

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

Catalog Number: 12367-H07E



Sino Biological Inc.
Biological Solution Specialist

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 °C

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 and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

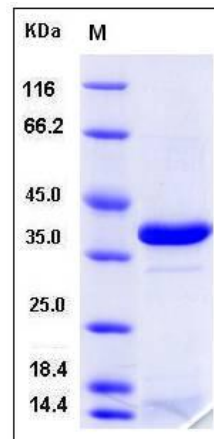
Usage Guide

Storage:

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

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

APEX nuclease is a mammalian DNA repair enzyme having apurinic/apyrimidinic (AP) endonuclease, 3'-5'-exonuclease, DNA 3' repair diesterase and DNA 3'-phosphatase activities. It is also a redox factor (Ref-1), stimulating DNA binding activity of AP-1 binding proteins such as Fos and Jun. In the embryonic and postnatal development, APEX mRNA was expressed at high levels in the proliferative zone of various brain regions, with showing temporal and spatial changes. Its expression decreased in association with brain development to the basal expression level which was observed even in adulthood, with the exception of its expression in the hippocampal formation. The growth-dependent expression of APEX gene suggests that it has some roles on cell proliferation and/or differentiation in developmental brain. Ref-1 is related to the upregulation of Pax-8 by TSH in thyroid cells, stimulating the human NIS regulatory sequence activity with Pax-8 or an ubiquitous transcription factor early growth response (Egr)-1 in HeLa cells. Impaired translocation of Ref-1 to the nuclei has been reported in papillary and anaplastic thyroid cancer cell lines as well as thyroid cancer tissues. The reduced NIS promoter activity in some thyroid cancer cells, therefore, may be due to the reduced Ref-1 localization in the nuclei.

References

1. Ikeda S, et al. (2002) Biochem Biophys Res Commun. 296 (4):785-91.
2. Kogai T, et al. (2006) Endocr Relat Cancer 13: 797-826
3. Ono Y, et al. (1995) Brain Res Dev Brain Res.86 (1-2):1-6.

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