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SET07 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1191a

Specification

SET07 Antibody - Product Information

Application	**WB, IF, IHC-P,E**
Primary Accession	Q9NQR1
Reactivity	**Human**
Predicted	**Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**

SET07 Antibody - 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 was raised using purified recombinant GST fusion protein encoding the N-terminal region of human SET07.

Dilution
WB~~1:2000
IF~~1:10~50
IHC-P~~1:10~50

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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 is for research use only and not for use in diagnostic or therapeutic procedures.

SET07 Antibody - 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).

SET07 Antibody - 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

SET07 Antibody - Images

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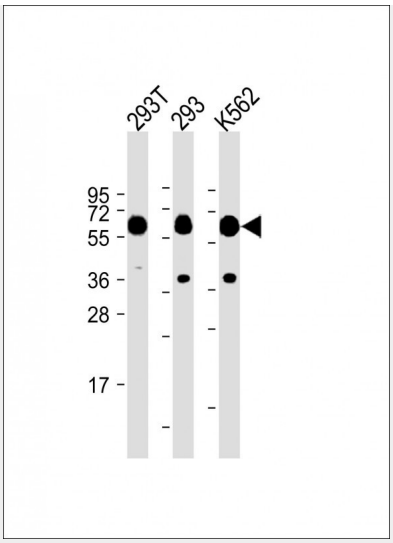
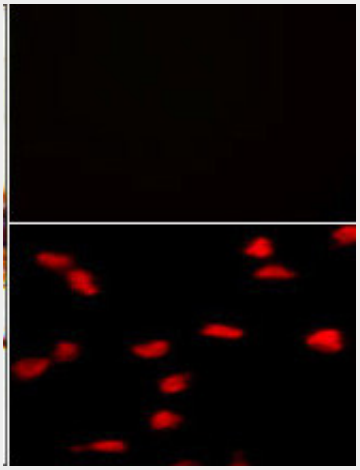
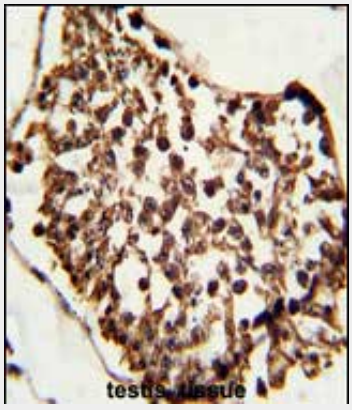


All lanes :SET07 Antibody at 1:2000 dilution Lane 1: 293T whole cell lysate Lane 2: 293 whole cell lysate Lane 3: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 43 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



(TOP)Negative control of hela cells without PE-conjugated goat anti-mouse IgG (whole molecule).PE-conjugated goat anti-mouse IgG emits red fluorescence. (Bottom)Immunofluorescence analysis of SET07 Antibody in HeLa cells. 0.025 mg/ml primary antibody was followed by PE-conjugated goat anti-mouse IgG (whole molecule).



Formalin-fixed and paraffin-embedded human testis tissue reacted with SET07 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.

SET07 Antibody - References

An miR-502-binding site single-nucleotide polymorphism in the 3'-untranslated region of the SET8 gene is associated with early age of breast cancer onset. Song F, et al. Clin Cancer Res, 2009 Oct 1. PMID 19789321.
Product specificity and mechanism of protein lysine methyltransferases: insights from the histone lysine methyltransferase SET8. Zhang X, et al. Biochemistry, 2008 Jun 24. PMID 18512960.
Catalytic function of the PR-Set7 histone H4 lysine 20 monomethyltransferase is essential for mitotic entry and genomic stability. Houston SI, et al. J Biol Chem, 2008 Jul 11. PMID 18480059.
PR-Set7 establishes a repressive trans-tail histone code that regulates differentiation. Sims JK, et al. Mol Cell Biol, 2008 Jul. PMID 18474616.
SET8 plays a role in controlling G1/S transition by blocking lysine acetylation in histone through binding to H4 N-terminal tail. Yin Y, et al. Cell Cycle, 2008 May 15. PMID 18418072.

SET07 Antibody - Citations

- Epidermal stem cells are defined by global histone modifications that are altered by Myc-induced differentiation.