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SET7 (SET9) Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1194c

Specification

SET7 (SET9) Antibody (Center) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q8WTS6
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**40721**
Antigen Region	**159-189**

SET7 (SET9) Antibody (Center) - Additional Information

Gene ID 80854

Other Names
Histone-lysine N-methyltransferase SETD7, Histone H3-K4 methyltransferase SETD7, H3-K4-HMTase SETD7, Lysine N-methyltransferase 7, SET domain-containing protein 7, SET7/9, SETD7, KIAA1717, KMT7, SET7, SET9

Target/Specificity
This SET7 (SET9) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 159-189 amino acids from the Central region of human SET7 (SET9).

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
SET7 (SET9) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

SET7 (SET9) Antibody (Center) - Protein Information

Name SETD7

Function Histone methyltransferase that specifically monomethylates 'Lys-4' of histone H3 (PubMed:11779497, PubMed:11850410, PubMed:12588998, PubMed:12540855, PubMed:16141209). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed:12588998, PubMed:12540855, PubMed:16141209). Plays a central role in the transcriptional activation of genes such as collagenase or insulin (PubMed:16141209, PubMed:12588998). Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription (PubMed:16141209). Has also methyltransferase activity toward non- histone proteins such as CGAS, p53/TP53, TAF10, and possibly TAF7 by recognizing and binding the [KR]-[STA]-K in substrate proteins (PubMed:15099517, PubMed:35210392, PubMed:15525938, PubMed:16415881). Monomethylates 'Lys-189' of TAF10, leading to increase the affinity of TAF10 for RNA polymerase II (PubMed:15099517, PubMed:16415881). Monomethylates 'Lys-372' of p53/TP53, stabilizing p53/TP53 and increasing p53/TP53-mediated transcriptional activation (PubMed:17108971, PubMed:15525938, PubMed:16415881). Monomethylates 'Lys-491' of CGAS, promoting interaction between SGF29 and CGAS (By similarity).

Cellular Location
Nucleus. Chromosome

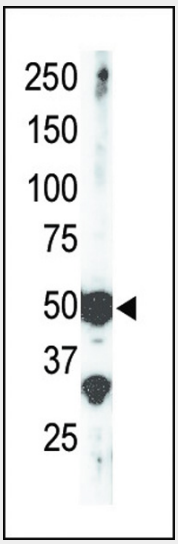
Tissue Location
Widely expressed. Expressed in pancreatic islets.

SET7 (SET9) Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

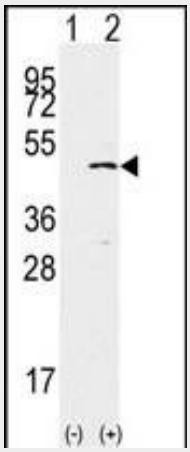
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SET7 (SET9) Antibody (Center) - Images

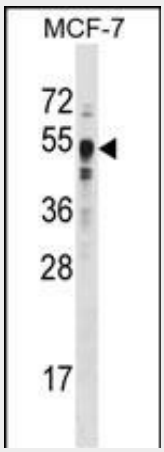


The anti-SET9 Pab (Cat. #AP1194c) is used in Western blot to detect SET9 in mouse brain tissue

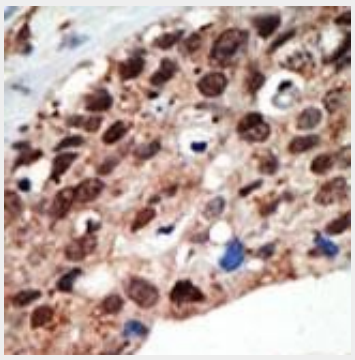
lysate.



Western blot analysis of SET9(arrow) using rabbit polyclonal SET9 Antibody(Cat. #AP1194c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the SET9 gene (Lane 2) (Origene Technologies).



SET9 Antibody (S174) (Cat. #AP1194c) western blot analysis in MCF-7 cell line lysates (35ug/lane).This demonstrates the SET9 antibody detected the SET9 protein (arrow).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

SET7 (SET9) Antibody (Center) - Background

Similar to acetylation and phosphorylation, histone methylation at the N-terminal tail has emerged

as an important role in regulating chromatin dynamics and gene activity. Histone methylation occurs on arginine and lysine residues and is catalyzed by two families of proteins, the protein arginine methyltransferase family and the SET-domain-containing methyltransferase family. Five members have been identified in the arginine methyltransferase family. About 27 are grouped into the SET-domain family, and another 17 make up the PR domain family that is related to the SET domain family. The retinoblastoma protein-interacting zinc finger geneRIZ1 is a tumor suppressor gene and a FOUNDING member of the PR domain family. RIZ1 inactivation is commonly found in many types of human cancers and occurs through loss of mRNA expression, frame shift mutation, chromosomal deletion, and missense mutation. RIZ1 is also a tumor susceptibility gene in mice. The loss of RIZ1 mRNA in human cancers was shown to associate with DNA methylation of its promoter CpG island. Methylation of the RIZ1 promoter strongly correlated with lost or decreased RIZ1 mRNA expression in breast, liver, colon, and lung cancer cell lines as well as in liver cancer tissues.

SET7 (SET9) Antibody (Center) - References

Wysocka, J., et al., Genes Dev. 17(7):896-911 (2003). Xiao, B., et al., Nature 421(6923):652-656 (2003). Kwon, T., et al., EMBO J. 22(2):292-303 (2003). Nishioka, K., et al., Genes Dev. 16(4):479-489 (2002). Wilson, J.R., et al., Cell 111(1):105-115 (2002).