

ALKBH3 recombinant protein

Recombinant ALKBH3 protein

CATALOG #
AAA60149

HOST
E Coli

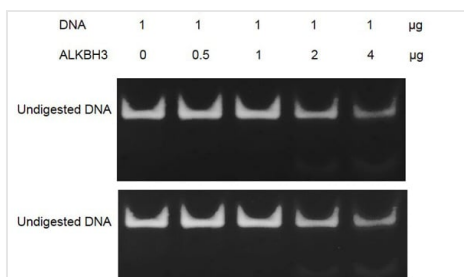
PRODUCT SYNONYMS

ALKBH3; Recombinant ALKBH3 protein; AlkB Homolog 3; Alpha-Ketoglutarate Dependent Dioxygenase; ALKBH3 recombinant protein

PRODUCT SPECIFICATIONS

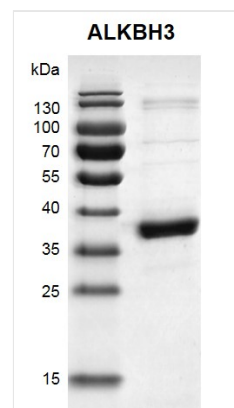
Host	E Coli
Form/Format	Recombinant ALKBH3 protein is supplied in 25mM Tris pH8.0, 300mM NaCl, 10% glycerol, 0.5mM TCEP.
Protein Species	Human
Tag	His-Tag
Notes	Recombinant ALKBH3 protein is suitable for use in enzyme kinetics, inhibitor screening, and selectivity profiling.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



Application Data

ALKBH3 dioxygenase activity 1 µg of ssDNA oligos (5'-AAAGCAG(1mA) ATTGAAAAAGCGAAA-3') was incubated with varying concentrations of ALKBH3 in a reaction system including 50 mM HEPES-NaOH pH 8.0, 50 µM Fe(NH₄)₂(SO₄)₂, 1 mM 2-oxoglutarate, 2 mM ascorbate and 1 mM TCEP for 30 min at 37 degree C. Then ssDNA oligos were annealed with equimolar of non-methylated complement strand followed by 1 µg EcoRI digestion for 45 min at 37 degree C. % reaction products were run on a 20% Native PAGE gel and stained by ethidium bromide.



SDS-PAGE

Recombinant ALKBH3 protein 12.5% SDS-PAGE Coomassie staining MW: 36.9 kDa Purity: >90%

ADDITIONAL INFORMATION

Related Product Information for ALKBH3 recombinant protein	Short Description: Full-length ALKBH3 protein (accession number NP_631917.1) was expressed in E Coli with an N-terminal 6xHis-tag. The molecular weight of ALKBH3 is 36.9 kDa. Recombinant ALKBH3 protein is suitable for use in enzyme kinetics, inhibitor screening, and selectivity profiling. Background: ALKBH3 (AlkB Homolog 3, Alpha-Ketoglutarate Dependent Dioxygenase) is a member of ALKBH protein family. It mediates demethylation of DNA and RNA containing 1-methyladenosine (m1A). It can repair alkylated DNA containing 1-methyladenosine (m1A) and 3-methylcytosine (m3C) by oxidative demethylation. ALKBH3 has a strong preference for single-stranded DNA. It is able to process alkylated m3C within double-stranded regions via its interaction with ASCC3, which promoting DNA unwinding to generate single-stranded substrate needed for ALKBH3. ALKBH3 also acts on RNA via demethylating N(1)-methyladenosine (m1A) RNA, an epigenetic internal modification of messenger RNAs (mRNAs) highly enriched within 5-untranslated regions (UTRs) and in the vicinity of start codons. The oxidative demethylation requires molecular oxygen, alpha-ketoglutarate and iron.
Product Categories/Family for ALKBH3 recombinant protein	Recombinant Proteins; DNA Damage; Transcription

NCBI AND UNIPROT INFORMATION

NCBI GI #	21040275
NCBI GeneID	221120
NCBI Accession #	NP_631917.1
NCBI GenBank Nucleotide #	NM_139178.3
UniProt Accession #	Q96Q83; Q3SYI0; Q6NX57; Q96BU8; A6NDJ1
Molecular Weight	19,310 Da
NCBI Official Full Name	alpha-ketoglutarate-dependent dioxygenase alkB homolog 3
NCBI Official Synonym Full Names	alkB, alkylation repair homolog 3 (E. coli)
NCBI Official Symbol	ALKBH3
NCBI Official Synonym Symbols	ABH3; PCA1; DEPC1; DEPC-1
NCBI Protein Information	alpha-ketoglutarate-dependent dioxygenase alkB homolog 3; alkylated DNA repair protein alkB homolog 3; prostate cancer antigen 1; prostate cancer antigen-1
UniProt Protein Name	Alpha-ketoglutarate-dependent dioxygenase alkB homolog 3
UniProt Gene Name	ALKBH3
UniProt Synonym Gene Names	ABH3; DEPC1
UniProt Entry Name	ALKB3_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.