Revision 1

Ape1 Antibody

#4128 Store at -20C

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	34	Rabbit	#P27695	328

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Ape1 Antibody detects endogenous levels of total Ape1 protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids surrounding Ala230 of human Ape1. Antibodies are purified by peptide affinity chromatography.

Background

Ape1 (Apurinic/Apyrimidic eEndonuclease 1), also known as Ref1 (Redox effector factor 1), is a multifunctional protein with several biological activities. These include roles in DNA repair and in the cellular response to oxidative stress. Ape1 initiates the repair of abasic sites and is essential for the base excision repair (BER) pathway (1). Repair activities of Ape1 are stimulated by interaction with XRCC1 (2), another essential protein in BER. Ape1 functions as a redox factor that maintains transcription factors in an active, reduced state but can also function in a redox-independent manner as a transcriptional cofactor to control different cellular fates such as apoptosis, proliferation and differentiation (3). Increased expression of Ape1 is associated with many types of cancers including cervical, ovarian, prostate, rhabdomyosarcomas and germ cell tumors (4). Ape1 has been shown to stimulate DNA binding of several transcription factors known to be involved in tumor progression such as Fos, Jun, NF-κB, PAX, HIF-1, HLF and p53 (4). Mutation of the Ape1 gene has also been associated with amyotrophic lateral sclerosis (ALS) (5,6).

Background References

1. Demple, B. and Sung, J.S. (2005) *DNA Repair (Amst)* 4, 1442-9.
2. Vidal, A.E. et al. (2001) *EMBO J* 20, 6530-9.
3. Tell, G. et al. *Antioxid Redox Signal* 7, 367-84.
4. Evans, A.R. et al. (2000) *Mutat Res* 461, 83-108.
5. Olkowski, Z.L. (1998) *Neuroreport* 9, 239-42.
6. Hayward, C. et al. (1999) *Neurology* 52, 1899-901.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

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