

TET1 (4F4): sc-293186

BACKGROUND

TET1 (tet oncogene 1), also known as LCX or CXXC6, is a 2,136 amino acid protein that localizes to the nucleus and contains one CXXC-type zinc finger. Expressed in adult ovary, thymus and skeletal muscle and also present in fetal lung, heart and brain, TET1 is thought to play a role in the development of fetal organs and may also be involvement in the pathogenesis and metastasis of acute myeloid leukemia (AML). The gene encoding TET1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

- Rowley, J.D. 1998. The critical role of chromosome translocations in human leukemias. *Annu. Rev. Genet.* 32: 495-519.
- Aventín, A., et al. 1999. Involvement of MLL gene in a t(10;11)(q22;q23) and a t(8;11)(q24;q23) identified by fluorescence *in situ* hybridization. *Cancer Genet. Cytogenet.* 108: 48-52.

CHROMOSOMAL LOCATION

Genetic locus: TET1 (human) mapping to 10q21.3.

SOURCE

TET1 (4F4) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to amino acids 2038-2136 of TET1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TET1 (4F4) is recommended for detection of TET1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TET1 siRNA (h): sc-90457, TET1 shRNA Plasmid (h): sc-90457-SH and TET1 shRNA (h) Lentiviral Particles: sc-90457-V.

Molecular Weight of TET1: 235 kDa.

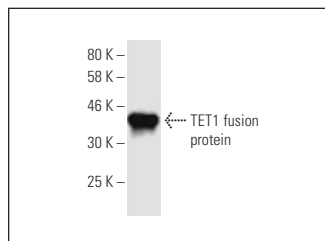
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TET1 (4F4): sc-293186. Western blot analysis of human recombinant TET1 fusion protein.

SELECT PRODUCT CITATIONS

- Li, Y., et al. 2018. MicroRNA-4284 promotes gastric cancer tumorigenicity by targeting ten-eleven translocation 1. *Mol. Med. Rep.* 17: 6569-6575.
- Mudersbach, T., et al. 2019. Epigenetic control of the angiotensin-converting enzyme in endothelial cells during inflammation. *PLoS ONE* 14: e0216218.
- Gao, L., et al. 2020. MSTN mutant promotes myogenic differentiation by increasing demethylase TET1 expression via the Smad2/Smad3 pathway. *Int. J. Biol. Sci.* 16: 1324-1334.
- Kaur, G., et al. 2020. Regulation of DNA methylation signatures on NFκB and Stat3 pathway genes and TET activity in cigarette smoke extract-challenged cells/COPD exacerbation model *in vitro*. *Cell Biol. Toxicol.* 36: 459-480.
- Li, Y., et al. 2021. MiR-93-5p knockdown repressed hepatocellular carcinoma progression via increasing ERBB4 and TET-dependent DNA demethylation. *Autoimmunity* 54: 547-560.
- Liao, C.G., et al. 2022. Active demethylation upregulates CD147 expression promoting non-small cell lung cancer invasion and metastasis. *Oncogene* 41: 1780-1794.
- Wang, X., et al. 2022. N-3 polyunsaturated fatty acid dehydrogenase fat-1 regulates mitochondrial energy metabolism by altering DNA methylation in isolated cells of transgenic cattle. *Front. Mol. Biosci.* 9: 857491.
- Hains, A.E., et al. 2022. MYCN and HIF-1 directly regulate TET1 expression to control 5-hmC gains and enhance neuroblastoma cell migration in hypoxia. *Epigenetics* 17: 2056-2074.
- Ding, H., et al. 2023. RASAL2 deficiency attenuates hepatic steatosis by promoting hepatic VLDL secretion via the AKT/TET1/MTTP axis. *J. Clin. Transl. Hepatol.* 11: 261-272.

RESEARCH USE

For research use only, not for use in diagnostic procedures.