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SET07 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1191b

Product Information

Application	WB, E
Primary Accession	Q9NQR1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1417
Calculated MW	42890
Antigen Region	362-393

Additional Information

Gene ID	387893
Other Names	N-lysine methyltransferase SETD8, 211-, H4-K20-HMTase SETD8, Histone-lysine N-methyltransferase SETD8, Lysine N-methyltransferase 5A, PR/SET domain-containing protein 07, PR-Set7, PR/SET07, SET domain-containing protein 8, SETD8, KMT5A, PRSET7, SET07, SET8
Target/Specificity	This SET07 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 362-393 amino acids from the C-terminal region of human SET07.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	SET07 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KMT5A (HGNC:29489)
Function	Protein-lysine N-methyltransferase that monomethylates both histones and non-histone proteins (PubMed:12086618, PubMed:12121615,

	PubMed:15964846, PubMed:17707234, PubMed:27338793). Specifically monomethylates 'Lys-20' of histone H4 (H4K20me1) (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599, PubMed:27338793). H4K20me1 is enriched during mitosis and represents a specific tag for epigenetic transcriptional repression (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599). Mainly functions in euchromatin regions, thereby playing a central role in the silencing of euchromatic genes (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599). Required for cell proliferation, probably by contributing to the maintenance of proper higher-order structure of DNA during mitosis (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599). Involved in chromosome condensation and proper cytokinesis (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599). Nucleosomes are preferred as substrate compared to free histones (PubMed:12086618, PubMed:12121615, PubMed:15200950, PubMed:15933069, PubMed:15933070, PubMed:15964846, PubMed:16517599). Mediates monomethylation of p53/TP53 at 'Lys-382', leading to repress p53/TP53-target genes (PubMed:17707234). Plays a negative role in TGF- beta response regulation and a positive role in cell migration (PubMed:23478445).
Cellular Location	Nucleus. Chromosome. Note=Specifically localizes to mitotic chromosomes (PubMed:12208845). Colocalized with SIRT2 at mitotic foci (PubMed:23468428). Associates with chromosomes during mitosis; association is increased in a H(2)O(2)-induced oxidative stress- dependent manner (PubMed:23468428). Associates with silent chromatin on euchromatic arms (PubMed:12086618). Not associated with constitutive heterochromatin (PubMed:12086618).

Background

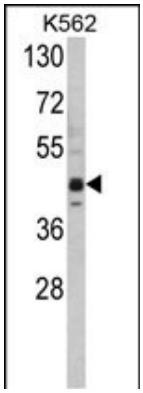
SET07 is a histone methyltransferase that methylates Lys-20 of histone H4. H4 Lys-20 methylation represents a specific tag for epigenetic transcriptional repression. The nuclear SET07 protein, which associates with silent chromatin on euchromatic arms but shows no association with constitutive heterochromatin, prefers nucleosomes as substrate compared to free histones. It appears that SET07 may play a role in maintaining silent chromatin by preventing neighboring acetylation of H4 tail. Although the SET domain contains the active site of enzymatic activity, both sequences upstream and downstream of the SET domain are required for methyltransferase activity.

References

Nishioka, K., et al., Mol. Cell 9(6):1201-1213 (2002).
Fang, J., et al., Curr. Biol. 12(13):1086-1099 (2002).

Images

Western blot analysis of SET07 Antibody (C-term) (Cat. #AP1191b) in K562 cell line lysates (35ug/lane). SET07 (arrow) was detected using the purified Pab.



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