ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human AP-Endonuclease (APE, APEX, APE-1, HAP1) Antibodies

Cat # APE11-S, Rabbit Anti-Human APE antiserum # 1 **SIZE**: 100 ul

Reactive oxygen species ($H_2O_2^{\bullet}$, $OH^{\bullet}$, O2, HOCL) generated during normal cellular activities or by ionizing radiation and by many oxidizing/alkylating agents can induce a wide variety of lesions in DNA ranging from oxidized bases (8-oxoguanine and thymine glycol), base loss and DNA strand breaks with modified ends such as 3'-phosphate and 3'-phopshoglycolate. Unrepaired damaged/modified DNA has been implicated in aging and cancer. Many proteins that are involved in BER (base excision repair) have been identified in E Coli and mammals. Repair of modified is initiated by their removal by specific DNA glycosylase resulting in AP (apurinic/apyrimidinic) sites. A series of steps starting with the cleavage of the DNA strand adjacent to AP sites, removal of the deoxyribose phosphate residue, followed by gap filling synthesis and ligation. The DNA strand cleavage is catalyzed by a variety of AP-endonucleases (APE or HAP1, APEX, APE-1) that cleave 5' to the AP sites. APE also has an associated 3'-endonuclease activity the removes 3'trans-α,β-unsaturated aldehyde generated by AP lyase, as well as 3'-phosphate and 3'-phosphoglycolate. ROS generated 3'-blocked termini at the site of strand breaks are also removed APE. Mouse and human APE genes encodes a protein of 318 aa. There is 94% sequence identity between human and mouse APE.

Source of Antigen and Antibodies

Purified APE (36 kDa) was injected into rabbits rabbits to generate antibodies.

Antigen	Full length human APE was expressed in E. coli.
Ab Host/type	Rabbit, Polyclonal antiserum (Cat # APE11-S) supplied in +0.05% azide
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting: An initial dilution of 1:1K-2K is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions. The antibody has detected ~34 kDa band from human cells and tissues.

ELISA (1:10-50K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested. An initial dilution of 1:500:1K is recommended for IHC. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

Specificity & Cross-reactivity

Anti-human APE11 reacts poorly with mouse and rat APE. We recommend the use of antibody # 2 (cat # APE12-S) for the detection of human APE. Antibody cross-reactivity in various species has not been studied.

General References: (1) Seki S et al (1992) BBA 1131, 287-299; Akiyama K et al (1994) BBA 1219, 15-25; Izumi T et al (1996) Biochem. 35, 14679-14683; Wilson DM & Thompson LH (1997) PNAS 94, 12754-1275

Citations of for APE11-S (see updated list at the web site)

*This product is for In vitro research use only.

Related material available from ADI

Antibodies to MGMT, hNTH, Ape, XRCC1, DNASe, etc

Western Blot Recycling Kit (Strips blots in 5 minutes) and re-use the same blot with multiple antibodies

APE11-S 71205A

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