

DNA-(apurinic or apyrimidinic site) lyase Recombinant Protein | APEX1 recombinant protein

Recombinant Human DNA-(apurinic or apyrimidinic site) lyase

CATALOG # AAA81654	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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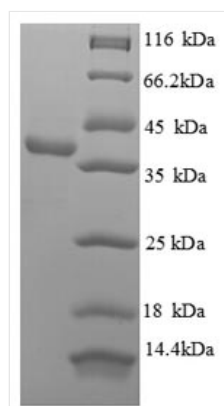
PRODUCT SYNONYMS

DNA-(apurinic or apyrimidinic site) lyase; Recombinant Human DNA-(apurinic or apyrimidinic site) lyase; APEX nuclease; APEN; Apurinic-apyrimidinic endonuclease 1; AP endonuclease 1; APE-1; REF-1; Redox factor-1; APEX1 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	32-318aa; Full Length
Sequence	KNDKEAAGEG PALYEDPPDQ KTSPSGKPAT LKICSWNV DG LRAWIKKKGL DWVKEEAPDI LCLQETKCSE NKLPAELQEL PGLSHQYWSA PSDKEGYSGV GLLSRQCPLK VSYGIGDEEH DQEGRVIVAE FDSFVLVTAY VPNAGRGLVR LEYRQRWDEA FRKFLKGLAS RKPLVLCGDL NVAHEEIDLR NPKGNNKNAG FTPQERQGFG ELLQAVPLAD SFRHLYPNTY YAYTFWYMM NARSKNVGWR LDYFLLSHSL LPALCDSKIR SKALGSDHCP ITLYLAL
Sequence Length	318
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for APEX1 recombinant protein	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/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. 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 roving 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 deethylation. 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
Product Categories/Family for APEX1 recombinant protein	Epigenetics and Nuclear Signaling
References	Isolation of cDNA clones encoding a human apurinic/aprimidinic endonuclease that corrects DNA repair and mutagenesis defects in E. coli xth (exonuclease III)

NCBI AND UNIPROT INFORMATION

NCBI GI #	346644849
NCBI GeneID	328
NCBI Accession #	NP_001231178.1
NCBI GenBank Nucleotide #	NM_001244249.1
UniProt Accession #	P27695 ; Q969L5 ; Q99775
Molecular Weight	34.2 kDa
NCBI Official Full Name	DNA-(apurinic or apyrimidinic site) lyase
NCBI Official Synonym Full Names	APEX nuclease (multifunctional DNA repair enzyme) 1
NCBI Official Symbol	APEX1
NCBI Official Synonym Symbols	APE; APX; APE1; APEN; APEX; HAP1; REF1
NCBI Protein Information	DNA-(apurinic or apyrimidinic site) lyase
UniProt Protein Name	DNA-(apurinic or apyrimidinic site) lyase
UniProt Gene Name	APEX1
UniProt Synonym Gene Names	APE; APE1; APEX; APX; HAP1; REF1; APEN; AP endonuclease 1; APE-1
UniProt Entry Name	APEX1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/apex1-recombinant-protein-e-coli/81654>