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Datasheet for ABIN6259977

## anti-APEX1 antibody (N-Term)

### 4 Images

#### Overview

Quantity:	100 µL
Target:	APEX1
Binding Specificity:	N-Term
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This APEX1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

#### Product Details

Immunogen:	A synthesized peptide derived from human APEX1, corresponding to a region within N-terminal amino acids.
Isotype:	IgG
Specificity:	APEX1 Antibody detects endogenous levels of total APEX1.
Predicted Reactivity:	Pig,Bovine,Horse,Sheep,Rabbit,Dog
Purification:	The antiserum was purified by peptide affinity chromatography using SulfoLink™ Coupling Resin (Thermo Fisher Scientific).

#### Target Details

Target:	APEX1
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## Target Details

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Alternative Name: [APEX1 \(APEX1 Products\)](#)

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**Background:** 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.

Gene: APEX1

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Molecular Weight: 36kDa

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Gene ID: 328

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UniProt: [P27695](#)

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## Target Details

Pathways: [DNA Damage Repair](#), [Chromatin Binding](#), [Cell RedoxHomeostasis](#), [Smooth Muscle Cell Migration](#), [Positive Regulation of Response to DNA Damage Stimulus](#)

## Application Details

Application Notes: WB 1:500-1:2000, IHC 1:50-1:200, IF/ICC 1:100-1:400, ELISA(peptide) 1:20000-1:40000

Restrictions: For Research Use only

## Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.

Preservative: Sodium azide

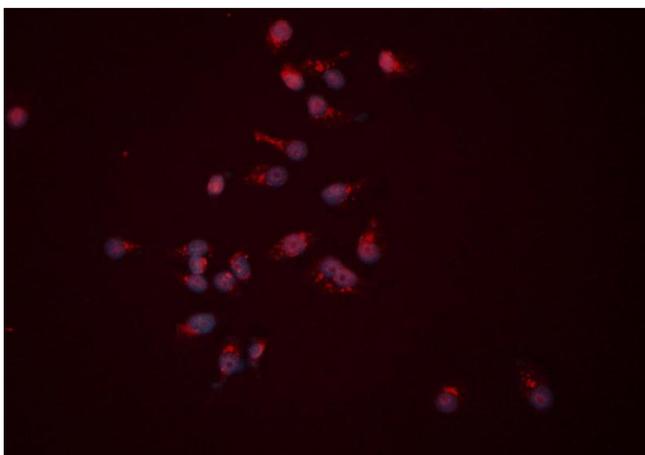
Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C

Storage Comment: Store at -20 °C. Stable for 12 months from date of receipt.

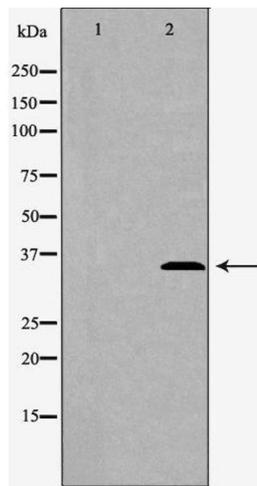
Expiry Date: 12 months

## Images



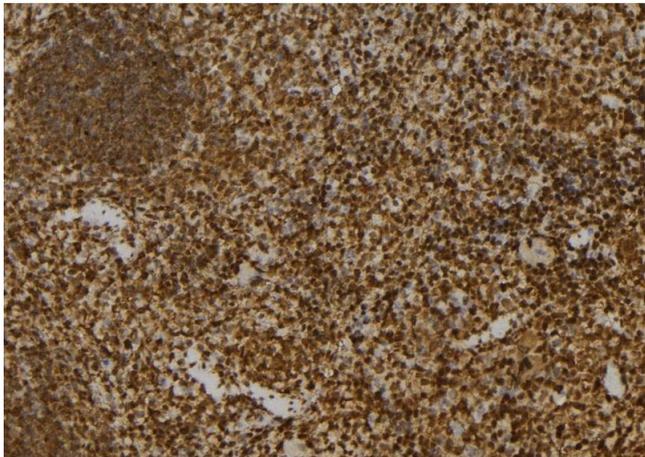
### Immunofluorescence (fixed cells)

**Image 1.** ABIN6276522 staining HEPG2 cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37°C. The primary antibody was diluted 1/200 and incubated with the sample for 1 hour at 37°C. A Alexa Fluor 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.



### Western Blotting

**Image 2.** Western blot analysis of extracts of HeLa, using APEX1 antibody. The lane on the left is treated with the antigen-specific peptide.



### Immunohistochemistry

**Image 3.** ABIN6276522 at 1/100 staining Mouse spleen tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN6259977.