

## anti- APEX1 antibody

### Product Information

Catalog No.:	FNab00480
Size:	100µg
Form:	liquid
Purification:	Immunogen affinity purified
Purity:	≥95% as determined by SDS-PAGE
Host:	Rabbit
Clonality:	polyclonal
Clone ID:	None
IsoType:	IgG
Storage:	PBS with 0.02% sodium azide and 50% glycerol pH 7.3, -20°C for 12 months (Avoid repeated freeze / thaw cycles.)

### Background

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

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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.

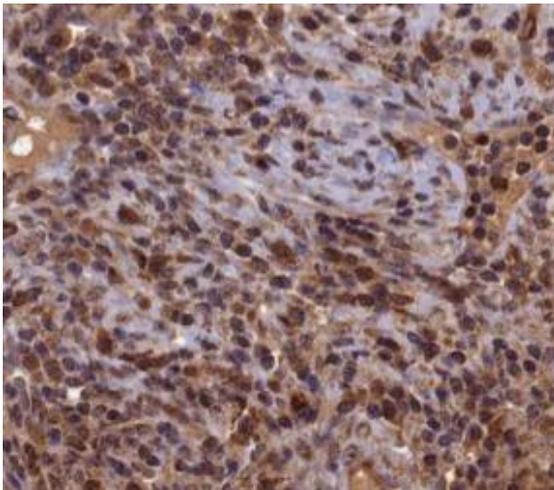
### Immunogen information

Immunogen: APEX nuclease(multifunctional DNA repair enzyme) 1  
Synonyms: APE, APE1, APEX, APX, HAP1, REF1  
Observed MW: 36 kDa  
Uniprot ID : P27695

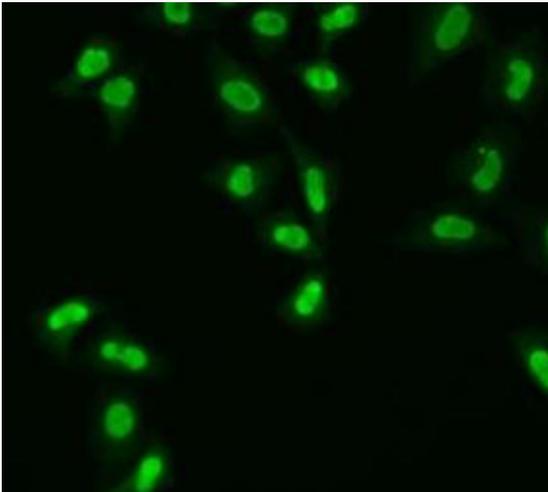
### Application

Reactivity: Human, Mouse  
Tested Application: ELISA, WB, IHC, IF  
Recommended dilution: WB: 1:500 - 1:2000; IHC: 1:50 - 1:100; IF: 1:50 - 1:100

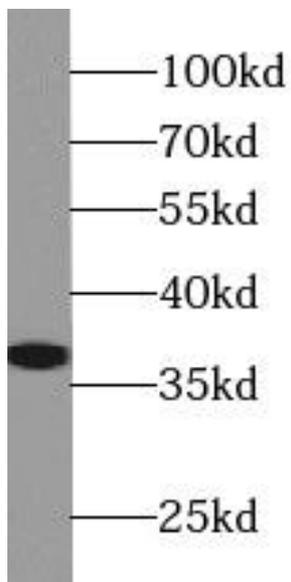
Image:



Immunohistochemistry of paraffin-embedded human cervical cancer using FNab00480(APEX1 antibody) at dilution of 1:50



Immunofluorescence analysis of A549 using FNab00480(APEX1 antibody) at dilution of 1:50



HepG2 cells were subjected to SDS PAGE followed by western blot with FNab00480(APEX1 antibody) at dilution of 1:500