SANTA CRUZ BIOTECHNOLOGY, INC.

SETD4 (F-3): sc-514060

BACKGROUND

SETD4 (SET domain-containing protein 4) is a 440 amino acid protein that contains one SET domain and is expressed as three isoforms produced by alternative splicing. The gene that encodes SETD4 maps to human chromosome 21q22.12. The smallest of the human chromosomes, 21 makes up about 1.5% of the human genome. Chromosome 21 contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21. Translocations are found to occur between chromosome 21 and 8, and chromosome 21 and 12, in certain leukemias.

CHROMOSOMAL LOCATION

Genetic locus: SETD4 (human) mapping to 21q22.12; Setd4 (mouse) mapping to 16 C4.

SOURCE

SETD4 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 24-51 near the N-terminus of SETD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SETD4 (F-3) is available conjugated to agarose (sc-514060 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514060 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514060 PE), fluorescein (sc-514060 FITC), Alexa Fluor® 488 (sc-514060 AF488), Alexa Fluor® 546 (sc-514060 AF546), Alexa Fluor® 594 (sc-514060 AF594) or Alexa Fluor® 647 (sc-514060 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514060 AF680) or Alexa Fluor® 790 (sc-514060 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514060 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SETD4 (F-3) is recommended for detection of SETD4 of mouse, rat and 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 SETD4 siRNA (h): sc-91446, SETD4 siRNA (m): sc-153385, SETD4 shRNA Plasmid (h): sc-91446-SH, SETD4 shRNA Plasmid (m): sc-153385-SH, SETD4 shRNA (h) Lentiviral Particles: sc-91446-V and SETD4 shRNA (m) Lentiviral Particles: sc-153385-V.

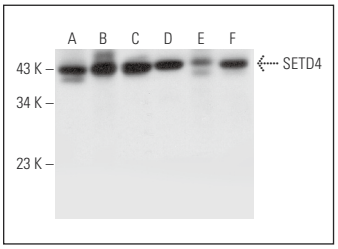
Molecular Weight of SETD4: 44 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or human testis extract: sc-363781.

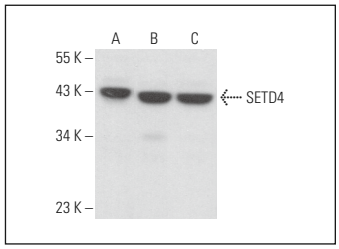
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SETD4 (F-3): sc-514060. Western blot analysis of SETD4 expression in rat cerebellum (**A**) and human testis (**B**) tissue extracts and HL-60 (**C**), K-562 (**D**), HEK293 (**E**) and Hep G2 (**F**) whole cell lysates.



SETD4 (F-3): sc-514060. Western blot analysis of SETD4 expression in AMJ2-C8 (**A**), TF-1 (**B**) and SW480 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ye, S., et al. 2019. SET domain-containing protein 4 epigenetically controls breast cancer stem cell quiescence. Cancer Res. 79: 4729-4743.
2. Xing, S., et al. 2021. Setd4 controlled quiescent c-Kit+ cells contribute to cardiac neovascularization of capillaries beyond activation. Sci. Rep. 11: 11603.
3. Tian, J.Z., et al. 2021. SETD4-expressing cells contribute to pancreatic development and response to cerulein induced pancreatitis injury. Sci. Rep. 11: 12614.
4. Wang, Y., et al. 2023. SETD4 confers cancer stem cell chemoresistance in nonsmall cell lung cancer patients via the epigenetic regulation of cellular quiescence. Stem Cells Int. 2023: 7367854.

STORAGE

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

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.