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SET7 (SET9) Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1194c

Product Information

Application	WB, IHC-P, E
Primary Accession	Q8WTS6
Reactivity	Human, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB2763
Calculated MW	40721
Antigen Region	159-189

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~~1:100~500 E~~Use at an assay dependent concentration.
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.

Protein Information

Name	SETD7
Function	Histone methyltransferase that specifically monomethylates 'Lys-4' of histone H3 (PubMed:11779497, PubMed:11850410, PubMed:12540855,

PubMed:12588998, PubMed:16141209). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed:12540855, PubMed:12588998, PubMed:16141209). Plays a central role in the transcriptional activation of genes such as collagenase or insulin (PubMed:12588998, PubMed:16141209). Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription (PubMed:16141209). Also has methyltransferase activity toward non- histone proteins such as CGAS, GLI3, p53/TP53, TAF10, and possibly TAF7 by recognizing and binding the [KR]-[STA]-K in substrate proteins (PubMed:15099517, PubMed:15525938, PubMed:16415881, PubMed:27146893, PubMed:35210392). 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:15525938, PubMed:16415881, PubMed:17108971). Monomethylates 'Lys-491' of CGAS, promoting interaction between SGF29 and CGAS (By similarity). Acts as a positive regulator of smoothened signaling by mediating methylation of full-length GLI3, increasing GLI3 ability to bind DNA (PubMed:27146893).

Cellular Location Nucleus. Chromosome

Tissue Location Widely expressed. Expressed in pancreatic islets.

Background

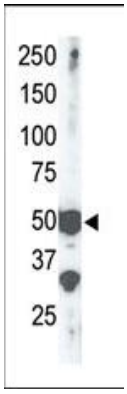
Similar to acetylation and phosphorylation, histone methylation at the N-terminal tail has emerged as an important role in regulating chromatin dynamics and gene activity. Histone methylation occurs on arginine and lysine residues and is catalyzed by two families of proteins, the protein arginine methyltransferase 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.

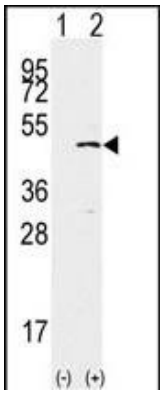
References

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).

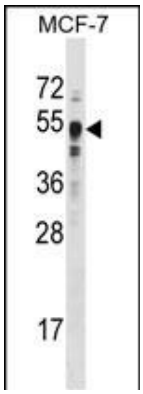
Images

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

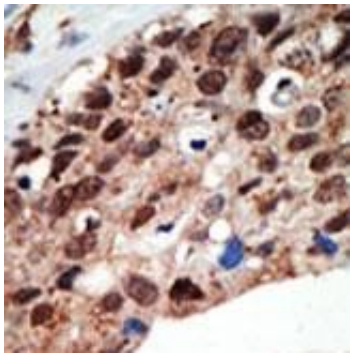




Western blot analysis of SET9(arrow) using rabbit polyclonal SET9 Antibody(Cat. #AP1194c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the SET9 gene (Lane 2) (Origene Technologies).



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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.