

**SET7 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP1194d****Specification**

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**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](/product/products/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](http://www.uniprot.org/citations/11779497), PubMed: [11850410](http://www.uniprot.org/citations/11850410), PubMed: [12588998](http://www.uniprot.org/citations/12588998), PubMed: [12540855](http://www.uniprot.org/citations/12540855), PubMed: [16141209](http://www.uniprot.org/citations/16141209)). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed: [12588998](http://www.uniprot.org/citations/12588998), PubMed: [12540855](http://www.uniprot.org/citations/12540855), PubMed: [16141209](http://www.uniprot.org/citations/16141209)). Plays a

central role in the transcriptional activation of genes such as collagenase or insulin (PubMed:<a href="http://www.uniprot.org/citations/16141209" target="\_blank">16141209</a>, PubMed:<a href="http://www.uniprot.org/citations/12588998" target="\_blank">12588998</a>). Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription (PubMed:<a href="http://www.uniprot.org/citations/16141209" target="\_blank">16141209</a>). 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:<a href="http://www.uniprot.org/citations/15099517" target="\_blank">15099517</a>, PubMed:<a href="http://www.uniprot.org/citations/35210392" target="\_blank">35210392</a>, PubMed:<a href="http://www.uniprot.org/citations/15525938" target="\_blank">15525938</a>, PubMed:<a href="http://www.uniprot.org/citations/16415881" target="\_blank">16415881</a>). Monomethylates 'Lys-189' of TAF10, leading to increase the affinity of TAF10 for RNA polymerase II (PubMed:<a href="http://www.uniprot.org/citations/15099517" target="\_blank">15099517</a>, PubMed:<a href="http://www.uniprot.org/citations/16415881" target="\_blank">16415881</a>). Monomethylates 'Lys-372' of p53/TP53, stabilizing p53/TP53 and increasing p53/TP53-mediated transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/17108971" target="\_blank">17108971</a>, PubMed:<a href="http://www.uniprot.org/citations/15525938" target="\_blank">15525938</a>, PubMed:<a href="http://www.uniprot.org/citations/16415881" target="\_blank">16415881</a>). 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).