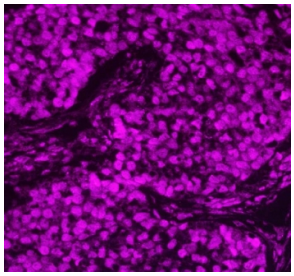
APEX1 Antibody / AP Endonuclease Antibody (R30567)

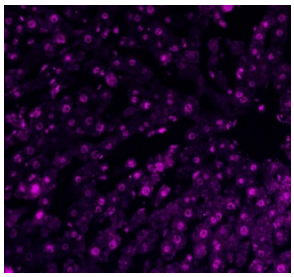
Catalog No.	Formulation	Size
R30567	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

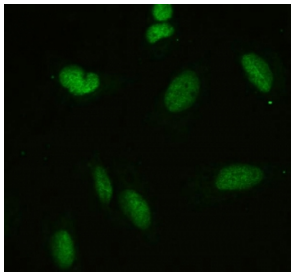
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide/thimerosal
UniProt	P27695
Localization	Nucleus, cytoplasm, ER, mitochondria
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This APEX1 Antibody / AP Endonuclease Antibody is available for research use only.



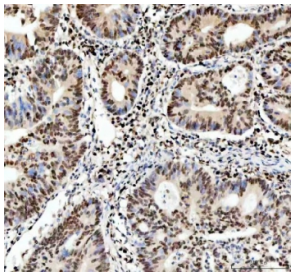
APEX1 Antibody Staining of Human Lung Cancer Tissue IF. Immunofluorescence staining of FFPE human lung cancer tissue with APEX1 Antibody shows strong red signal throughout the tumor, with prominent nuclear staining and additional cytoplasmic immunoreactivity. HIER was performed by steaming sections in pH 8 EDTA buffer for 20 min before antibody testing.



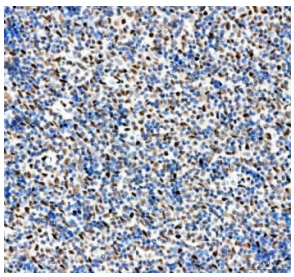
APEX1 Antibody Staining of Rat Liver Tissue IF. Immunofluorescence staining of FFPE rat liver tissue with APEX1 Antibody shows red signal concentrated predominantly in hepatocyte nuclei, with comparatively limited surrounding cytoplasmic fluorescence. HIER was performed by steaming sections in pH 8 EDTA buffer for 20 min before antibody testing.



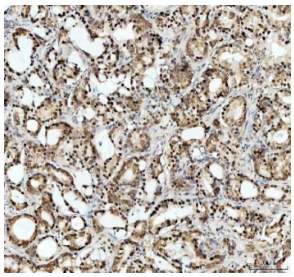
APEX1 Antibody Staining of U-2 OS Osteosarcoma Cells IF. Immunofluorescence staining of FFPE human U-2 OS osteosarcoma cells with APEX1 Antibody shows strong green signal predominantly localized to the nuclei, consistent with the major nuclear localization of AP endonuclease 1. HIER was performed by steaming in pH 6 citrate buffer for 20 min before antibody testing.



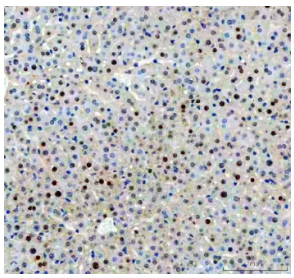
APEX1 Antibody Staining of Human Colon Adenocarcinoma IHC. Immunohistochemistry testing of FFPE human colon adenocarcinoma with APEX1 Antibody shows brown immunoreactivity within the malignant glandular epithelium, including prominent nuclear and cytoplasmic staining. HIER was performed by boiling sections in pH 8 EDTA for 20 min followed by cooling before antibody testing.



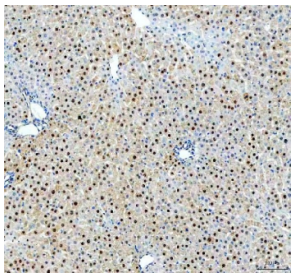
AP Endonuclease Antibody Staining of Human Spleen IHC. Immunohistochemistry testing of FFPE human spleen with AP Endonuclease Antibody shows widespread brown immunoreactivity among splenic cells, with staining visible against the blue hematoxylin-counterstained background. HIER was performed by boiling sections in pH 8 EDTA for 20 min followed by cooling before antibody testing.



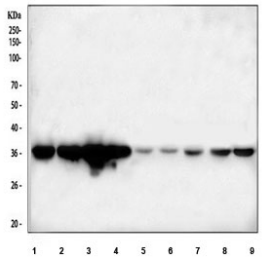
APEX1 Antibody Staining of Human Prostate Cancer IHC. Immunohistochemistry testing of FFPE human prostate cancer with APEX1 Antibody shows prominent brown staining of the malignant glandular epithelium, with nuclear and cytoplasmic immunoreactivity and comparatively less staining in surrounding stromal areas. HIER was performed by boiling sections in pH 8 EDTA for 20 min followed by cooling before antibody testing.



APEX1 Antibody Staining of Mouse Liver IHC. Immunohistochemistry testing of FFPE mouse liver with APEX1 Antibody shows brown staining throughout the hepatic parenchyma, including readily visible nuclear immunoreactivity in hepatocytes. HIER was performed by boiling sections in pH 8 EDTA for 20 min followed by cooling before antibody testing.



AP Endonuclease Antibody Staining of Rat Liver IHC. Immunohistochemistry testing of FFPE rat liver with AP Endonuclease Antibody shows widespread brown staining throughout the hepatic parenchyma, with prominent nuclear immunoreactivity in hepatocytes. HIER was performed by boiling sections in pH 8 EDTA for 20 min followed by cooling before antibody testing.



APEX1 Antibody Detection in Human, Rat and Mouse Cell Lines WB. Western blot testing of human K562 (lane 1), HepG2 (lane 2), Raji (lane 3) and RT4 (lane 4), rat C6 (lane 5) and PC-12 (lane 6), and mouse HEPA1-6 (lane 7), RAW264.7 (lane 8) and ANA-1 (lane 9) cell lysates with APEX1 Antibody shows a discrete band at approximately 35-38 kDa across all nine samples, consistent with the predicted molecular weight of approximately 38 kDa for AP endonuclease 1. Signal intensity varies among the samples, with particularly strong detection in several human cell lines.

Description

APEX1 Antibody / AP Endonuclease Antibody recognizes apurinic/apyrimidinic endonuclease 1, a multifunctional DNA repair and regulatory protein encoded by the APEX1 gene. APEX1 is a major component of the base excision repair pathway, where it processes apurinic/apyrimidinic sites created by spontaneous DNA damage or following removal of damaged bases by DNA glycosylases. This activity is important for maintaining genome integrity and limiting the accumulation of potentially mutagenic DNA lesions.

APEX1 cleaves the phosphodiester backbone immediately adjacent to an abasic site, generating an intermediate that can be further processed by DNA polymerases and ligases. Through this AP endonuclease activity, the protein contributes to repair of oxidative, alkylation-associated and endogenous DNA damage. APEX1 also possesses additional DNA-processing activities that contribute to the maintenance and repair of damaged DNA.

In addition to its enzymatic role, APEX1 is historically known as Ref-1 because of its redox regulatory function. This activity can influence the DNA-binding capacity of several transcription factors, connecting cellular redox conditions with transcriptional regulation. The combination of DNA repair and redox functions has made APEX1 an important target in studies of oxidative stress, genome maintenance and cellular responses to DNA damage.

Altered APEX1 abundance, localization and activity have also been investigated in cancer. Increased DNA repair capacity may influence cellular responses to genotoxic stress, while the regulatory functions of APEX1 can affect transcriptional programs associated with cell survival and proliferation. These properties have generated considerable interest in APEX1 as a molecular target in cancer biology and therapeutic-response research.

NSJ Bioreagents offers this rabbit polyclonal APEX1 Antibody generated against an internal sequence of human APEX1 that is conserved in human, mouse and rat. An AP Endonuclease Antibody provides a research tool for investigating APEX1 expression, base excision repair, oxidative stress responses and the broader molecular functions of this DNA repair protein.

For our primary APE1 resource and a Protein Microarray Validated monoclonal reagent, see our APE1 Antibody CPTC-APEX1-2 / AP Endonuclease 1 Antibody page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the APEX1 Antibody / AP Endonuclease Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the middle region of human APEX1 (RGLVRLEYRQRWDEA) was used as the immunogen for this APEX1 antibody (100% homologous in human, mouse and rat).

Storage

After reconstitution, the APEX1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

APE1 antibody, AP endonuclease 1 antibody, Apurinic/apyrimidinic endonuclease 1 antibody, REF1 antibody, Redox factor 1 antibody

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