCCAAAACAGCAGAGGGCTTT
 CACCTGCTGGTCAAGTGGTGCACGCCATCTCAACTATGGCTCTAGACTTACTATGTAAGTGGGAG
 GATAGGGCCTTGGTCATAGATACCTTCCAGGCCTCCTTCTACTCCCTGAAGTGTGGGCTCTGACCACT
 GCCCTGTGGGAGCTGTCTAAATGTATCCTGTGTGCCAGCAAAACAGTGGCCAGCTCTGTGTACCCGCTT
 CCTCCCGAGTTTGCAGGTACCCAGCTCAAGATTCTTCGCTTCTAGTTCCTCTTGGCAAGAACCTGTG
 CGGGAACAGCAAGTCTGCAGCCAGCCATCAAATCCAGGCACAGAGCAGCCAAAGAAAAGCCTGCATCCA
 ATTCAACCAGGCTTCGGAAGTCAAGGTGGCCCAAAAGAAAACAGAAAACCTGATGAGTTACTTCCA
 GCCTTCTCCAGCCTTTCCAAAACCTTCTGGTGTGGAGCTGCCTACCCCTGCCTCTGGTGGGCCCTTACA
 ACCCAAAAGACTGCAGAAGAGGTGGCAACGCCACAGTGTAGAAAGAGAAGAACAAGTTCCAGAGTCCA
 AAGATGAGAAGGGAGAAAGGACTGCCTTCTGGAAGTCTATGCTGAGTGGGCCCTCACCCATGCCCTCTG
 TGGAGGCCACAGGGAGCCATGTGTGATGCGTACTGTGAAAAAACAGGACCCAACCTTGGTCCGAGTTC
 TACATGTGTGCTAGACCCCGAGGTCTCCAGTGACCCCTCTCCCGCTGTAACCTTCTCTCTGGAGCA
 GGCCAGC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG208278 representing NM_029943
 Red=Cloning site Green=Tags(s)

MLRVVSWNINGIRSPQLGLACQEPSSCPTALRRVLDDELADIVCLQETKVTDRDVLTEPLAIVEGYSYFS
 FSRSRSGYSGVATFCKDSATPVAEEGLSGVFATLNGDIGCYGNMDEFTQEELRVLDSEGRALLTQHKIR
 TLEGKEKTLTLINVYCPHADPGKPERLTFKMRFYRLLQMRAEALLAAGSHVILGDLNTHRPIDHCDAS
 SLECFEEDPGRKWDGLLSNPGDEAGPHIGLFMDSYRYLHPKQQRRAFTCWSVVS GARHLNYGSRLDYVLG
 DRALVIDTFQASFLLPEVMGSDHCPVGAVLNVSCVPAKQCPALCTRFLPEFAGTQLKILRFLVPLEQEPV
 REQQVLQPSHQIQARQPRKACMHSTRLRKSQGGPKRKQKNLMSYFQPSSSLQTSVGVLPPLPLVGPLT
 TPKTAEEVATATVLEEKNVPEKDEKERTAFWKSMLSGPSPMPLCGGHREPCVMRTVKKTGPNFGRQF
 YMCARPRGPPSPSSRCNFFLWSRPS

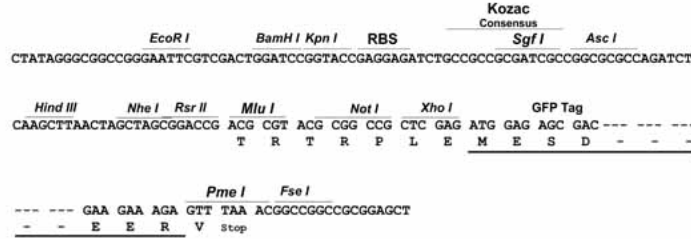
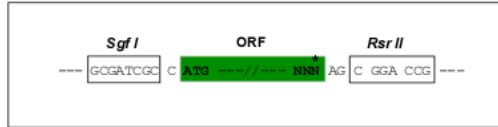
SGP**TRRRLE** - GFP Tag - V

Restriction Sites:

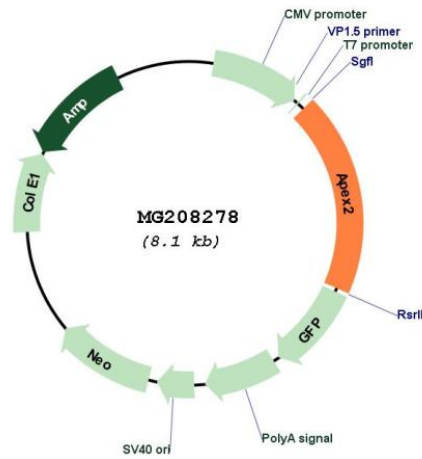
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN:	NM_029943
ORF Size:	1548 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_029943.1 , NP_084219.1
RefSeq Size:	1903 bp
RefSeq ORF:	1551 bp
Locus ID:	77622
UniProt ID:	Q68G58
Cytogenetics:	X F3
Gene Summary:	Function as a weak apurinic/aprimidinic (AP) endodeoxyribonuclease in the DNA base excision repair (BER) pathway of DNA lesions induced by oxidative and alkylating agents. Initiates repair of AP sites in DNA by catalyzing hydrolytic incision of the phosphodiester backbone immediately adjacent to the damage, generating a single-strand break with 5'-deoxyribose phosphate and 3'-hydroxyl ends. Displays also double-stranded DNA 3'-5' exonuclease, 3'-phosphodiesterase activities. Shows robust 3'-5' exonuclease activity on 3'-recessed heteroduplex DNA and is able to remove mismatched nucleotides preferentially. Shows fairly strong 3'-phosphodiesterase activity involved in the removal of 3'-damaged termini formed in DNA by oxidative agents. In the nucleus functions in the PCNA-dependent BER pathway. Required for somatic hypermutation (SHM) and DNA cleavage step of class switch recombination (CSR) of immunoglobulin genes. Required for proper cell cycle progression during proliferation of peripheral lymphocytes.[UniProtKB/Swiss-Prot Function]