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ALKBH3 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP8682b

Specification

ALKBH3 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q96Q83

ALKBH3 Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP8682b was selected from the C-term region of human ALKBH3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ALKBH3 Antibody (C-term) Blocking Peptide - 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:<a href="http://www.uniprot.org/citations/25944111"

target="_blank">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

ALKBH3 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

ALKBH3 Antibody (C-term) Blocking Peptide - Images

ALKBH3 Antibody (C-term) Blocking Peptide - 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.

ALKBH3 Antibody (C-term) Blocking Peptide - References

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