10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Recombinant Anti-ALKBH2 Rabbit mAb

Catalog # AP95405

Product Information

Application	WB, FC
Primary Accession	Q6NS38
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal
Calculated MW	29322

Additional Information

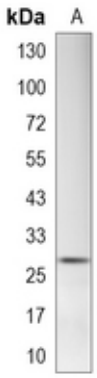
Gene ID	121642
Other Names	ABH2; Alpha-ketoglutarate-dependent dioxygenase alkB homolog 2; Alkylated DNA repair protein alkB homolog 2; DNA oxidative demethylase ALKBH2; Oxy DC1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within human ALKBH2 protein. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) FC~~1:10~50
Format	Liquid in PBS, pH 7.3, 50% glycerol, 0.05% BSA, and 0.05% Proclin300.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	ALKBH2
Synonyms	ABH2 {ECO:0000303|PubMed:16174769}
Function	Dioxygenase that repairs alkylated nucleic acid bases by direct reversal oxidative dealkylation. Can process both double- stranded (ds) and single-stranded (ss) DNA substrates, with a strong preference for dsDNA (PubMed:12486230, PubMed:12594517, PubMed:16174769, PubMed:20714506, PubMed:23972994, PubMed:25797601). Uses molecular oxygen, 2-oxoglutarate and iron as cofactors to oxidize the alkyl groups that are subsequently released as aldehydes, regenerating the undamaged bases. Probes the base pair stability, locates a weakened base pair and flips the damaged base to accommodate the lesion in its active site for efficient catalysis (PubMed:18432238, PubMed:22659876). Repairs monoalkylated bases, specifically N1- methyladenine and N3-methylcytosine, as well as higher order alkyl adducts such as bases modified with exocyclic bridged adducts known as etheno adducts including 1,N6-ethenoadenine,

	3,N4-ethenocytosine and 1,N2-ethenoguanine (PubMed:12486230, PubMed:12594517, PubMed:16174769, PubMed:20714506, PubMed:23972994, PubMed:25797601, PubMed:26408825). Acts as a gatekeeper of genomic integrity under alkylation stress. Efficiently repairs alkylated lesions in ribosomal DNA (rDNA). These lesions can cause ss- and dsDNA strand breaks that severely impair rDNA transcription (PubMed:23972994). In a response mechanism to DNA damage, associates with PCNA at replication forks to repair alkylated adducts prior to replication (PubMed:19736315, PubMed:26408825).
Cellular Location	Nucleus. Nucleus, nucleolus. Nucleus, nucleoplasm. Note=Relocates to the replication foci during S-phase.
Tissue Location	Detected in colon, small intestine, ovary, testis, prostate, skeletal muscle, heart, liver and urinary bladder

Images



Western blot analysis of ALKBH2 expression in Hela (A) whole cell lysates. (Predicted band size: 29 kD; Observed band size: 29 kD)