

Product datasheet for **MR208278**

Apex2 (NM_029943) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | Apex2 (NM_029943) Mouse Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Apex2 |
| Synonyms: | ape2; C430040P13Rik |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



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ORF Nucleotide Sequence:

>MR208278 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTGCGCGTGGTAAGCTGGAACATCAATGGGATCCGGAGTCCCCTGCAAGGCCTTGCATGCCAGGAAC
 CCAGCAGCTGTCCACGGCCTTGCACGCGTTTTGGACGAGCTGGATGCTGATATTGTCTGTCTCCAGGA
 GACCAAAGTGACCAGAGATGTAAGTACGAGGCCCTGGCTATTGTTGAGGGTTATAACTCCTATTTTCAGC
 TTCAGCCGAGCCGTAAGTGGCTATTCTGGTGTGGCTACCTTCTGTAAGGACAGTGTACCCAGTAGCTG
 CTGAAGAAGGCCTGAGTGGTGTGTTGCCACCTGAATGGAGATATTGGTTGCTATGAAACATGGATGA
 GTTCACGCAAGAGGAACCCGGGTTCTGGATAGTGAAGGCGGGCCCTTACACAGCACAAGATCCGC
 ACATTGGAAGGGAAGGAGAAGACTTTGACCCTGATCAATGTGTACTGCCCTCACGCGGATCCTGGGAAGC
 CTGAGCGGCTGACCTCAAGATGCGCTTCTATCGCCTGCTCCAGATGCGAGCAGAAGCGCTCCTGGCAGC
 TGGCAGTACGTGATAATCCTGGGGACCTGAATACAGCCACCACCATTGACCACTGCGATGCAAGT
 AGTCTGGAATGCTTTGAAGAGGACCCAGGGCGTAAGTGGATGGATGGCTTGTCTAGTAACCCAGGGGATG
 AGGCTGGACCCACATAGGGCTTTCATGGATAGTACCGCTACTTGCATCCAAAACAGCAGAGGGCTTT
 CACCTGCTGGTCAAGTGGTGCACGCCATCTCAACTATGGCTCTAGACTTACTGACTATGACTGGGA
 GATAGGGCCTTGGTCAATAGATACCTTCCAGGCCTCCTTCTACTCCCTGAAGTATGGGCTCTGACCACT
 GCCCTGTGGGAGCTGTCTAAATGTATCCTGTGTGCCAGCAAAACAGTGGCCAGCTCTGTGTACCCGCTT
 CCTCCCGAGTTTGCAGTACCCAGCTCAAGATTCTTCGCTTCTAGTTCCTCTTGAAGCAAGAACCTGTG
 CGGGAACAGCAAGTCTGCAGCCAGCCATCAAATCCAGGCACAGAGCAGCAAGAAAGCCCTGCATGC
 ATTCAACCAAGGCTTCGGAAAAGTCAAGTGGCCCAAAAGAAAACAGAAAACCTGATGAGTTACTTCCA
 GCCTTCTCCAGCCTTTCCCAAACCTTCTGGTGTGGAGCTGCCTACCCTGCCTCTGGTGGGCCCTTACA
 ACCCAAAAGACTGCAGAAGAGGTGGCAACAGCCACAGTCTAGAAGAGAAGAACAAGTTCCAGAGTCCA
 AAGATGAGAAGGGAGAAAGGACTGCCTTCTGGAAGTCTATGCTGAGTGGGCCCTCACCCATGCCCTCTG
 TGGAGGCCACAGGGAGCCATGTGTGATGCGTACTGTGAAAAAACAGGACCCAACTTTGGTCCGAGTTC
 TACATGTGTGCTAGACCCGAGGTCTCCCACTGACCCCTTCCCGCTGTAACCTTCTCTCTGGAGCA
 GGCCAGC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR208278 protein sequence
 Red=Cloning site Green=Tags(s)

MLRVVSWNINGIRSPQLQGLACQEPSSCPTALRRVLDDELADIVCLQETKIVTRDVLTEPLAIVEGYNSYFS
 FSRSRSGYSGVATFCKDSATPVAAEGLSGVAFATLNGDIGCYGNMDEFTQEELRVL DSEGRALLTQHKIR
 TLEGKEKTLTLINVCYPHADPGKPERLTFKMRFYRLQMRAEALLAAGSHVIIIGDLNLAHRPIDHCDAS
 SLECFEEDPGRKWMGLLSNPGDEAGPHIIGLFMDSYRYLHPKQQRAFTCWSVVS GARHLNYSRDLDYVLG
 DRALVIDTFQASFLPEVMGSDHCPVAVLNVCVPAKQCPALCTRFLPEFAGTQLKILRFLVPLEQEPV
 REQQVLQPSHQIQARQPRKACMHSTRLRKSQGGPKRKQKNLMSYFQPSSSLQTSVELPTLPLVGLPT
 TPKTAEEVATATVLEEKNVPEKDEKERTAFWKSM LSGPSPMPLCGGHREPCVMRTVKKTGPNFGRQF
 YMCARPRGPPSDPSSRCNFFLWSRPS

SGPTRTRPLEQKLI**SEEDLAANDILDYKDDDDKV**

Restriction Sites:

SgfI-RsrII

Cloning Scheme:


ACCN: NM_029943

ORF Size: 1551 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_029943.1](#), [NM_029943.2](#), [NP_084219.1](#)

RefSeq Size: 1903 bp

RefSeq ORF: 1551 bp

Locus ID: 77622

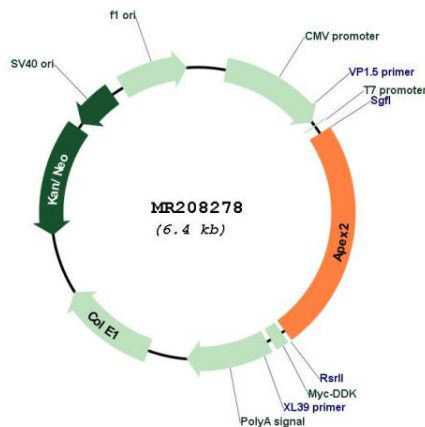
UniProt ID: [Q68G58](#)

Cytogenetics: X F3

MW: 57.3 kDa

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]

Product images:



Circular map for MR208278