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TET1 Rabbit pAb

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Catalog # AP59025

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8NFU7
Reactivity	Human, Mouse
Predicted	Rat, Pig, Dog, Rabbit, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	235309
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TET1
Epitope Specificity	1501-1680/2136
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	TET1 (tet oncogene 1), also known as LCX or CXXC6, is a 2,136 amino acid protein that localizes to the nucleus and contains one CXXC-type zinc finger. Expressed in adult ovary, thymus and skeletal muscle and also present in fetal lung, heart and brain, TET1 is thought to play a role in the development of fetal organs and may also be involvement in the pathoegenesis and metastasis of acute myeloid leukemia (AML). The gene encoding TET1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

Additional Information

Gene ID	80312
Other Names	Methylcytosine dioxygenase TET1, 1.14.11.80, CXXC-type zinc finger protein 6, Leukemia-associated protein with a CXXC domain, Ten-eleven translocation 1 gene protein, TET1 {ECO:0000303|PubMed:28397838, ECO:0000312|HGNC:HGNC:29484}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:50-200,Flow-Cyt=2ug/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name

TET1 {ECO:0000303|PubMed:28397838, ECO:0000312|HGNC:HGNC:29484}

Function

Dioxygenase that plays a key role in active DNA demethylation, by catalyzing the sequential oxidation of the modified genomic base 5-methylcytosine (5mC) into 5-hydroxymethylcytosine (5hmC), 5-formylcytosine (5fC), and 5-carboxylcytosine (5caC) (PubMed:19372391, PubMed:21496894, PubMed:21778364, PubMed:35798741). In addition to its role in DNA demethylation, plays a more general role in chromatin regulation by recruiting histone modifying protein complexes to alter histone marks and chromatin accessibility, leading to both activation and repression of gene expression (PubMed:33833093). Plays therefore a role in many biological processes, including stem cell maintenance, T- and B-cell development, inflammation regulation, genomic imprinting, neural activity or DNA repair (PubMed:31278917). Involved in the balance between pluripotency and lineage commitment of cells and plays a role in embryonic stem cells maintenance and inner cell mass cell specification. Together with QSER1, plays an essential role in the protection and maintenance of transcriptional and developmental programs to inhibit the binding of DNMT3A/3B and therefore de novo methylation (PubMed:33833093). May play a role in pancreatic beta-cell specification during development. In this context, may function as an upstream epigenetic regulator of PAX4 presumably through direct recruitment by FOXA2 to a PAX4 enhancer to preserve its unmethylated status, thereby potentiating PAX4 expression to adopt beta-cell fate during endocrine lineage commitment (PubMed:35798741). Under DNA hypomethylation conditions, such as in female meiotic germ cells, may induce epigenetic reprogramming of pericentromeric heterochromatin (PCH), the constitutive heterochromatin of pericentromeric regions. PCH forms chromocenters in the interphase nucleus and chromocenters cluster at the prophase of meiosis. In this context, may also be essential for chromocenter clustering in a catalytic activity-independent manner, possibly through the recruitment polycomb repressive complex 1 (PRC1) to the chromocenters (By similarity). During embryonic development, may be required for normal meiotic progression in oocytes and meiotic gene activation (By similarity). Binds preferentially to DNA containing cytidine-phosphate- guanosine (CpG) dinucleotides over CpH (H=A, T, and C), hemimethylated- CpG and hemimethylated-hydroxymethyl-CpG (PubMed:29276034).

Cellular Location

Nucleus {ECO:0000250|UniProtKB:Q3URK3}. Chromosome. Note=Localization to chromatin is promoted by monoubiquitination on Lys-1589 [Isoform 2]: Nucleus. Chromosome {ECO:0000250|UniProtKB:Q3URK3}. Note=During DNA replication, localizes to sites of ongoing DNA replication in heterochromatin (in late S phase) in an UHRF1- and CRL4(VprBP)-dependent manner, as a consequence of ubiquitination of the conserved residue Lys-1589. Localization to heterochromatin is independent of catalytic activity

Tissue Location

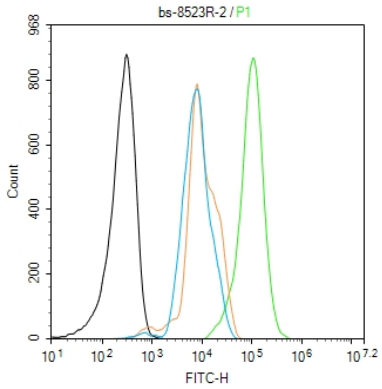
Expressed in fetal heart, lung and brain, and in adult skeletal muscle, thymus and ovary. Not detected in adult heart, lung or brain. Up-regulated in glioblastoma cells (at protein level) (PubMed:25284789).

Background

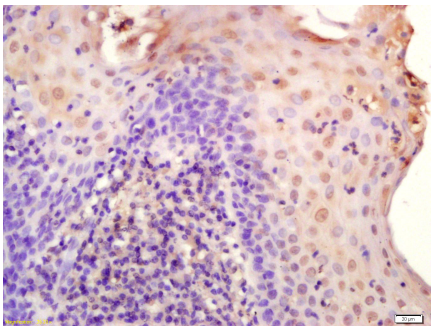
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic

applications.

Images



Blank control(black line):HepG2.
Primary Antibody (green line): Rabbit Anti-TET1 antibody (AP59025)
Dilution:2ug/Test;
Secondary Antibody(white blue line): Goat anti-rabbit IgG-FITC
Dilution: 0.5ug/Test.
Isotype control(orange line): Normal Rabbit IgG
Protocol
The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20℃, The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Tissue/cell: human laryngocarcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-TET1 Polyclonal Antibody, Unconjugated(AP59025) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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