

Tet1 recombinant protein

Recombinant Tet1 (1418-2136) protein

CATALOG # AAA59668	HOST Baculovirus
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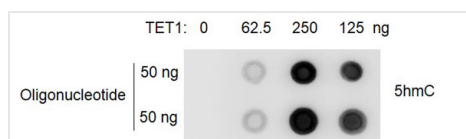
PRODUCT SYNONYMS

Tet1; Recombinant Tet1 (1418-2136) protein; LCX; CXXC6; MLL-TET1; TET1-MLL; bA119F7.1; Tet1 recombinant protein

PRODUCT SPECIFICATIONS

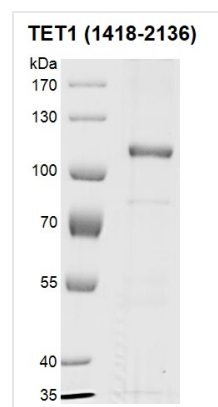
Host	Baculovirus
Purity/Purification	The purity of the protein is >75% by SDS-PAGE.
Form/Format	Recombinant TET1 (1418-2136) protein is supplied in 25mM HEPES-NaOH pH7.5, 300mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5mM TCEP.
Protein Species	Human
Tag	DYKDDDDK-Tag, His-Tag
Notes	Recombinant TET1 (1418-2136) protein is suitable for use in cytosine oxygenase assays, enzyme kinetics, inhibitor screening, and selectivity profiling. TET Activity Assay Conditions: 250nm of 30bp DNA oligos (sequence: 5'-CAGTAACTGTGGTC(mC)GGTAACTGACTTGCA-3', contains a 5mCpG site) was incubated with 100nm recombinant TET1 (1418-2136) protein in buffer containing 50mM HEPES, pH 8.0, 100uM Fe(NH4)2(SO4)2, 2mM ascorbate, 1mM alpha-ketoglutarate, 1mM ATP, 1mM TCEP at 37C for 1 hr. Activity was detected by Dot-blot.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



DB (Dot Blot)

Dot Blot analysis for recombinant TET1 (1418-2136) protein. M/b> 0.5 uM of 30 base oligonucleotide (contains a 5mCpG) was incubated with 0 (-), 125 (+), 250 (++) and 500 (+++) ng TET1(1418-2136) protein, respectively, in buffer containing 50 mM HEPES pH 7.9, 50 ?M Fe(NH4)2(SO4)2, 1 mM ascorbate, 100 uM alpha-ketoglutarate, 200 uM ATP, 1 mM TCEP at RT for 1 hour. Sample was concentrated to 5 ul, and a 2 ul sample was spotted onto positively charged nitrocellulose membrane. 5hmC antibody was used to detect the generation of products.



SDS-PAGE

Recombinant TET1 (1418-2136) protein gel. Recombinant TET1 (1418-2136) protein was run on a 10% SDS-PAGE gel and stained with Coomassie blue. MW: 84.3 kDa Purity:> 80%

ADDITIONAL INFORMATION

Related Product Information for Tet1 recombinant protein	Short Description: Recombinant TET1 (1418-2136) protein that includes amino acids 1418-2136 of human TET1 (accession number NP_085128.2) was expressed in a baculovirus expression system and contains an N-terminal 6xHis-tag and DYKDDDDK-Tag with a molecular weight of 84.3 kDa. The purity of the protein is >75% by SDS-PAGE. It is suitable for use in cytosine oxygenase assays, enzyme kinetics, inhibitor screening, and selectivity profiling. Background: TET (Ten Eleven Translocation) family proteins are cytosine oxygenases that catalyze the conversion of 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC). 5hmC can be further oxidized into 5-formylcytosine (5fC) and 5-carboxylcytosine (5caC) by TET proteins. Methylation at the C5 position of cytosine is an epigenetic modification of the mammalian genome that plays an important role in transcriptional regulation. TET proteins are responsible for initiating the enzymatic deamination process leading to cytosine demethylation. TET1 preferentially binds to CpG-rich sequences at the promoters of both transcriptionally active and Polycomb-repressed genes and modulates gene silencing induced by cytosine methylation by controlling the levels of 5-mC and 5-hmC at gene promoters. TET1 may have the dual function of repressing the expression of a subset of genes through recruitment of transcriptional repressors to promoters. TET1 is important for stem cell maintenance and specification and is involved in the balance between pluripotency and lineage commitment. TET1 plays an important role in regulating adult hippocampal neurogenesis and cognition
Product Categories/Family for Tet1 recombinant protein	Recombinant Proteins; Cytosine Oxygenase (TET)

NCBI AND UNIPROT INFORMATION

NCBI GI #	156139121
NCBI GeneID	80312
NCBI Accession #	NP_085128.2
NCBI GenBank Nucleotide #	NM_030625
UniProt Accession #	Q8NFU7; Q5VUP7; Q7Z6B6; Q8TCR1; Q9C0I7
Molecular Weight	~110 kDa
NCBI Official Full Name	Homo sapiens tet methylcytosine dioxygenase 1 (TET1), mRNA
NCBI Official Synonym Full Names	tet methylcytosine dioxygenase 1
NCBI Official Symbol	TET1
NCBI Official Synonym Symbols	LCX; CXXC6; bA119F7.1
NCBI Protein Information	methylcytosine dioxygenase TET1; CXXC finger 6; tet oncogene 1; CXXC zinc finger 6; ten-eleven translocation-1; CXXC-type zinc finger protein 6; ten-eleven translocation 1 gene protein; leukemia-associated protein with a CXXC domain
UniProt Protein Name	Methylcytosine dioxygenase TET1
UniProt Gene Name	TET1
UniProt Synonym Gene Names	CXXC6; KIAA1676; LCX
UniProt Entry Name	TET1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.