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APEX2 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8975c

Specification

APEX2 Antibody (Center) Blocking Peptide - Product Information

Primary Accession Q9UBZ4

APEX2 Antibody (Center) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP8975c was selected from the Center region of human APEX2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

APEX2 Antibody (Center) Blocking Peptide - 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:<a href="http://www.uniprot.org/citations/19443450"

target="_blank">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.

APEX2 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

APEX2 Antibody (Center) Blocking Peptide - Images

APEX2 Antibody (Center) Blocking Peptide - 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.

APEX2 Antibody (Center) Blocking Peptide - References

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