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ALKBH2 antibody - middle region

Rabbit Polyclonal Antibody
Catalog # AI13326

Product Information

Application	WB
Primary Accession	Q6NS38
Other Accession	NM_001001655, NP_001001655
Reactivity	Human, Mouse, Rat, Rabbit, Zebrafish, Dog, Guinea Pig, Horse, Bovine
Predicted	Human, Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	29322

Additional Information

Gene ID	121642
Alias Symbol	ABH2, MGC90512, hABH2
Other Names	Alpha-ketoglutarate-dependent dioxygenase alkB homolog 2, 1.14.11.33, Alkylated DNA repair protein alkB homolog 2, DNA oxidative demethylase ALKBH2, Oxy DC1, ALKBH2, ABH2
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-ALKBH2 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	ALKBH2 antibody - middle region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

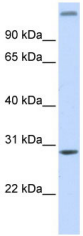
Name	ALKBH2
Synonyms	ABH2 {ECO:0000303|PubMed:16174769}
Function	Dioxygenase that repairs alkylated nucleic acid bases by direct reversal oxidative dealkylation. Can process both double- stranded (ds) and single-stranded (ss) DNA substrates, with a strong preference for dsDNA (PubMed:12486230, PubMed:12594517, 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

References

Lin Y.,et al.Submitted (SEP-2004) to the EMBL/GenBank/DDBJ databases.
Tsujikawa K.,et al.J. Cell. Mol. Med. 11:1105-1116(2007).
Scherer S.E.,et al.Nature 440:346-351(2006).
Duncan T.,et al.Proc. Natl. Acad. Sci. U.S.A. 99:16660-16665(2002).
Aas P.A.,et al.Nature 421:859-863(2003).

Images



WB Suggested Anti-ALKBH2 Antibody Titration: 0.2-1 µg/ml
ELISA Titer: 1:62500
Positive Control: Human brain

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