

# APEX1 Monoclonal antibody

Catalog Number: 67781-1-Ig

Featured Product

## Basic Information

## Catalog Number:

67781-1-Ig

## Size:

1000 ug/ml

## Source:

Mouse

## Isotype:

IgG2a

## Immunogen Catalog Number:

AG28552

## GenBank Accession Number:

BC002338

## GeneID (NCBI):

328

## UNIPROT ID:

P27695

## Full Name:

APEX nuclease (multifunctional DNA repair enzyme) 1

## Calculated MW:

36 kDa

## Observed MW:

36 kDa

## Purification Method:

Protein A purification

## CloneNo.:

2B10B2

## Recommended Dilutions:

WB 1:5000-1:50000

IHC 1:1000-1:4000

## Applications

## Tested Applications:

WB, IHC, ELISA

## Species Specificity:

human, mouse, rat, pig, rabbit

**Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (\*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0**

## Positive Controls:

**WB:** Jurkat cells, HeLa cells, HuH-7 cells, pig brain tissue, LNCaP cells, HEK-293 cells, HepG2 cells, mouse brain tissue, rabbit brain tissue, rat brain tissue

**IHC:** mouse liver tissue,

## Background Information

APEX1, also named as APE, APE1, HAP1 and REF-1, belongs to the DNA repair enzymes AP/ExoA family. It is a multifunctional protein that plays a central role in the cellular response to oxidative stress. The two major activities of APEX1 are in DNA repair and redox regulation of transcriptional factors. APEX nuclease is a DNA repair enzyme having apurinic/apyrimidinic (AP) endonuclease, 3-prime,5-prime-exonuclease, DNA 3-prime repair diesterase, and DNA 3-prime-phosphatase activities. 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. APEX1 is involved in calcium-dependent down-regulation of parathyroid hormone (PTH) expression by binding to negative calcium response elements (nCaREs). When acetylated at Lys-6 and Lys-7, APEX1 stimulates the YBX1-mediated MDR1 promoter activity, leading to drug resistance. It also acts as an endoribonuclease involved in the control of single-stranded RNA metabolism. It 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, APEX1 plays a role in the rRNA quality control process during cell cycle progression.

## Storage

## Storage:

Store at -20°C. Stable for one year after shipment.

## Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol pH 7.3.

Aliquoting is unnecessary for -20°C storage

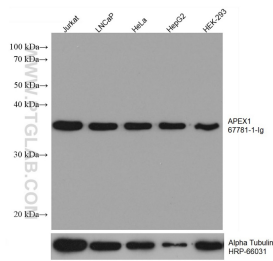
For technical support and original validation data for this product please contact:

T: 4006900926

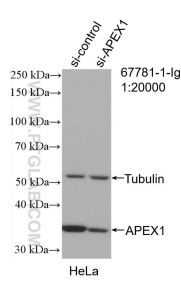
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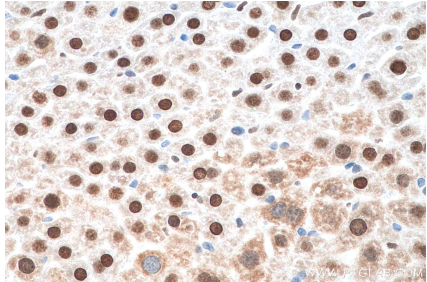
Selected Validation Data



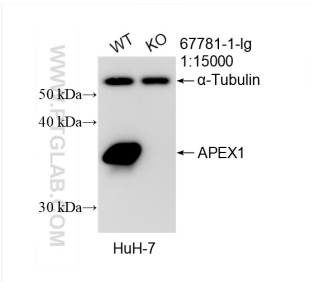
Various lysates were subjected to SDS PAGE followed by western blot with 67781-1-Ig (APEX1 antibody) at dilution of 1:20000 incubated at room temperature for 1.5 hours. The membrane was stripped and reblotted with HRP-conjugated Alpha Tubulin Monoclonal antibody (HRP-66031) as loading control.



WB result of APEX1 antibody (67781-1-Ig; 1:20000; incubated at room temperature for 1.5 hours) with sh-Control and sh-APEX1 transfected HeLa cells.



Immunohistochemical analysis of paraffin-embedded mouse liver tissue slide using 67781-1-Ig (APEX1 antibody) at dilution of 1:2000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



WB result of APEX1 antibody (67781-1-Ig; 1:15000; room temperature for 1.5 hours) with wild-type and APEX1 knockout HuH-7 cells.