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APEX2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8975C

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	Q9UBZ4
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23043
Calculated MW	57401
Antigen Region	143-171

Additional Information

Gene ID	27301
Other Names	DNA-(apurinic or apyrimidinic site) lyase 2, 31--, AP endonuclease XTH2, APEX nuclease 2, APEX nuclease-like 2, Apurinic-apyrimidinic endonuclease 2, AP endonuclease 2, APEX2, APE2, APEXL2, XTH2
Target/Specificity	This APEX2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 143-171 amino acids from the Central region of human APEX2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	APEX2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	APEX2
Synonyms	APE2, APEXL2, XTH2

Function	Functions as a weak apurinic/apyrimidinic (AP) endodeoxyribonuclease in the DNA base excision repair (BER) pathway of DNA lesions induced by oxidative and alkylating agents (PubMed:16687656). 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. Also displays double-stranded DNA 3'-5' exonuclease, 3'-phosphodiesterase activities (PubMed:16687656, PubMed:19443450, PubMed:32516598). Shows robust 3'-5' exonuclease activity on 3'-recessed heteroduplex DNA and is able to remove mismatched nucleotides preferentially (PubMed:16687656, PubMed:19443450). Also exhibits 3'-5' exonuclease activity on a single nucleotide gap containing heteroduplex DNA and on blunt-ended substrates (PubMed:16687656). Shows fairly strong 3'-phosphodiesterase activity involved in the removal of 3'-damaged termini formed in DNA by oxidative agents (PubMed:16687656, PubMed:19443450). In the nucleus functions in the PCNA-dependent BER pathway (PubMed:11376153). Plays a role in reversing blocked 3' DNA ends, problematic lesions that preclude DNA synthesis (PubMed:32516598). Required for somatic hypermutation (SHM) and DNA cleavage step of class switch recombination (CSR) of immunoglobulin genes (By similarity). Required for proper cell cycle progression during proliferation of peripheral lymphocytes (By similarity).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00764, ECO:0000269|PubMed:11376153, ECO:0000269|PubMed:19443450}. Cytoplasm Mitochondrion. Note=Together with PCNA, is redistributed in discrete nuclear foci in presence of oxidative DNA damaging agents.
Tissue Location	Highly expressed in brain and kidney. Weakly expressed in the fetal brain.

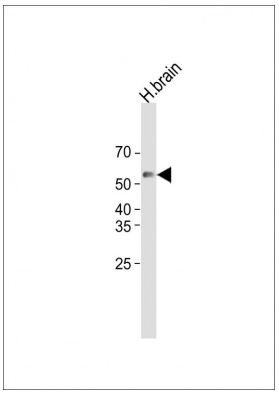
Background

APEX2 may participate in both nuclear and mitochondrial post-replicative base excision repair (BER). In the nucleus functions in the PCNA-dependent BER pathway.

References

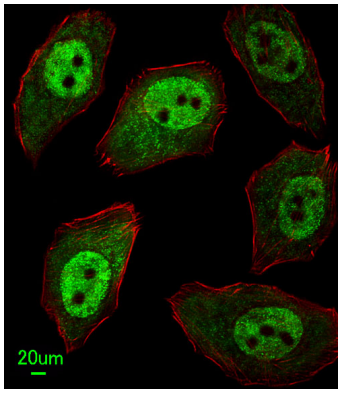
Hadi,M.Z., et.al., J. Mol. Biol. 316 (3), 853-866 (2002)

Images

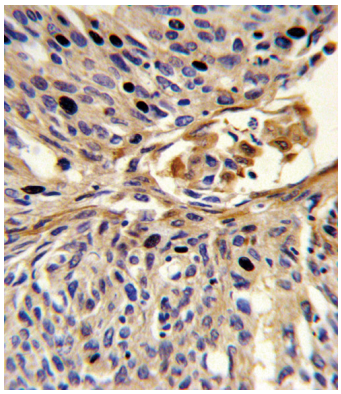


All lanes: Anti-APEX2 Antibody (Center) at 1:1000 dilution + Human brain lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 55 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

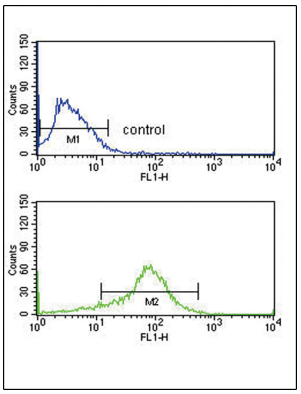
Immunofluorescent analysis of U251 cells, using APEX2 Antibody (Center) (Cat. #AP8975c). AP8975c was diluted at 1:25 dilution. Alexa Fluor 488-conjugated goat



anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).



Formalin-fixed and paraffin-embedded human lung carcinoma reacted with APEX2 Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



APEX2 Antibody (Center) (Cat. #AP8975c) flow cytometry analysis of MCF-7 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.