TET2 cDNA Clone – Tet Oncogene Family Member 2 (Human)

PRODUCT OVERVIEW

Product Name	TET2, cDNA Clone
Full Product Name	TET2 cDNA Clone
Product Gene Name	TET2 cdna clone
Sequence	ATGCAGAATG GCAGCACATT GGTATGCACT CTCACTAGAG AAGACAATCG AGAATTTGGA GGAAAACCTG AGGATGAGCA GCTTCACGTT CTGCCTTTAT ACAAAGTCTC TGACGTGGAT GAGTTTGGGA GTGTGGAAGC TCAGGAGGAG AAAAAACGGA GTGGTGCCAT TCAGGTACTG AGTTCTTTTC GGCGAAAAGT CAGGATGTTA GCAGAGCCAG TCAAGACTTG CCGACAAAGG AAACTAGAAG CCAAGAAAGC TGCAGCTGAA AAGCTTTCCT CCCTGGAGAA CAGCTCAAAT AAAAATGAAA AGGAAAAGTC AGCCCCATCA CGTACAAAAC AAACTGAAAA CGCAAGCCAG GCTAAACAGT TGGCAGAACT TTTGCGACTT TCAGGACCAG TCATGCAGCA GTCCCAGCAG CCCCAGCCTC TACAGAAGCA GCCACCACAG CCCCAGCAGC AGCAGAGACC CCAGCAGCAG CAGCCACATC ACCCTCAGAC AGAGTCTGTC AACTCTTATT CTGCTTCTGG ATCCACCAAT CCATACATGA GACGGCCCAA TCCAGTTAGT CCTTATCCAA ACTCTTCACA CACTTCAGAT ATCTATGGAA GCACCAGCCC TATGAACTTC TATTCCACCT CATCTCAAGC TGCAGGTTCA TATTTGAATT CTTCTAATCC CATGAACCCT TACCCTGGGC TTTTGAATCA GAATACCCAA TATCCATCAT ATCAATGCAA TGGAAACCTA TCAGTGGACA ACTGCTCCCC ATATCTGGGT TCCTATTCTC CCCAGTCTCA GCCGATGGAT CTGTATAGGT ATCCAAGCCA AGACCCTCTG TCTAAGCTCA GTCTACCACC CATCCATACA CTTTACCAGC CAAGGTTTGG AAATAGCCAG AGTTTTACAT CTAAATACTT AGGTTATGGA AACCAAAATA TGCAGGGAGA TGGTTTCAGC AGTTGTACCA TTAGACCAAA TGTACATCAT GTAGGGAAAT TGCCTCCTTA TCCCACTCAT GAGATGGATG GCCACTTCAT GGGAGCCACC TCTAGATTAC CACCCAATCT GAGCAATCCA AACATGGACT ATAAAAATGG TGAACATCAT TCACCTTCTC ACGTAATCCA TAACTACAGT GCAGCTCCGG GCATGTTCAA CAGCTCTCTT CATGCCCTGC ATCTCCAAAA CAAGGAGAAT GACATGCTTT CCCACACAGC TAATGGGTTA TCAAAGATGC TTCCAGCTCT TAACCATGAT AGAACTGCTT GTGTCCAAGG AGGCTTACAC AAATTAAGTG ATGCTAATGG TCAGGAAAAG CAGCCATTGG CACTAGTCCA GGGTGTGGCT TCTGGTGCAG AGGACAACGA TGAGGTCTGG TCAGACAGCG AGCAGAGCTT TCTGGATCCT GACATTGGGG GAGTGGCCGT GGCTCCAACT CATGGGTCAA TTCTCATTGA GTGTGCAAAG CGTGAGCTGC ATGCCACAAC CCCTTTAAAG AATCCCAATA GGAATCACCC CACCAGGATC TCCCTCGTCT TTTACCAGCA TAAGAGCATG AATGAGCCAA AACATGGCTT GGCTCTTTGG GAAGCCAAAA TGGCTGAAAA AGCCCGTGAG AAAGAGGAAG AGTGTGAAAA GTATGGCCCA GACTATGTGC CTCAGAAATC CCATGGCAAA AAAGTGAAAC GGGAGCCTGC TGAGCCACAT GAAACTTCAG AGCCCACTTA CCTGCGTTTC ATCAAGTCTC TTGCCGAAAG GACCATGTCC GTGACCACAG ACTCCACAGT AACTACATCT CCATATGCCT TCACTCGGGT CACAGGGCCT TACAACAGAT ATATATGA
Molecular Weight	133,481 Da
OMIM	263300
Vector	pENTR223.1 or pUC
Clone Sequence Report	Provided with product shipment
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for TET2 cdna clone	MBS1267958 is a cDNA clone targeting TET2.
Other Notes	Small volumes of TET2 cdna clone vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TET2. It may not necessarily be applicable to this product.

NCBI GI #	117167822

NCBI GeneID	54790
NCBI Accession #	BC110510
UniProt Secondary Accession #	Q2TB88; Q3LIB8; Q96JX5; Q9HCM6; Q9NXW0; B5MDU0
UniProt Related Accession #	Q6N021
NCBI Official Full Name	Homo sapiens tet oncogene family member 2, mRNA
NCBI Official Synonym Full Names	tet methylcytosine dioxygenase 2
NCBI Official Symbol	TET2
NCBI Official Synonym Symbols	MDS; KIAA1546
UniProt Protein Name	Methylcytosine dioxygenase TET2
Protein Family	Methylcytosine dioxygenase
UniProt Gene Name	TET2
UniProt Synonym Gene Names	KIAA1546
UniProt Entry Name	TET2_HUMAN
NCBI Protein Information	methylcytosine dioxygenase TET2
NCBI Summary for TET2	The protein encoded by this gene is a methylcytosine dioxygenase that catalyzes the conversion of methylcytosine to 5-hydroxymethylcytosine. The encoded protein is involved in myelopoiesis, and defects in this gene have been associated with several myeloproliferative disorders. Two variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2011]

UniProt Comments for TET2	TET2: Catalyzes the conversion of methylcytosine (5mC) to 5- hydroxymethylcytosine (hmC). Plays an important role in myelopoiesis. The clear function of 5-hydroxymethylcytosine (hmC) is still unclear but it may influence chromatin structure and recruit specific factors or may constitute an intermediate component in cytosine demethylation. TET2 is frequently mutated in myeloproliferative disorders (MPD). These constitute a heterogeneous group of disorders, also known as myeloproliferative diseases or myeloproliferative neoplasms (MPN), characterized by cellular proliferation of one or more hematologic cell lines in the peripheral blood, distinct from acute leukemia. Included diseases are: essential thrombocythemia, polycythemia vera, primary myelofibrosis (chronic idiopathic myelofibrosis). Bone marrow samples from patients display uniformly low levels of hmC in genomic DNA compared to bone marrow samples from healthy controls as well as hypomethylation relative to controls at the majority of differentially methylated CpG sites. Defects in TET2 are a cause of polycythemia vera (PV). A myeloproliferative disorder characterized by abnormal proliferation of all hematopoietic bone marrow elements, erythroid hyperplasia, an absolute increase in total blood volume, but also by myeloid leukocytosis, thrombocytosis and splenomegaly. TET2 is frequently mutated in systemic mastocytosis; also known as systemic mast cell disease. A condition with features in common with myeloproliferative diseases. It is a clonal disorder of the mast cell and its precursor cells. The clinical symptoms and signs of systemic mastocytosis are due to accumulation of clonally derived mast cells in different tissues, including bone marrow, skin, the gastrointestinal tract, the liver, and the spleen. Defects in TET2 are a cause of myelodysplastic syndrome (MDS). A heterogeneous group of closely related clonal hematopoietic disorders. All are characterized by a hypercellular or hypocellular bone marrow with impaired morphology and maturation, dysplasia of the myeloid, megakaryocytic and/or erythroid lineages, and peripheral blood cytopenias resulting from ineffective blood cell production. Included diseases are: refractory anemia (RA), refractory anemia with ringed sideroblasts (RARS), refractory anemia with excess blasts (RAEB), refractory cytopenia with multilineage dysplasia and ringed sideroblasts (RCMD-RS). Chronic myelomonocytic leukemia (CMML) is a myelodysplastic/myeloproliferative disease. Myelodysplastic syndromes are considered a premalignant condition in a subgroup of patients that often progresses to acute myeloid leukemia (AML). Bone marrow samples from patients display uniformly low levels of hmC in genomic DNA compared to bone marrow samples from healthy controls as well as hypomethylation relative to controls at the majority of differentially methylated CpG sites. Belongs to the TET family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Tumor suppressor; Oxidoreductase; EC 1.14.11.n2 Chromosomal Location of Human Ortholog: 4q24 Molecular Function: ferrous iron binding; protein binding; zinc ion binding Biological Process: 5-methylcytosine catabolic process; myeloid cell differentiation; positive regulation of transcription from RNA polymerase II promoter; protein amino acid O-linked glycosylation Disease: Myelodysplastic Syndrome
Research Articles on TET2	**1.** BRLF1 BRLF1 BRLF1
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