

Recombinant Human APEX Nuclease 1

Cat. No. APEX1-593H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human APEX1 protein produced in <i>E. coli</i> , 36kDa.
Species	Human
Source	E.coli
Description	Apurinic/apyrimidinic (AP) sites (also called "abasic 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. All cells, from simple prokaryotes to humans, have evolved systems to identify and repair such sites. Class II AP endonucleases cleave the phosphodiester backbone 5' to the AP site, thereby initiating a process known as base excision repair (BER). The APEX gene (alternatively named APE1, HAP1, APEN) encodes the major AP endonuclease in human cells. Splice variants have been found for this gene; all encode the same protein.
Concentration	1 mg/ml.
Purity	≥95% (SDS-PAGE).
Formulation	Liquid. In 20mM HEPES-KOH, pH 7.5, containing 100mM NaCl and 20% glycerol.
Storage	Enzyme is stable for ~2 weeks at -20°C. After opening, prepare aliquots and store at -80°C. Avoid freeze/thaw cycles.

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Pathways Base excision repair; DNA Repair

GENE INFORMATION

Gene Name [APEX1 APEX nuclease \(multifunctional DNA repair enzyme\) 1 \[Homo sapiens \]](#)

Synonyms APEX nuclease (multifunctional DNA repair enzyme) 1; APE; APX; APE1; APEN; APEX; HAP1; REF1; APEX1; DNA-(apurinic or apyrimidinic site) lyase; AP lyase; protein REF-1; redox factor 1; AP endonuclease 1; AP endonuclease class I; apurinic/apyrimidinic exonuclease; multifunctional DNA repair enzyme; apurinic-apyrimidinic endonuclease 1; apurinic/apyrimidinic (abasic) endonuclease; deoxyribonuclease (apurinic or apyrimidinic); EC 4.2.99.18; APEX nuclease (multifunctional DNA repair enzyme); APE-1; REF-1; APEX nuclease 1; APEX nuclease

Gene ID [328](#)

mRNA Refseq [NM_001641](#)

Protein Refseq [NP_001632](#)

MIM [107748](#)

UniProt ID [P27695](#)

Chromosome Location 14q11.2-q12

Function 3"-5" exonuclease activity; DNA binding; DNA-(apurinic or apyrimidinic site) lyase activity; endodeoxyribonuclease activity; endonuclease activity; lyase activity; metal ion binding; oxidoreductase activity; phosphodiesterase I activity; phosphoric diester

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hydrolase activity; protein binding; ribonuclease H activity; transcription coactivator activity; transcription corepressor activity; uracil DNA N-glycosylase activity

PDB rendering based
on 1bix



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