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LCX / TET1 Antibody (C-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS17089

Specification

LCX / TET1 Antibody (C-Terminus) - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	Q8NFU7
Other Accession	80312
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**235309**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **IF~~1:50~200** **E~~N/A**

LCX / TET1 Antibody (C-Terminus) - Additional Information

Gene ID 80312

Other Names
TET1, CXXC6, CXXC finger 6, Tet oncogene 1, BA119F7.1, CXXC zinc finger 6, KIAA1676, LCX, Ten-eleven translocation-1

Target/Specificity
TET1 antibody is human, mouse and rat reactive. This antibody is predicted to not cross-react with TET2 and TET3.

Reconstitution & Storage
PBS, 0.02% sodium azide. Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

Precautions
LCX / TET1 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

LCX / TET1 Antibody (C-Terminus) - 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:<a

href="http://www.uniprot.org/citations/35798741" target="_blank">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).

LCX / TET1 Antibody (C-Terminus) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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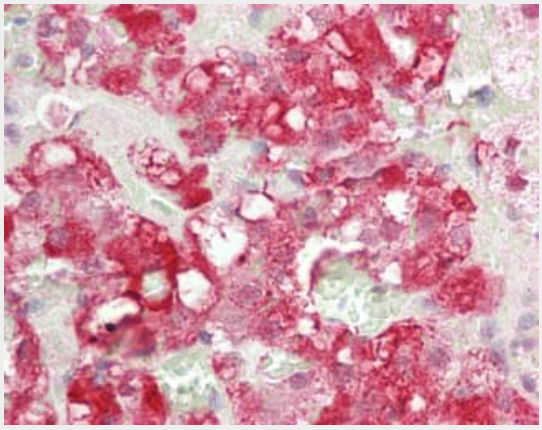
LCX / TET1 Antibody (C-Terminus) - Images



Human Adrenal: Formalin-Fixed, Paraffin-Embedded (FFPE)

LCX / TET1 Antibody (C-Terminus) - Background

Dioxygenase that catalyzes the conversion of the modified genomic base 5-methylcytosine (5mC) into 5- hydroxymethylcytosine (5hmC) and plays a key role in active DNA demethylation. Also mediates subsequent conversion of 5hmC into 5- formylcytosine (5fC), and conversion of 5fC to 5-carboxylcytosine (5caC). Conversion of 5mC into 5hmC, 5fC and 5caC probably constitutes the first step in cytosine demethylation. Methylation at the C5 position of cytosine bases is an epigenetic modification of the mammalian genome which plays an important role in transcriptional regulation. In addition to its role in DNA demethylation, plays a more general role in chromatin regulation. Preferentially binds to CpG-rich sequences at promoters of both transcriptionally active and Polycomb-repressed genes. Involved in the recruitment of the O-GlcNAc transferase OGT to CpG-rich transcription start sites of active genes, thereby promoting histone H2B GlcNAcylation by OGT. Also involved in transcription repression of a subset of genes through recruitment of transcriptional repressors to promoters. Involved in the balance between pluripotency and lineage commitment of cells it plays a role in embryonic stem cells maintenance and inner cell mass cell specification.

LCX / TET1 Antibody (C-Terminus) - References

Ono R.,et al.Cancer Res. 62:4075-4080(2002).
Deloukas P.,et al.Nature 429:375-381(2004).
Nagase T.,et al.DNA Res. 7:347-355(2000).
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Lorsbach R.B.,et al.Leukemia 17:637-641(2003).