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SET7 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP1194d

Specification

SET7 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q8WTS6

SET7 Antibody (C-term) 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 AP1194d was selected from the C-term region of human SET7. 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 Antibody (C-term) Blocking Peptide - Protein Information

Name SETD7

Function
Histone methyltransferase that specifically monomethylates 'Lys-4' of histone H3 (PubMed:11779497, PubMed:11850410, PubMed:12588998, PubMed:12540855, PubMed:16141209). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed:12588998, PubMed:12540855, PubMed:16141209). Plays a

central role in the transcriptional activation of genes such as collagenase or insulin (PubMed:16141209, PubMed:12588998). Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription (PubMed:16141209). Has also 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:35210392, PubMed:15525938, PubMed:16415881). 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:17108971, PubMed:15525938, PubMed:16415881). 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 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

SET7 Antibody (C-term) Blocking Peptide - Images

SET7 Antibody (C-term) Blocking Peptide - Background

Histone methyltransferases (HMTases) selectively methylate evolutionarily conserved arginine or lysine residues, primarily in the N-terminal tails of histones H3 and H4. Signal transduction pathways affecting the N-terminal tails of histones lead to a number of post-translational modifications including acetylation, phosphorylation, poly(ADP-ribosylation), ubiquitination and methylation. These modifications play critical roles in regulating chromatin structure and gene expression. Set7/9 is a histone specific HMTase that methylates histone H3 lysine 4. Set7/9 transfers methyl groups to lysine 4 of histone H3 in complex with S-adenosyl-L-methionine. In yeast, H4-K20 methylation does not have any apparent role in the regulation of gene expression or heterochromatin function; rather it appears to play a role in DNA damage response. Loss of Set9 activity or mutation of H4-K20 markedly impairs yeast cell survival after genotoxic challenge and compromises the ability of cells to maintain checkpoint mediated cell cycle arrest. Genetic experiments link Set9 to Crb2, a homolog of the mammalian checkpoint protein 53BP1, and the enzyme is required for Crb2 localization to sites of DNA damage.

SET7 Antibody (C-term) Blocking Peptide - References

Chuikov, S., et al., Nature 432(7015):353-360 (2004).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).