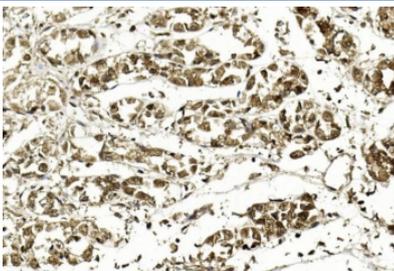


APE1 Antibody / APEX1 [clone 1518CT337.123.86.269.232] (F54484)

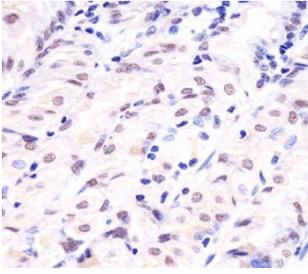
Catalog No.	Formulation	Size
F54484-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54484-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

[Bulk quote request](#)

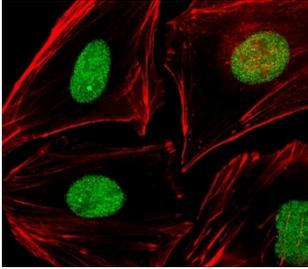
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	IgG1,kappa
Clone Name	1518CT337.123.86.269.232
Purity	Protein G affinity
UniProt	P27695
Localization	Cytoplasmic, nuclear
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry (FFPE) : 1:25 Immunofluorescence : 1:25
Limitations	This APE1 antibody is available for research use only.



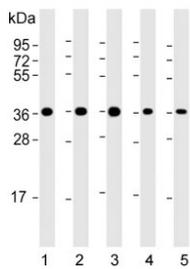
IHC testing of FFPE human stomach tissue with APE1 antibody. HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to staining.



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Immunofluorescent staining of fixed and permeabilized human HeLa cells with APE1 antibody (green) and anti-Actin (red).



Western blot testing of human 1) A431, 2) HeLa, 3) HepG2, 4) K562 and 5) PC-3 cell lysate with APE1 antibody. Predicted molecular weight ~38 kDa.

Description

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 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.

Application Notes

The stated application concentrations are suggested starting points. Titration of the APE1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Recombinant human protein was used as the immunogen for the APE1 antibody.

Storage

Aliquot the APE1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.