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Product datasheet for TP522060

Alkbh1 (NM_001102565) Mouse Recombinant Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Purified recombinant protein of Mouse alkB homolog 1, histone H2A dioxygenase (Alkbh1), with C-terminal MYC/DDK tag, expressed in HEK293T cells, 20ug
Species:	Mouse
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>MR222060 representing NM_001102565 Red=Cloning site Green=Tags(s) MGKMAAAVASLATLAAEPREDAFRKLFRFYRQSRPGTADLGAVIDFSEAHLARSPKPGVPQVVRFPLNVS SVTERDAERVGLEPVSKWRAYGLEGYPGFIFIPNPFLPGCQRHWVKQCLKLYSQKPNVCNLDKHMTKEET QGLWEQSKEVLRSKEVTKRRPRSLLERLRWVTLGYHYNWDSKKYSADHYTPFPSDLAFLSEQVATACGFQ GFQAEAGILNYYRLDSTLGIHVDRSELDHSKPLLSFSFGQSAIFLLGGLKRDEAPTAMFMHSGDIMVMSG FSRLLNHAVPRVLPHPDGECLPHCLETPLPAVLPSNSLVEPCSVEDWQVCATYLRTARVNMTVRQVLATG QDFPLEPVEETKRDIAADGLCHLHDPNSPVKRKRLNPNS TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-MYC/DDK
Predicted MW:	43.7 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Note:	For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.
Storage:	Store at -80°C after receiving vials.
Stability:	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
RefSeq:	NP_001096035
Locus ID:	211064
UniProt ID:	P0CB42

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RefSeq Size:	1968
Cytogenetics:	12 D2
RefSeq ORF:	1167
Synonyms:	2700073G19Rik; Abh; alkB; Alkbh; hABH
Summary:	Dioxygenase that acts as on nucleic acids, such as DNA and tRNA (PubMed:27027282, PubMed:27745969). Requires molecular oxygen, alpha-ketoglutarate and iron (PubMed:27027282). A number of activities have been described for this dioxygenase, but recent results suggest that it mainly acts as on tRNAs and mediates their demethylation or oxidation depending on the context and subcellular compartment (By similarity). Mainly acts as a tRNA demethylase by removing N(1)-methyladenine from various tRNAs, with a preference for N(1)-methyladenine at position 58 (m1A58) present on a stem loop structure of tRNAs (PubMed:27745969). Acts as a regulator of translation initiation and elongation in response to glucose deprivation: regulates both translation initiation, by mediating demethylation of tRNA(Met), and translation elongation, N(1)-methyladenine-containing tRNAs being preferentially recruited to polysomes to promote translation elongation (By similarity). In mitochondrion, specifically interacts with mt-tRNA(Met) and mediates oxidation of mt-tRNA(Met) methylated at cytosine(34) to form 5-formylcytosine (f(5)c) at this position (By similarity). mt-tRNA(Met) containing the f(5)c modification at the wobble position enables recognition of the AUA codon in addition to the AUG codon, expanding codon recognition in mitochondrial translation (By similarity). Specifically demethylates DNA methylated on the 6th position of adenine (N(6)-methyladenosine) DNA (PubMed:27027282). N(6)-methyladenosine (m6A) DNA is present at some L1 elements in embryonic stem cells and probably promotes their silencing (PubMed:27027282). Also able to repair alkylated single-stranded DNA and RNA containing 3-methylcytosine by oxidative demethylation, but with low activity (By similarity). Also has DNA lyase activity and introduces double-stranded breaks at abasic sites: cleaves both single-stranded DNA and double-stranded DNA at abasic sites, with the greatest activity towards double-stranded DNA with two abasic sites (By similarity). DNA lyase activity does not require alpha-ketboglutarate and iron and leads to the formation of an irreversible covalent protein-DNA adduct with the 5' DNA product (By similarity). DNA lyase activity is not required during base excision repair and class switch recombination of the immunoglobulin heavy chain during B lymphocyte activation (PubMed:23825659). May play a role in placental trophoblast lineage differentiation (PubMed:18163532).[UniProtKB/Swiss-Prot Function]