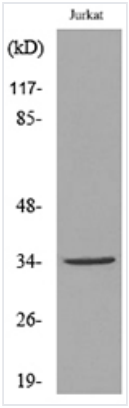
APE1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	APE1, Polyclonal Antibody
Full Product Name	APE1 (Acetyl-Lys7) Antibody
Product Gene Name	anti-APE1 antibody
Product Synonym Gene Name	APEX1
Product Synonym Names	APEX1; APE; APE1; APEX; APX; HAP1; REF1; DNA-(apurinic or apyrimidinic site) lyase; APEX nuclease; APEN; Apurinic-apyrimidinic endonuclease 1; AP endonuclease 1; APE-1; REF-1; Redox factor-1
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human
Form/Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	Affinity-purified from rabbit antiserum by affinity-chromatography using acetylated peptide. The antibody against non-acetylated peptide was removed by chromatography using corresponding non-acetylated peptide.
Concentration	1 mg/ml (lot specific)
Specificity	APE1 (Acetyl-Lys7) Antibody detects endogenous levels of APE1 protein only when acetylated at Lys7.
Preparation and Storage	Stable at -20 degree C for at least 1 year.
Molecular Weight	35 kDa
OMIM	X59764 mRNA
3D Structure	ModBase 3D Structure for P27695
Target Modification	Acetyl
Modification Sites	H:K7
Immunogen	The antiserum was produced against synthesized Acetyl-peptide derived from human APE1 around the Acetylation site of Lys7.
Immunogen Range	Jan-50
Applications Tested/Suitable for anti-APE1 antibody	Western Blot (WB), ELISA (EIA)
Application Notes for anti-APE1 antibody	WB: 1:500~1:1000 ELISA: 1:10000
Related Product Information for anti-APE1 antibody	MBS9507823 is an antibody targeting APE1. Also known as APE1 (Acetyl-Lys7) Antibody. Reactive in Human. Host: Rabbit.
Other Notes	Small volumes of anti-APE1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-APE1 antibody
Western blot analysis of lysate from Jurkat cells, using APE1 (Acetyl-Lys7) Antibody.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for APE1. It may not necessarily be applicable to this product.

NCBI GI #	346644849
NCBI GeneID	328
NCBI Accession #	NP_001231178.1
UniProt Primary Accession #	P27695
UniProt Secondary Accession #	Q969L5; Q99775
UniProt Related Accession #	P27695
GenBank Nucleotide #	NM_001244249.1
NCBI Official Full Name	DNA-(apurinic or apyrimidinic site) lyase
NCBI Official Synonym Full Names	apurinic/apyrimidinic endodeoxyribonuclease 1
NCBI Official Symbol	APEX1
NCBI Official Synonym Symbols	APE; APX; APE1; APEN; APEX; HAP1; REF1
UniProt Protein Name	DNA-(apurinic or apyrimidinic site) lyase
UniProt Synonym Protein Names	APEX nuclease; APEN
Protein Family	Aminopeptidase
UniProt Gene Name	APEX1
UniProt Synonym Gene Names	APE; APE1; APEX; APX; HAP1; REF1; APEN; AP endonuclease 1; APE-1
NCBI Protein Information	DNA-(apurinic or apyrimidinic site) lyase
NCBI Summary for APE1	Apurinic/apyrimidinic (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 the major AP endonuclease in human cells. Splice variants have been found for this gene; all encode the same protein. [provided by RefSeq, Jul 2008]

UniProt Comments for APE1	Multifunctional protein that plays a central role in the cellular response to oxidative stress. The two major activities of APEX1 in DNA repair and redox regulation of transcriptional factors. Functions as a apurinic/apyrimidinic (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. Does also incise at AP sites in the DNA strand of DNA/RNA hybrids, single-stranded DNA regions of R-loop structures, and single-stranded RNA molecules. Has a 3'-5' exoribonuclease activity on mismatched deoxyribonucleotides at the 3' termini of nicked or gapped DNA molecules during short-patch BER. Possesses a DNA 3' phosphodiesterase activity capable of removing lesions (such as phosphoglycolate) blocking the 3' side of DNA strand breaks. May also play a role in the epigenetic regulation of gene expression by participating in DNA demethylation. Acts as a loading factor for POLB onto non-incised AP sites in DNA and stimulates the 5'-terminal deoxyribose 5'-phosphate (dRp) excision activity of POLB. Plays a role in the protection from granzymes-mediated cellular repair leading to cell death. Also involved in the DNA cleavage step of class switch recombination (CSR). On the other hand, APEX1 also exerts reversible nuclear redox activity to regulate DNA binding affinity and transcriptional activity of transcriptional factors by controlling the redox status of their DNA-binding domain, such as the FOS/JUN AP-1 complex after exposure to IR. Involved in calcium-dependent down-regulation of parathyroid hormone (PTH) expression by binding to negative calcium response elements (nCaREs). Together with HNRNPL or the dimer XRCC5/XRCC6, associates with nCaRE, acting as an activator of transcriptional repression. Stimulates the YBX1-mediated MDR1 promoter activity, when acetylated at Lys-6 and Lys-7, leading to drug resistance. Acts also as an endoribonuclease involved in the control of single-stranded RNA metabolism. Plays a role in regulating MYC mRNA turnover by preferentially cleaving in between UA and CA dinucleotides of the MYC coding region determinant (CRD). In association with NMD1, plays a role in the rRNA quality control process during cell cycle progression. Associates, together with YBX1, on the MDR1 promoter. Together with NPM1, associates with rRNA. Binds DNA and RNA.
Research Articles on APE1	**1.** Through the characterization of the interactomes of APE1 with RNA and other proteins, we demonstrate here a role for APE1 in pri-miRNA processing and stability via association with the DROSHA-processing complex during genotoxic stress. We also show that endonuclease activity of APE1 is required for the processing of miR-221/222 in regulating expression of the tumor suppressor PTEN.
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