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SET1 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1195a

Specification

SET1 Antibody (N-term) - Product Information

Application	**IHC-P,E**
Primary Accession	O15047
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**186034**

SET1 Antibody (N-term) - 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
This SET1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the N-terminal region of human SET1.

Dilution
IHC-P~~1:50~100
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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
SET1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SET1 Antibody (N-term) - 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, PubMed: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, PubMed:31197650, PubMed: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).

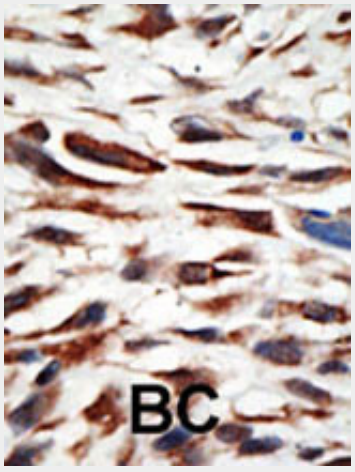
Cellular Location
Nucleus speckle. Chromosome Cytoplasm. Note=Localizes to a largely non-overlapping set of euchromatic nuclear speckles with SETD1B, suggesting that SETD1A and SETD1B each bind to a unique set of target genes (PubMed:17355966). Predominantly nuclear (PubMed:38003223)

SET1 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SET1 Antibody (N-term) - Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

SET1 Antibody (N-term) - 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.

SET1 Antibody (N-term) - References

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

SET1 Antibody (N-term) - Citations

- CpG-binding protein (CXXC finger protein 1) is a component of the mammalian Set1 histone H3-Lys4 methyltransferase complex, the analogue of the yeast Set1/COMPASS complex.