

Product datasheet for **MC229698**

Tet1 (NM_001253857) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Tet1 (NM_001253857) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Tet1
Synonyms:	2510010B09Rik; AA517754; BB001228; Cxxc6; D10Ertd17e; LCX; mKIAA1676
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>MC229698 representing NM_001253857 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCTCGGTCCC GCCCGCAAAGCCTTCCAATCAGTCAAACAAGCTACAGAAAAAGAAAGACATCC
AGATGAAGACGAAGACATCAAAGCAGGCTGTGAGACATGGGGCATCAGCGAAGGCAGTGAACCCCGGAAA
ACCGAAGCAATTAATTAAGAAGAGATGGTAAGAAGGAAACGGAAGACAAAACCCGACACCGGCCGCC
AGTTTTCTGACGCGAGCCGGGGCCGCCGAATGAATCGGGATCGAAACCAAGTTCTTTTTCAGAACCAG
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GAGCCGGGGTAAAGCACTCTGAAAATGATTCAGTCCCCAGCCAACACGCTACCGTGTCCCAGGCACAG
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AGCAGACTTGAGCTCACAAGTAGAGTCTATCAAGCTGTCTGATCCTTCTCGAATCCTACGGGAAGCGAC
CATAATGGCTTTCCAGACTCCAGTTTTAGGATCGTTCTGAATTGGACCTGAAAACCTGCATGCCCTTTG
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CTTTTCCCAGCCGTCCCACAAGGGTTTACAGTCGCAGCCGAGAATGAAGTCCAGCATGCCCCATTAGATC
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 TCCTTCTCGAGTTGCATCAACCTTAACCCGAGACAATGTTGTACCAGTGTCCCATACTCTCACTCAT
 GTTGCGGGACCCTACAATCGTTGGGCTAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM_001253857
- Insert Size:** 6120 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
- RefSeq:** [NM_001253857.1](#), [NP_001240786.1](#)
- RefSeq Size:** 14082 bp
- RefSeq ORF:** 6120 bp
- Locus ID:** 52463
- Cytogenetics:** 10 32.48 cM

Gene Summary:

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. Plays an essential role in the tumorigenicity of glioblastoma cells. TET1-mediated production of 5hmC acts as a recruitment signal for the CHTOP-methylosome complex to selective sites on the chromosome, where it methylates H4R3 and activates the transcription of genes involved in glioblastomagenesis (PubMed:25284789).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1). Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.