# Human APEX1 / AP / APEx / Ref-1 Protein (His Tag)

**Catalog Number:** **12367-H07E**

## General Information

**Gene Name Synonym:**

APE; APE1; APEN; APEX; APX; HAP1; REF1

**Protein Construction:**

A DNA sequence encoding the human APEX1 (P27695) (Pro2-Leu 318) was expressed, with a polyhistidine tag at the N-terminus.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 92 % as determined by SDS-PAGE

**Endotoxin:**

< 1.0 EU per μg of the protein as determined by the LAL method

**Stability:**

Samples are stable for up to twelve months from date of receipt at -70 ℃

**Predicted N terminal:** Met

**Molecular Mass:**

The recombinant human APEX1 consisting of 328 amino acids and migrates as an approximately 37 kDa band in SDS-PAGE under reducing conditions as predicted.

**Formulation:**

Lyophilized from sterile PBS, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

**Storage:**

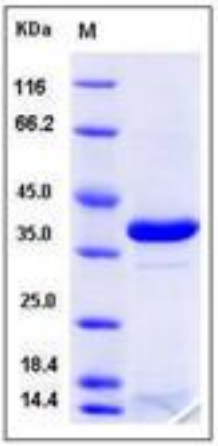
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**

Detailed reconstitution instructions are sent along with the products.

**SDS-PAGE:**




## Protein Description

The enzyme is known to be a redox factor (Ref-1) stimulating DNA binding activity of AP-1 binding proteins such as Fos and Jun as well as a multifunctional DNA repair enzyme having 5' AP endonuclease, DNA 3' repair diesterase, 3'-5' exonuclease and DNA 3'-phosphatase activities.Although Apex mRNA was expressed ubiquitously, the levels varied significantly, suggesting organ- or tissue-specific expression of the Apex gene. The highest level was observed in the testis, relatively high levels in the thymus, spleen, kidney and brain, and the lowest level in the liver in rats. However, the present results suggested that APEX/Ref-1 gene product can interact with AP-1 binding proteins in brain, especially in the hippocampal formation, to regulate some brain functions by redox-activation.

**References**

1.Ono Y, *et al*. (1995) Developmental expression of APEX nuclease, a multifunctional DNA repair enzyme, in mouse brains. Brain Res Dev Brain Res.86 (1-2): 1-6. 2.Tan Y, *et al*. (1996) cDNA cloning of rat major AP endonuclease (APEX nuclease) and analyses of its mRNA expression in rat tissues. Acta Med Okayama. 50 (1): 53-60. 3.Yao M, *et al*. (1999) Genomic structure of the rat major AP endonuclease gene (Apex) with an adjacent putative O-sialoglycoprotease gene (Prsmg1/Gcpl1) and a processed Apex pseudogene (Apexp1). Acta Med Okayama. 53 (6): 245-52.