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ALKBH3 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8682b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q96Q83
Other Accession	Q32L00
Reactivity	Human, Mouse
Predicted	Bovine, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB22074
Calculated MW	33375
Antigen Region	242-269

Additional Information

Gene ID	221120
Other Names	Alpha-ketoglutarate-dependent dioxygenase alkB homolog 3, 11411-, Alkylated DNA repair protein alkB homolog 3, DEPC-1, Prostate cancer antigen 1, ALKBH3, ABH3, DEPC1
Target/Specificity	This ALKBH3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 242-269 amino acids from the C-terminal region of human ALKBH3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ALKBH3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ALKBH3 (HGNC:30141)
Function	Dioxygenase that mediates demethylation of DNA and RNA containing

	1-methyladenosine (m1A) (PubMed:12486230, PubMed:12594517, PubMed:16174769, PubMed:26863196, PubMed:26863410). Repairs alkylated DNA containing 1-methyladenosine (m1A) and 3-methylcytosine (m3C) by oxidative demethylation (PubMed:12486230, PubMed:12594517, PubMed:16174769, PubMed:25944111). Has a strong preference for single-stranded DNA (PubMed:12486230, PubMed:12594517, PubMed:16174769, PubMed:20714506). Able to process alkylated m3C within double-stranded regions via its interaction with ASCC3, which promotes DNA unwinding to generate single-stranded substrate needed for ALKBH3 (PubMed:22055184). Can repair exocyclic 3,N4-ethenocytosine adducs in single-stranded DNA (PubMed:25797601). Also acts on RNA (PubMed:12594517, PubMed:16174769, PubMed:16858410, PubMed:26863196, PubMed:26863410). Demethylates 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 (PubMed:26863196, PubMed:26863410). Requires molecular oxygen, alpha-ketoglutarate and iron (PubMed:16858410, PubMed:22055184).
Cellular Location	Nucleus. Cytoplasm Note=Colocalizes with ASCC2 and ASCC3 in nuclear foci when cells have been exposed to alkylating agents that cause DNA damage (PubMed:29144457). Predominantly localizes to the nucleus
Tissue Location	Ubiquitous. Detected in heart, pancreas, skeletal muscle, thymus, testis, ovary, spleen, prostate, small intestine, peripheral blood leukocytes, urinary bladder and colon

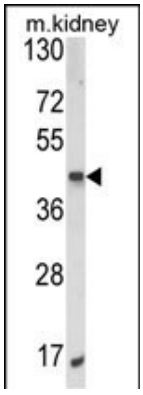
Background

The Escherichia coli AlkB protein protects against the cytotoxicity of methylating agents by repair of the specific DNA lesions generated in single-stranded DNA. ALKBH2 (MIM 610602) and ALKBH3 are E. coli AlkB homologs that catalyze the removal of 1-methyladenine and 3-methylcytosine.

References

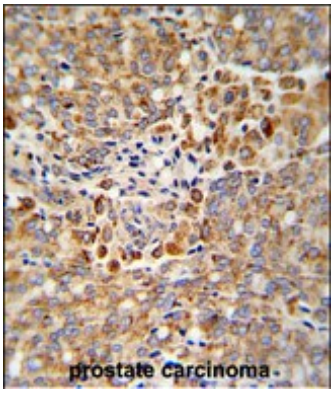
Sundheim,O., et.al., EMBO J. 25 (14), 3389-3397 (2006)

Images



Western blot analysis of ALKBH3 Antibody (C-term) (Cat. #AP8682b) in mouse kidney tissue lysates (35ug/lane). ALKBH3 (arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human prostate carcinoma reacted with ALKBH3 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical



relevance has not been evaluated.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.