SANTA CRUZ BIOTECHNOLOGY, INC.

SET7/9 (C-11): sc-390823

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The methylation of histones plays a pivotal role in the regulation of chromatin structure and gene expression. Histone methylation can occur on Arg or Lys residues, with an exquisite site selectivity for Lys methylation at specific positions in the N-termini of Histones H3 and H4. SET7/9, a histone methyltransferase (HMTase), which transfers methyl groups to Lys4 of Histone H3, forms a complex with S-adenosyl-L-methionine. This complex contains an active site consisting of a binding pocket where an AdoMet molecule in an unusual conformation binds, a narrow substrate-specific channel that only unmethylated lysine residues can access and a catalytic tyrosine residue.

CHROMOSOMAL LOCATION

Genetic locus: SETD7 (human) mapping to 4q31.1; Setd7 (mouse) mapping to 3 C.

SOURCE

SET7/9 (C-11) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of SET7/9 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.

SET7/9 (C-11) is available conjugated to agarose (sc-390823 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390823 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390823 PE), fluorescein (sc-390823 FITC), Alexa Fluor® 488 (sc-390823 AF488), Alexa Fluor® 546 (sc-390823 AF546), Alexa Fluor® 594 (sc-390823 AF594) or Alexa Fluor® 647 (sc-390823 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390823 AF680) or Alexa Fluor® 790 (sc-390823 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SET7/9 (C-11) is recommended for detection of SET7/9 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 SET7/9 siRNA (h): sc-44094, SET7/9 siRNA (m): sc-45883, SET7/9 shRNA Plasmid (h): sc-44094-SH, SET7/9 shRNA Plasmid (m): sc-45883-SH, SET7/9 shRNA (h) Lentiviral Particles: sc-44094-V and SET7/9 shRNA (m) Lentiviral Particles: sc-45883-V.

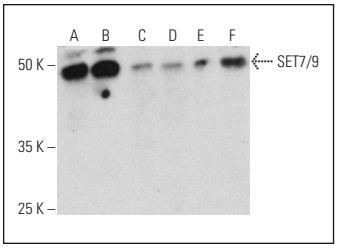
Molecular Weight of SET7/9: 50 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa nuclear extract: sc-2120 or NIH/3T3 whole cell lysate: sc-2210.

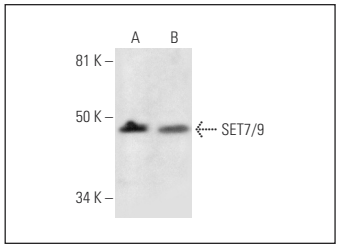
RECOMMENDED SUPPORT REAGENTS

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



SET7/9 (C-11): sc-390823. Western blot analysis of SET7/9 expression in A549 (**A**), MCF7 (**B**), RAW 264.7 (**C**), Sol8 (**D**), PC-12 (**E**) and C6 (**F**) whole cell lysates.



SET7/9 (C-11): sc-390823. Western blot analysis of SET7/9 expression in HeLa nuclear extract (**A**) and NIH/3T3 whole cell lysate (**B**).

SELECT PRODUCT CITATIONS

1. Nayak, A., et al. 2019. Regulation of SETD7 methyltransferase by SENP3 is crucial for sarcomere organization and cachexia. Cell Rep. 27: 2725-2736.e4.
2. Liu, X., et al. 2020. High glucose-induced oxidative stress accelerates myogenesis by altering SUMO reactions. Exp. Cell Res. 395: 112234.
3. Kwon, D.H., et al. 2021. SRF is a nonhistone methylation target of KDM2B and SET7 in the regulation of skeletal muscle differentiation. Exp. Mol. Med. 53: 250-263.

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.