

# APEX1 Recombinant monoclonal antibody, PBS Only (Detector)

Catalog Number: 86719-1-PBS

## Basic Information

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|---|--|---|
| <b>Catalog Number:</b><br>86719-1-PBS                       | <b>GenBank Accession Number:</b><br>BC002338                             | <b>Purification Method:</b><br>Protein A purification |
| <b>Size:</b><br>100ug , Concentration: 1 mg/ml by Nanodrop; | <b>GeneID (NCBI):</b><br>328   | <b>CloneNo.:</b><br>251693G12                         |
| <b>Source:</b><br>Rabbit                                    | <b>UNIPROT ID:</b><br>P27695   |   |
| <b>Isotype:</b><br>IgG                                      | <b>Full Name:</b><br>APEX nuclease (multifunctional DNA repair enzyme) 1 |   |
| <b>Immunogen Catalog Number:</b><br>AG0251                  | <b>Calculated MW:</b><br>36 kDa  |   |
|   | <b>Observed MW:</b><br>36 kDa  |   |

## Applications

**Tested Applications:**  
WB, Sandwich ELISA, Indirect ELISA

**Species Specificity:**  
human

## Product Information

86719-1-PBS targets APEX1 as part of a matched antibody pair:

MP02621-2: 86719-3-PBS capture and 86719-1-PBS detection (validated in Sandwich ELISA)

Unconjugated rabbit recombinant monoclonal antibody in PBS only (BSA and azide free) storage buffer at a concentration of 1 mg/mL, ready for conjugation. Created using Proteintech's proprietary in-house recombinant technology. Recombinant production enables unrivalled batch-to-batch consistency, easy scale-up, and future security of supply.

This conjugation ready format makes antibodies ideal for use in many applications including: ELISAs, multiplex assays requiring matched pairs, mass cytometry, and multiplex imaging applications. Antibody use should be optimized by the end user for each application and assay.

## 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

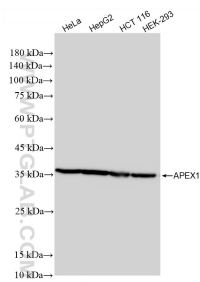
**Storage:**  
Store at -80°C.

**Storage Buffer:**  
PBS only, pH7.3

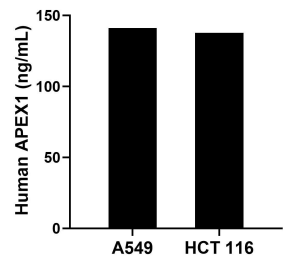
For technical support and original validation data for this product please contact:  
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA) E: [proteintech@ptglab.com](mailto:proteintech@ptglab.com) W: [ptglab.com](http://ptglab.com)

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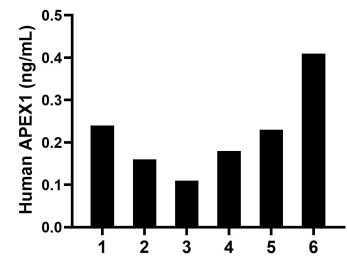
Selected Validation Data



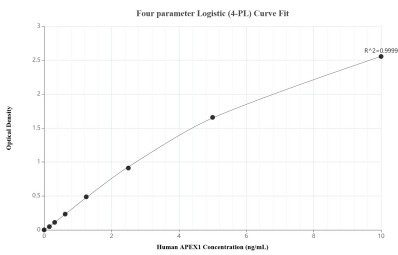
Various lysates were subjected to SDS PAGE followed by western blot with 86719-1-RR (APEX1 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 86719-1-PBS in a different storage buffer formulation.



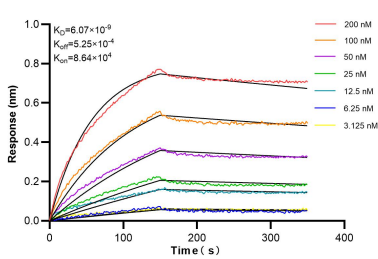
The mean APEX1 concentration was determined to be 141.21 ng/mL in A549 cell extract based on a 1.20 mg/mL extract load and 137.64 ng/mL in HCT 116 cell extract based on a 1.30 mg/mL extract load.



Plasma of six individual healthy human donors was measured. The APEX1 concentration of detected samples was determined to be 0.22 ng/mL with a range of 0.11-0.41 ng/mL.



Sandwich ELISA standard curve of MP02621-2, Human APEX1 Recombinant Matched Antibody Pair - PBS only. 86719-3-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Ag0251. 86719-1-PBS was HRP conjugated as the detection antibody. Range: 0.156-10 ng/mL.



Biolayer interferometry (BLI) kinetic assays of 86719-1-RR against Human APEX1 were performed. The affinity constant is 6.07 nM.