

Set1A (G-6): sc-515590

BACKGROUND

The SET domain containing proteins, Set1A and Set1B, are both widely expressed proteins sharing 39% amino acid sequence identity. Both proteins contain SET and post-SET domains at their C-termini and an RNA recognition domain at their N-termini. They associate separately with the Set1 histone methyltransferase complex (a complex that is analogous to the *S. cerevisiae* Set1/COMPASS complex) and function as the catalytic subunit, catalyzing H3-Lys4 methyltransferase reactions. The Set1 complex also contains the non-catalytic subunits CGBP, ASH2L, WDR5, WDR82 and RBQ-3. Set1A, also known as SETD1A or KMT2F, localizes to a set of euchromatic nuclear speckles that does not overlap with the localization of Set1B (also referred to as SETD1B or KMT2G). This unique subnuclear localization suggests that Set1A and Set1B bind to a distinct set of target genes, thus implying a non-redundant function of Set1A and Set1B.

CHROMOSOMAL LOCATION

Genetic locus: SETD1A (human) mapping to 16p11.2; Setd1a (mouse) mapping to 7 F3.

SOURCE

Set1A (G-6) is a mouse monoclonal antibody raised against amino acids 163-255 mapping near the N-terminus of Set1A of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Set1A (G-6) is available conjugated to agarose (sc-515590 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515590 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515590 PE), fluorescein (sc-515590 FITC), Alexa Fluor® 488 (sc-515590 AF488), Alexa Fluor® 546 (sc-515590 AF546), Alexa Fluor® 594 (sc-515590 AF594) or Alexa Fluor® 647 (sc-515590 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515590 AF680) or Alexa Fluor® 790 (sc-515590 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Set1A (G-6) is recommended for detection of Set1A 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 Set1A siRNA (h): sc-76484, Set1A siRNA (m): sc-76485, Set1A shRNA Plasmid (h): sc-76484-SH, Set1A shRNA Plasmid (m): sc-76485-SH, Set1A shRNA (h) Lentiviral Particles: sc-76484-V and Set1A shRNA (m) Lentiviral Particles: sc-76485-V.

Molecular Weight of Set1A: 186 kDa.

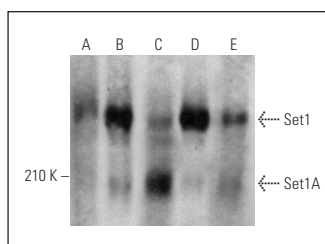
Molecular Weight of Set1 complex: 450 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, PC-3 cell lysate: sc-2220 or HeLa whole cell lysate: sc-2200.

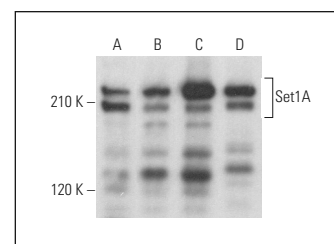
RECOMMENDED SUPPORT REAGENTS

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



Set1A (G-6): sc-515590. Western blot analysis of Set1A expression in IMR-32 (A), HeLa (B), NIH/3T3 (C) and PC-3 (D) whole cell lysates and human testis tissue extract (E).



Set1A (G-6): sc-515590. Western blot analysis of Set1A expression in HeLa (A), DU 145 (B), Neuro-2A (C) and 3T3-L1 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Su, P.H., et al. 2019. Paired box-1 (PAX1) activates multiple phosphatases and inhibits kinase cascades in cervical cancer. *Sci. Rep.* 9: 9195.
- Wang, R., et al. 2021. An SETD1A/Wnt/β-catenin feedback loop promotes NSCLC development. *J. Exp. Clin. Cancer Res.* 40: 318.
- Wang, S., et al. 2022. Loss-of-function variants in the schizophrenia risk gene SETD1A alter neuronal network activity in human neurons through the cAMP/PKA pathway. *Cell Rep.* 39: 110790.
- Zhou, J., et al. 2022. An oncogenic JMJD6-DGAT1 axis tunes the epigenetic regulation of lipid droplet formation in clear cell renal cell carcinoma. *Mol. Cell.* E-published.

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.

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