10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SET7 (SET9) Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP1194c

Specification

SET7 (SET9) Antibody (Center) Blocking peptide - Product Information

Primary Accession Q8WTS6

SET7 (SET9) Antibody (Center) Blocking peptide - 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
The synthetic peptide sequence used to generate the antibody AP1194c was selected from the Center region of human SET9 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SET7 (SET9) Antibody (Center) Blocking peptide - 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, p53/TP53, TAF10, and possibly TAF7 by recognizing and binding the [KR]-[STA]-K in substrate proteins (PubMed:15099517, PubMed:15525938, PubMed:16415881, 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).

Cellular Location
Nucleus. Chromosome

Tissue Location
Widely expressed. Expressed in pancreatic islets.

SET7 (SET9) Antibody (Center) Blocking peptide - Protocols

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

- Blocking Peptides

SET7 (SET9) Antibody (Center) Blocking peptide - Images

SET7 (SET9) Antibody (Center) Blocking peptide - 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) Blocking peptide - 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).