# SANTA CRUZ BIOTECHNOLOGY, INC.

# Pr-Set7 (D-11): sc-377034



# 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. Pr-Set7, also referred to as SET8, is a nucleosome-specific monomethylase that specifically methylates H4 at Lys 20, a mark of constitutive and facultative heterochromatin. Pr-Set7 is a single subunit enzyme and prefers nucleosomal substrates. It functions to regulate cell-cycle-dependent transcriptional silencing and mitotic regulation in metazoans. The amino acid sequence RHRKVLRDN (17-25) is required for the SET domain of Pr-Set7 to function and, thus, for multiplicity of methylation of Lys 20 of H4 to occur. The methylation mark is very stable and is maintained even in the absence of Pr-Set7.

# CHROMOSOMAL LOCATION

Genetic locus: KMT5A (human) mapping to 12q24.31; Setd8 (mouse) mapping to 5 F.

## SOURCE

Pr-Set7 (D-11) is a mouse monoclonal antibody raised against amino acids 94-393 mapping at the C-terminus of Pr-Set7 of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  lgG\_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pr-Set7 (D-11) is available conjugated to agarose (sc-377034 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377034 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377034 PE), fluorescein (sc-377034 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377034 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377034 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377034 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377034 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377034 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377034 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Pr-Set7 (D-11) is recommended for detection of Pr-Set7 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 Pr-Set7 siRNA (h): sc-62852, Pr-Set7 siRNA (m): sc-155946, Pr-Set7 shRNA Plasmid (h): sc-62852-SH, Pr-Set7 shRNA Plasmid (m): sc-155946-SH, Pr-Set7 shRNA (h) Lentiviral Particles: sc-62852-V and Pr-Set7 shRNA (m) Lentiviral Particles: sc-155946-V.

Molecular Weight of Pr-Set7: 43 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, K-562 whole cell lysate: sc-2203 or PC-3 cell lysate: sc-2220.

#### **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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA





Pr-Set7 (D-11): sc-377034. Western blot analysis of Pr-Set7 expression in HEL 92.1.7 (**A**), DU 145 (**B**), F9 (**C**), PC-12 (**D**), 3T3-L1 (**E**) and THP-1 (**F**) whole cell lysates. Pr-Set7 (D-11): sc-377034. Western blot analysis of Pr-Set7 expression in HEL 92.1.7 (A), K-562 (B), PC-3 (C), Daudi (D) and NIH/3T3 (E) whole cell lysates

#### SELECT PRODUCT CITATIONS

- 1. Fukuura, K., et al. 2019. The ubiquitin-specific protease USP17 prevents cellular senescence by stabilizing the methyltransferase SET8 and transcriptionally repressing p21. J. Biol. Chem. 294: 16429-16439.
- 2. Chin, H.G., et al. 2020. The microtubule-associated histone methyltransferase SET8, facilitated by transcription factor LSF, methylates  $\alpha$ -Tubulin. J. Biol. Chem. 295: 4748-4759.
- Lu, X., et al. 2021. RNF8-ubiquitinated KMT5A is required for RNF168induced H2A ubiquitination in response to DNA damage. FASEB J. 35: e21326.
- Wang, K., et al. 2021. Di-methylation of CD147-K234 promotes the progression of NSCLC by enhancing lactate export. Cell Metab. 33: 160-173.e6.

## **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.