SANTA CRUZ BIOTECHNOLOGY, INC.

TET2 (S-13): sc-136926

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 3 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 4 and the gene encoding mouse TET2 maps to chromosome 3. 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.

REFERENCES

1. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 273-281.
2. Guo, S.S., et al. 2002. Frequent deletion of chromosome 3 in malignant sporadic pancreatic endocrine tumors. Mol. Cell. Endocrinol. 190: 109-114.
3. Okazaki, N., et al. 2003. Prediction of the coding sequences of mouse homologues of KIAA gene: III. The complete nucleotide sequences of 500 mouse KIAA-homologous cDNAs identified by screening of terminal sequences of cDNA clones randomly sampled from size-fractionated libraries. DNA Res. 10: 167-180.

CHROMOSOMAL LOCATION

Genetic locus: TET2 (human) mapping to 4q24; Tet2 (mouse) mapping to 3 G3.

SOURCE

TET2 (S-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TET2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136926 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TET2 (S-13) is recommended for detection of TET2 of mouse and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with family members TET1 and TET3.

Suitable for use as control antibody for TET2 siRNA (h): sc-88934, TET2 siRNA (m): sc-154205, TET2 shRNA Plasmid (h): sc-88934-SH, TET2 shRNA Plasmid (m): sc-154205-SH, TET2 shRNA (h) Lentiviral Particles: sc-88934-V and TET2 shRNA (m) Lentiviral Particles: sc-154205-V.

Molecular Weight of TET2: 224 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Deplus, R., et al. 2013. TET2 and TET3 regulate GlcNAcylation and H3K4 methylation through OGT and SET1/COMPASS. EMBO J. 32: 645-655.
2. Di Stefano, B., et al. 2014. C/EBPα poises B cells for rapid reprogramming into induced pluripotent stem cells. Nature 506: 235-239.

RESEARCH USE

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

PROTOCOLS

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