

## Product datasheet for **RC200320**

### **APEX2 (NM\_014481) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	APEX2 (NM_014481) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	APEX2
Synonyms:	APE2; APEXL2; XTH2; ZGRF2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC200320 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTTGCGCGTGGT**GAGCTGGAACATCAATGGGATTCGGAGACCCCTGCAAGGGGTGCAAAATCAGGAAC**  
 CCAGAACTGTGCCGCCGTGGCCGTGGGGCGCATT**TTGGACGAGCTGGATGCGGATATCGTCTGTCTCCA**  
 GGAAACCAAAGTGACCAGGGATGCACTGACAGAGCCCTGGCTATCGTTGAGGGTTATAACTCCTATTTT**C**  
 AGCTTCAGCCGCAACCGTAGCGCTATTCTGGTGTAGCCACCTTCTGTAAGGACAATGCTACCCCACTGG**G**  
 CTGCTGAAGAAGGCCTGAGTGGCCTGTTT**GCCACCCAGAATGGGGATGTTGGTTGCTATGAAACATGGA**  
 TGAGTTTACCCAAGAGGAACTCCGGGCTCTGGATAGT**GAGGGCAGGGCCCTCTCACACAGCATAAGATC**  
 CGCACATGGGAAGGTAAGGAGAAGACCTTGACCCTAATCAACGTGTACTGCCCCATGCGGACCC**TGGGA**  
 GGCTGAGCGGCTAGTCTTTAAGATGCGCTTCTATCGTTT**GCTGCAAATCCGAGCAGAAGCCCTCTGGC**  
 GGCAGGCAGCCATGTGATCATTCTGGGTGACCTGAATACAGCCACCGCCCAT**TGACCACTGGGATGCA**  
 GTCAACCTGGAATGCTTTGAAGAGGACCCAGGGCGCAAGTGGATGGACAGCTTGCTCAGTAACTTGGGGT  
 GCCAGTCTGCCTCTCATGTAGGGCCCTTATCGATAGCTACCGCTGCTTCCAACCAAGCAGGAGGGGGC  
 CTTACCTGCTGGTCAGCAGTCACTGGCGCCCGCCATCTCAACTATGGCTCCCGGCTTACTATGTGCTG  
 GGGGACAGGACCCCTGGTCATAGACACCTTT**CAGGCCTCTTTCCTGCTGCCTGAGGTGATGGGCTCTGACC**  
 ACTGCCCTGTGGGTGCAGTCTT**GAGTGTCTCTGTGCCTGCAAACAGTGCCACCTCTGTGCACCCG**  
 CTTCTCCCTGAGTTTGCAGGCACCCAGCTCAAGATCCTTCGCTTCTAGTTCCTCTCGAACAAAGTCTCT  
 TGTTGGAGCAGTCGACGCTGCAGCACAACAATCAAACCCGGGTACAGACATGCCAAAACAAAGCCCAAG  
 TGCGCTCAACAGGCCTCAGCCAGT**CAGTTGGCTCTAGCAGAGGCCAGAAAACTGAAGAGTACTT**  
 TCAGCCCTCCCTAGCTGTCCCAAGCCTCTCCTGACATAGAGCTGCCTAGCCTACCACTGATGAGCGCC  
 CTCATGACCCCGAAGACTCCAGAAGAGAAGGCAGTGGCCAAAGTGGTGAAGGGGCAGGCCAAGACTTCAG  
 AAGCCAAAGATGAGAAGGAGTTACGGACCTCATTCTGGAAGTCTGTGCTGGCGGGGCCCTTGCACACCC  
 CCTCTGTGGGGCCACAGGGAGCCATGTGTGATGCGTACTGTGAAGAAGCCAGGACCCA**ACTTGGCCCGC**  
 CGCTTCTACATGTGTGCCAGGCCCGGGTCTCCCACTGACCCCTCTCCCGGTGCAACTTCTCTCTCT  
 GGAGCAGGCCAGC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC200320 protein sequence  
 Red=Cloning site Green=Tags(s)

MLRVVSWNINGIRRPLQGVANQEPSNCAAVAVGRILDELADIVCLQETKIVTRDALTEPLAIVEGYNSYF  
 SFSRNRSGYSGVATFCKDNATPVAAEGLSGLFATQNGDVGCYGNMDEFTQEELRALDSEGRALLTQHKI  
 RTWEGKEKTLTLINVYCPHADPGRPERLVFKMRFYRLLQIRAEALLAAGSHVILGDLNLAHRPIDHWDA  
 VNLECFEEDPGRKWMSLLSNLGCQSASHVGPFI**DSYRCFQPKQEGAF**TCWSAVTGARHLNYGSRLDYVL  
 GDRTLVIDTFQASFLLEVMGSDHCPVGA**VL**SVSSVPAKQCPPLCTRFLPEFAGTQLKILRFLVPLEQSP  
 VLEQSTLQHNNQTRVQTCQNKQVRSTRPQPSQVGS**SRGQKNL**KS**YFQ**SPSPCPQASPDIELPSLPLMSA  
 L**MTPK**TPEEKAVAKVVKGQAKTSEAKDEKELRTSF**WKS**VL**AGPL**RTPLCGGHREPCVMRTVKKPGPNLGR  
 RFYMCARPRGPPTDPSSRCNFFLWSRPS

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

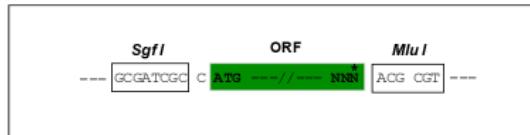
[https://cdn.origene.com/chromatograms/mk6675\\_c08.zip](https://cdn.origene.com/chromatograms/mk6675_c08.zip)

**Restriction Sites:**

Sgfl-MluI

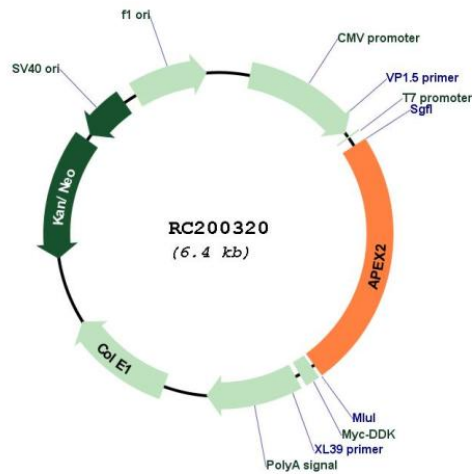
Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

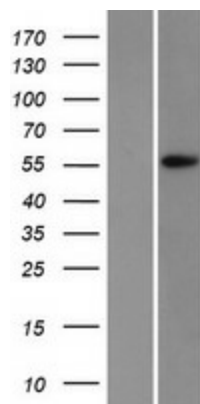
Plasmid Map:



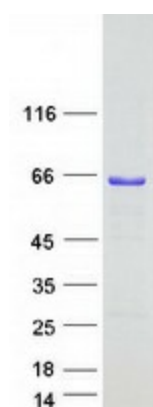
ACCN:

NM\_014481

<b>ORF Size:</b>	1554 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_014481.4</a>
<b>RefSeq Size:</b>	2095 bp
<b>RefSeq ORF:</b>	1557 bp
<b>Locus ID:</b>	27301
<b>UniProt ID:</b>	<a href="#">Q9UBZ4</a>
<b>Cytogenetics:</b>	Xp11.21
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Base excision repair
<b>MW:</b>	57.4 kDa
<b>Gene Summary:</b>	Apurinic/aprimidinic (AP) sites occur frequently in DNA molecules by spontaneous hydrolysis, by DNA damaging agents or by DNA glycosylases that remove specific abnormal bases. AP sites are pre-mutagenic lesions that can prevent normal DNA replication so the cell contains systems to identify and repair such sites. Class II AP endonucleases cleave the phosphodiester backbone 5' to the AP site. This gene encodes a protein shown to have a weak class II AP endonuclease activity. Most of the encoded protein is located in the nucleus but some is also present in mitochondria. This protein may play an important role in both nuclear and mitochondrial base excision repair. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Nov 2012]

**Product images:**

Western blot validation of overexpression lysate (Cat# [LY415240]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200320 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified APEX2 protein (Cat# [TP300320]). The protein was produced from HEK293T cells transfected with APEX2 cDNA clone (Cat# RC200320) using MegaTran 2.0 (Cat# [TT210002]).