

SET07 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8434

Product Information

Application	IF, IHC-P, WB, E
Primary Accession	Q9NQR1
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	43AT551.86.76
Calculated MW	42890

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 a mouse immunized with SET07 recombinant protein.
Dilution	IF~1:25 IHC-P~1:100~500 WB~1:1000 E~Use at an assay dependent concentration.
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.

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 H₂O₂-induced oxidative stress- dependent manner (PubMed:[23468428](#)). Associates with silent chromatin on euchromatic arms (PubMed:[12086618](#)). Not associated with constitutive heterochromatin (PubMed:[12086618](#)).

Background

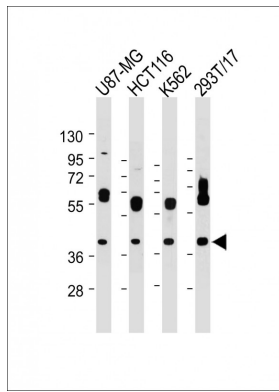
Protein-lysine N-methyltransferase that monomethylates both histones and non-histone proteins. Specifically monomethylates 'Lys-20' of histone H4 (H4K20me1). H4K20me1 is enriched during mitosis and represents a specific tag for epigenetic transcriptional repression. Mainly functions in euchromatin regions, thereby playing a central role in the silencing of euchromatic genes. Required for cell proliferation, probably by contributing to the maintenance of proper higher-order structure of DNA during mitosis. Involved in chromosome condensation and proper cytokinesis. Nucleosomes are preferred as substrate compared to free histones. Mediates monomethylation of p53/TP53 at 'Lys-382', leading to repress p53/TP53-target genes. Plays a negative role in TGF-beta response regulation and a positive role in cell migration.

References

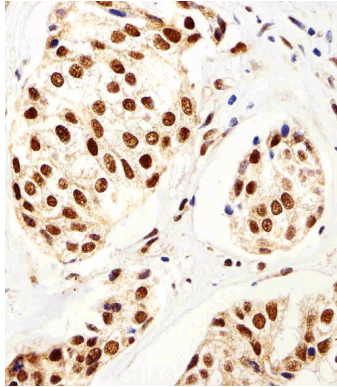
Nishioka K., et al. Mol. Cell 9:1201-1213(2002).
Fang J., et al. Curr. Biol. 12:1086-1099(2002).
Tain F., et al. Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
Ota T., et al. Nat. Genet. 36:40-45(2004).
Rice J.C., et al. Genes Dev. 16:2225-2230(2002).

Images

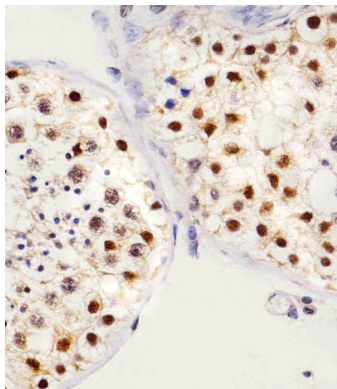
All lanes : Anti-SET07 Antibody at 1:2000 dilution Lane 1:



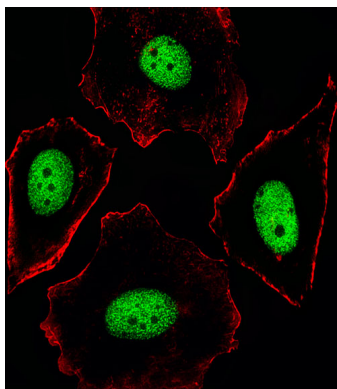
U87-MG whole cell lysate Lane 2: HCT116 whole cell lysate Lane 3: K562 whole cell lysate Lane 4: 293T/17 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 43 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded H. breast carcinoma section using SET07 Antibody (Cat#AM8434). AM8434 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H. testis section using SET07 Antibody (Cat#AM8434). AM8434 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Fluorescent image of MCF-7 cells stained with XAF1 SET07 Antibody (Cat#AM1191a). AM1191a was diluted at 1:25 dilution. An Alexa Fluor® 488-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).

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