

SET1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1195a**Specification**

SET1 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [O15047](#)**SET1 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 9739**Other Names**

Histone-lysine N-methyltransferase SETD1A, Lysine N-methyltransferase 2F, SET domain-containing protein 1A, hSET1A, Set1/Ash2 histone methyltransferase complex subunit SET1, SETD1A

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1195a](/product/products/AP1195a) was selected from the N-term region of human SET1. 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.

SET1 Antibody (N-term) Blocking Peptide - Protein Information**Name** SETD1A**Function**

Histone methyltransferase that catalyzes methyl group transfer from S-adenosyl-L-methionine to the epsilon-amino group of 'Lys-4' of histone H3 (H3K4) via a non-processive mechanism (PubMed: [12670868](http://www.uniprot.org/citations/12670868), PubMed: [25561738](http://www.uniprot.org/citations/25561738)). Part of chromatin remodeling machinery, forms H3K4me1, H3K4me2 and H3K4me3 methylation marks at active chromatin sites where transcription and DNA repair take place (PubMed: [29937342](http://www.uniprot.org/citations/29937342), PubMed: [31197650](http://www.uniprot.org/citations/31197650), PubMed: [32346159](http://www.uniprot.org/citations/32346159)). Responsible for H3K4me3 enriched promoters and transcriptional programming of inner mass stem cells and

neuron progenitors during embryogenesis (By similarity) (PubMed:31197650). Required for H3K4me1 mark at stalled replication forks. Mediates FANCD2-dependent nucleosome remodeling and RAD51 nucleofilaments stabilization at reversed forks, protecting them from nucleolytic degradation (PubMed:29937342, PubMed:32346159). Does not methylate 'Lys-4' of histone H3 if the neighboring 'Lys-9' residue is already methylated (PubMed:12670868). Binds RNAs involved in RNA processing and the DNA damage response (PubMed:38003223).

Cellular Location

Nucleus speckle. Chromosome Cytoplasm. Note=Localizes to a largely non-overlapping set of euchromatic nuclear speckles with SETD1B, suggesting that SETD1A and SETD1B each bind to a unique set of target genes (PubMed:17355966). Predominantly nuclear (PubMed:38003223)

SET1 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

SET1 Antibody (N-term) Blocking Peptide - Images

SET1 Antibody (N-term) 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 gene RIZ1 is a tumor suppressor gene and a FOUNDRING 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.

SET1 Antibody (N-term) Blocking Peptide - References

Nagase, T., et al., DNA Res. 4(2):141-150 (1997).