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TET2 Antibody

Catalog # ASC11778

Product Information

Application	WB, E
Primary Accession	Q6N021
Other Accession	NP_001120680, 187761317
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	223811
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TET2 antibody can be used for detection of TET2 by Western blot at 1 - 2 g/ml.

Additional Information

Gene ID	54790
Other Names	Methylcytosine dioxygenase TET2, 1.14.11.n2, TET2, KIAA1546
Target/Specificity	TET2; TET2 antibody is human and mouse reactive. At least two isoforms of TET2 are known to exist; this antibody will detect the larger isoforms. This antibody is predicted to not cross-react with TET1 and TET3.
Reconstitution & Storage	TET2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	TET2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TET2
Synonyms	KIAA1546
Function	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. Has a preference for 5-hydroxymethylcytosine in CpG motifs. 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, also 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.
Cellular Location	Nucleus. Chromosome. Note=Localization to chromatin depends upon monoubiquitination at Lys-1299.
Tissue Location	Broadly expressed. Highly expressed in hematopoietic cells; highest expression observed in granulocytes Expression is reduced in granulocytes from peripheral blood of patients affected by myelodysplastic syndromes.

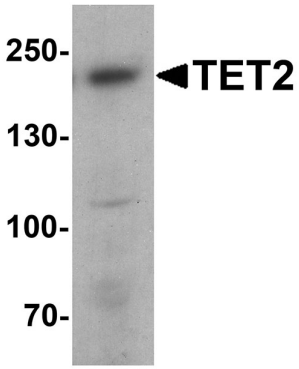
Background

TET2, a member of the ten-eleven-translocation (TET) family of genes, is a methylcytosine dioxygenase that catalyzes the conversion of methylcytosine to 5-hydroxymethylcytosine. It is a candidate tumor suppressor gene reported to be mutated in approximately 14% of patients with JAK2V617F-positive myeloproliferative neoplasms (1), and can be mutated in other hematopoietic disorders such as myelodysplastic syndromes, acute myeloid leukemia, and chronic myelomonocytic leukemia (2). Analysis of the TET2 and JAK2 mutations in these neoplasms suggests that mutations in TET2 do not represent a predisposition for acquiring mutations in JAK2.

References

Tefferi A, Levine RL, Lim KH, et al. Frequent TET2 mutations in systemic mastocytosis: clinical, KITD816V and FIPL1-PDGFRA correlates. Leukemia 2009; 23:900-4.
Schaub FX, Looser R, Li S, et al. Clonal analysis of TET2 and JAK2 mutations suggests that TET2 can be a late event in the progression of myeloproliferative neoplasms. Blood 2011; 115:2003-7.

Images



Western blot analysis of TET2 in 3T3 cell lysate with TET2 antibody at 1 µg/ml.

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