

TET2 (C-7): sc-398535

BACKGROUND

TET2 (Tet oncogene family member 2), also known as KIAA1546, is a 2,002 amino acid protein that is expressed in a variety of tissues, including brain, kidney, heart, lung, muscle and stomach, and exists as three alternatively spliced isoforms. Murine TET2 is also known as protein Ayu17-449 and is thought to play a role in proper kidney development and overall kidney function, as well as in hormone secretion throughout the body. The gene encoding human TET2 maps to chromosome 4q24 and the gene encoding mouse TET2 maps to chromosome 3 G3. Chromosome 4 encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease. Murine chromosome 3 houses over 1,300 genes, some of which express alcohol dehydrogenases (ADHs), sodium channel modifiers (SCNMs), interleukins (ILs) and Insulin receptor-related (IRR) proteins. Defects in chromosome 3-localized genes are associated with hereditary congenital facial paresis (HCFP), increased susceptibility to spontaneous colitis, HIV-1-associated nephropathy, decreased renal vascular health and malignant sporadic pancreatic endocrine tumors.

CHROMOSOMAL LOCATION

Genetic locus: TET2 (human) mapping to 4q24.

SOURCE

TET2 (C-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of TET2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TET2 (C-7) is available conjugated to agarose (sc-398535 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398535 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398535 PE), fluorescein (sc-398535 FITC), Alexa Fluor[®] 488 (sc-398535 AF488), Alexa Fluor[®] 546 (sc-398535 AF546), Alexa Fluor[®] 594 (sc-398535 AF594) or Alexa Fluor[®] 647 (sc-398535 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398535 AF680) or Alexa Fluor[®] 790 (sc-398535 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TET2 (C-7) is recommended for detection of TET2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TET2 siRNA (h): sc-88934, TET2 shRNA Plasmid (h): sc-88934-SH and TET2 shRNA (h) Lentiviral Particles: sc-88934-V.

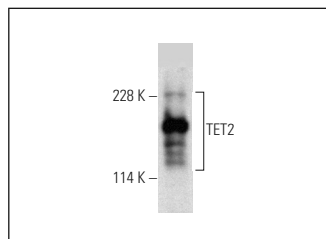
Molecular Weight of TET2: 224 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

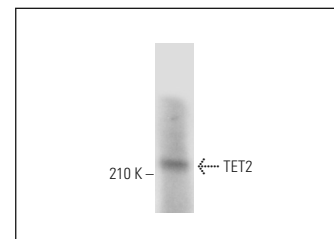
STORAGE

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

DATA



TET2 (C-7) HRP: sc-398535 HRP. Direct western blot analysis of TET2 expression in ES-D3 whole cell lysate.



TET2 (C-7): sc-398535. Western blot analysis of TET2 expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

- Salati, S., et al. 2017. Deregulated expression of miR-29a-3p, miR-494-3p and miR-660-5p affects sensitivity to tyrosine kinase inhibitors in CML leukemic stem cells. *Oncotarget* 8: 49451-49469.
- Zhang, X., et al. 2017. PI3K/Akt/mTOR signaling mediates valproic acid-induced neuronal differentiation of neural stem cells through epigenetic modifications. *Stem Cell Reports* 8: 1256-1269.
- Duforestel, M., et al. 2019. Glyphosate primes mammary cells for tumorigenesis by reprogramming the epigenome in a TET3-dependent manner. *Front. Genet.* 10: 885.
- 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 TETs-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.
- Hu, X.Q., et al. 2023. TET2 confers a mechanistic link of microRNA-210 and mtROS in hypoxia-suppressed spontaneous transient outward currents in uterine arteries of pregnant sheep. *J. Physiol.* E-published.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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