

SM6006**Monoclonal Antibody to Human SET7/9****Alternate names:**

H3-K4-HMTase SETD7, Histone H3-K4 methyltransferase SETD7, Histone-lysine N-methyltransferase SETD7, KIAA1717, KMT7, Lysine N-methyltransferase 7, SET domain-containing protein 7, SET7, SET7/9

Quantity:

0.1 ml

Concentration:

1.0 mg/ml

Background:

Set7/9 is a histone methyltransferase (HMTase) that transfers methyl group to Lys4 of histone H3, in complex with S-adenosyl-L-methionine (AdoMet). The methylation of lysine residues of histones plays a critical role in the regulation of chromatin structure and gene expression.

Acetylation, phosphorylation and methylation of the amino-terminal tails of histone are thought to be involved in the regulation of chromatin structure and function. The enzymes identified in the methylation of specific lysine residue on histones belong to the SET family with just one exception. Set7/9, unlike most other SET proteins, is exclusively a mono-methylase.

Uniprot ID:

[Q8WTS6](#)

NCBI:

[NP_085151.1](#)

GenelD:

[80854](#)

Host / Isotype:

Mouse / IgG2b

Recommended Isotype Controls:

SM12P, AM03110PU-N

Clone:

s4E5

Immunogen:

Recombinant Human SET7/9 protein (1-366aa) purified from *E. coli*

Format:

State: Liquid purified IgG fraction

Purification: Affinity Chromatography on Protein G

Buffer System: PBS, pH 7.4 containing 0.02% Sodium Azide and 10% Glycerol

Applications:

ELISA.

Western blot: 1/500-1/2,000.

Recommended Starting Dilution: 1/1,000.

Immunohistochemistry on Paraffin Sections: 5 µg/ml after heat induced antigen retrieval in pH 6.0 citrate buffer.

Immunocytochemistry / Immunofluorescence.

Flow cytometry.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

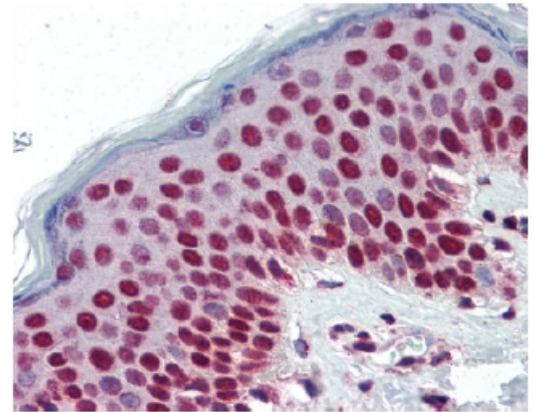
Specificity:

The antibody recognizes Human SET7/9.
Other species not tested.

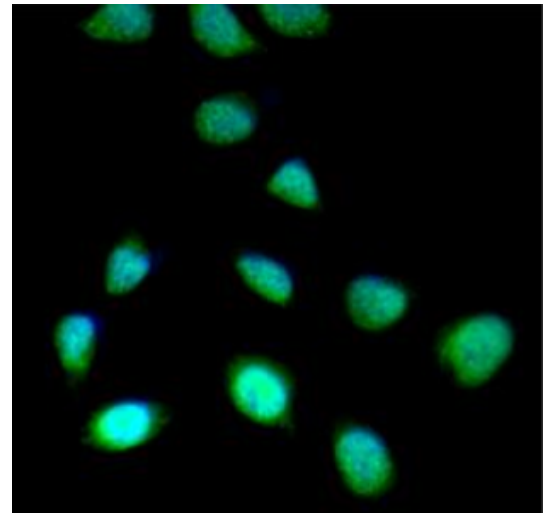
- Add. Information:** Predicted Molecular Weight: 50 kDa.
- Storage:** Store undiluted at 2-8°C for up to two weeks or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
- General Readings:**
1. Protein demethylation required for DNA methylation. Hotz HR, Peters AH. *Nat Genet.* 2009 Jan;41(1):10-1.
 2. Xiao B, Jing C, Wilson JR, Walker PA, Vasisht N, Kelly G, et al. Structure and catalytic mechanism of the human histone methyltransferase SET7/9. *Nature.* 2003 Feb 6;421(6923):652-6. Epub 2003 Jan 22. PubMed PMID: 12540855.
 3. Kwon T, Chang JH, Kwak E, Lee CW, Joachimiak A, Kim YC, et al. Mechanism of histone lysine methyl transfer revealed by the structure of SET7/9-AdoMet. *EMBO J.* 2003 Jan 15;22(2):292-303. PubMed PMID: 12514135.
 4. Nishioka K, Chuikov S, Sarma K, Erdjument-Bromage H, Allis CD, Tempst P, et al. Set9, a novel histone H3 methyltransferase that facilitates transcription by precluding histone tail modifications required for heterochromatin formation. *Genes Dev.* 2002 Feb 15;16(4):479-89. PubMed PMID: 11850410.

Pictures:

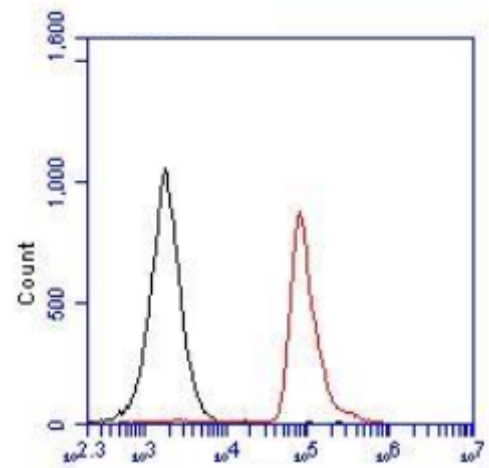
Figure 3. SM6006 SETD7 antibody staining of Formalin-Fixed, Paraffin-Embedded Human Skin at 5 µg/ml followed by biotinylated anti-Mouse IgG secondary antibody, Alkaline Phosphatase-Streptavidin and chromogen.



ICC/IF analysis of SET7/9 in HeLa cells line, stained with DAPI (Blue) for nucleus staining and monoclonal anti human SET7 /9 antibody (1: 100) with goat anti mouse IgG - Alexa fluor 488 conjugate (Green).



Flow cytometry analysis of SET7/9 in Jurkat cell line, staining at 2-5ug for 1×10^6 cells (red line). The secondary antibody used goat anti mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).



Western blot analysis: The Cell lysates (5 ug) were resolved by SDS - PAGE, transferred to PVDF membrane and probed with anti - human SET7/9 antibody (1: 2 000). Proteins were visualized using a goat anti - mouse secondary antibody conjugated to HRP and an ECL detection system.
 Lane 1.: 293T cell lysate
 Lane 2.: SET7/9 transfected 293T cell lysate

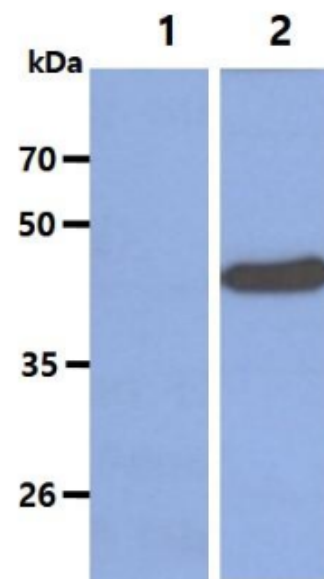


Figure 2. SM6006 SETD7 antibody staining of Formalin-Fixed, Paraffin-Embedded Human Breast at 5 $\mu\text{g}/\text{ml}$ followed by biotinylated anti-Mouse IgG secondary antibody, Alkaline Phosphatase-Streptavidin and chromogen.

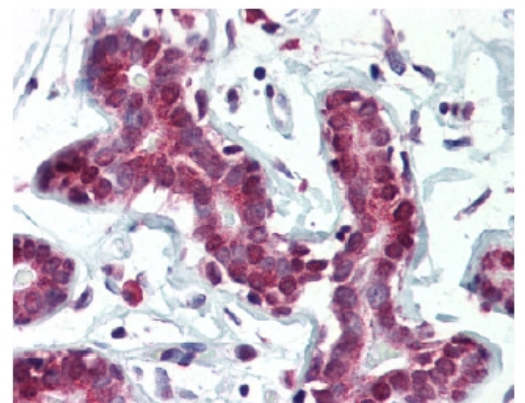


Figure 1. Immunoblot analysis:

Recombinant SET7/9 was resolved by electrophoresis, transferred to PVDF membrane and probed with anti-SET7/9 (1/1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and a DAP detection system. Arrow indicates SET7/9 (~50 kDa).

