

## Product datasheet for MR231909

### Tet1 (NM\_001253857) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Tet1 (NM_001253857) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Tet1
Synonyms:	2510010B09Rik; AA517754; BB001228; Cxxc6; D10Ert17e; LCX; mKIAA1676
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR231909 representing NM_001253857 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGTCTCGGTCCC GCCCCGCAAAGCCTTCAAATCAGTCAAACAAGCTACAGAAAAAGAAAGACATCC  
AGATGAAGACGAAGACATCAAAGCAGGCTGTCAGACATGGGCATCAGCGAAGGCAGTGAACCCCGGAAA  
ACCGAAGCAATTAATTAAGAAGAGATGGTAAGAAGGAAACGGAAGACAAAACCCGACACCGGCCCG  
AGTTTTCTGACGCGAGCCGGGGCCGCCGAATGAATCGGGATCGAAACCAAGTTCTTTTTAGAACCAG  
ACTCCTTAACCTGCAACGGGTTACAATGGCTCTTCGAAGAACCTCTTAGCTGGCGACTCTCCACGC  
CCCAGTAGTCACACCCAAACCTAAGAAAGTACCACCTTCAAAGAAGCAGTGTACACATAATCCAGGAC  
GAGCCGGGGTAAAGCACTCTGAAAATGATTAGTCCCGCAACACGCTACCGTGTCCCAGGCACAG  
AGAATGGTGAACAGAAGGTGTTAGTTGAAGGGGAGAGCCAAGAGATAACCCAGTCTTGCCCTGTATT  
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TTACCCAGGGTTCTCAGGCTGCTCCCAGCAAACCTGGAAGGAGAGATTTCTCGGGTCAGCATCACTGGCTC  
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 TCCTTCTCGAGTGCATCAACCTTAACCCGAGACAATGTTGTACCAGTGTCCCATACTCTCTACTCAT  
 GTTGCGGGACCCTACAATCGTTGGGTC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR231909 representing NM\_001253857  
 Red=Cloning site Green=Tags(s)

MSRSRPAKPSKSVKTKLQKKKDIQMKTKTSKQAVRHGASAKAVNPGKPKQLIKRRDGKKETEDKTPTPAP  
 SFLTRAGAARMNRDRNQVLFQNPDSLTCNGFTMALRRTSLSWRLSQRPVVTPKPKVPPSKKQCTHNIQD  
 EPGVKHSENDVSPSQHATVSPGTENGEQNRCLVEGESQEITQSCPVEERIEDTQSCISASGNLEAEISW  
 PLEGTCEELLHQSTSDNECTSPQECALPQRSTSEVTSQKNTSNQLADLSSQVESIKLSDPSNPPTGSD  
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 HLAEGQVKGSCDANLTGVENPQPSDEDDKQTNPSPTFAQTIRNGMKNVHCLPTDTHLPLNKLNHEEFKA  
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 PPEKVPNKEPKDGSVPQPSLLSLMKDRRLTLEQVVAIEALQLEAPSESSSPKPEKDEEAHQKTASLL  
 NSCKAILHSVRKDLQDPNVQKGLHHDVVFNGQNRFTKSPDSFATNQALIKSQGYSSPTAEKKAAGG  
 RAPFDGFENSHPLPIESHNLNCSQVLSQDQNLSSHDPSCQDAPYSQIEEDVAAQLTQLASTINHINAEV  
 RNAESTPESLVAKNTKQKHSQEKRMVHQKPPSSTQTKPSVPSAKPKKAQKKARATPHANKRKKKPPARSS  
 QENDQKKQEQLAIEYSKMMDIWMSSKFQRFQSSPRSFVLLRNIPVFNQILKPVTSKTPSQHNELFPP  
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 METRFQGGKGAIRIEKIVFTGKEGKSSQGPVAKWVIRRSPEEKLICLVRERVDHHCSTAVIVLILLW  
 EGIPRLMADRLYKELTENLRSYSGHPTDRRCTLNKKRTCTCQIDPKTCGASFSGCSWSMYFNGCKFGR  
 SENPRKFR LAPNYPLHNYKRI TGMSSGSDVKTGWIIPDRKTLISREKQLEKNLQELATVLAPLYKQM  
 APVAYQNQVEYEEVAGDCRLGNEEGRPFSGVTCCMDFCAHSHKDIHNMHNGSTVVCTLIRADGRDTCPE  
 DEQLHVLPLYRLADTDFGSGVEGMKAKIKSGAIQVNGPTRKRRLRFTEPVPRCGKRAKMKQNHNSGSHN  
 TKFSFSSASTSHLVKDESTDFCPLQASSAETSTCTYSKTASGGFAETSSILHCTMPGSAHSGANAAAGEC  
 TGTVQPAEVAAPHQSLPTADSPVHAEP L TSPSEQLTSNQSNQQLPLLSNSQKLASCQVEDERHPEADEP  
 QHPEDDNLPLDEFWSDSEIYADPSFGGVAIAPIHGSLVIECARKELHATTSLRSPKRGVPRVSLVFY  
 QHKS LNKP NHGFDINKIKCKCKKVTKKKPADRECPDVSPEANLSHQIPSRVASTL TRDNVTVSPYSLTH  
 VAGPYNRWW

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI



**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\\_001253857.2](#)

**RefSeq Size:** 14082 bp

**RefSeq ORF:** 6120 bp

**Locus ID:** 52463

**Cytogenetics:** 10 32.48 cM

**MW:** 223.4 kDa

**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]