abcam

ab268025

Anti-hSET1/SET1 antibody [EPR23173-30] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23173-30
Purification technique	Affinity purification Protein A

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab268025 is the carrier-free version of ab243639.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody

preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	HSET1 also known as SET1 is a protein complex known for its role in histone methylation specifically on histone H3 at lysine 4 (H3K4). This methylation activity plays an important role in gene expression regulation. Predominantly expressed in the nucleus of eukaryotic cells hSET1 forms part of the COMPASS complex which weighs around 600 kDa. The enzyme encompasses various subunits each contributing to the overall stability and functionality of the complex.
Biological function summary	HSET1 influences chromatin structure modifications that regulate transcriptional activity. As a histone methyltransferase its activity results in epigenetic changes that turn genes on or off. hSET1 as part of the COMPASS complex recruits other factors to transcription initiation sites leading to active gene expression. This activity highlights its significant role in cell differentiation and development affecting how cells progress from one state to another.
Pathways	HSET1 plays a major role in the regulation of the Wnt signaling pathway and the DNA damage response pathway. Through the Wnt pathway hSET1 influences the dynamic process of cellular growth and differentiation interacting with proteins such as β-catenin. In the DNA damage response hSET1 modulates chromatin modifications facilitating the repair of damaged DNA coordinating with proteins like p53 to maintain genomic stability.
Associated diseases and disorders	Aberrations in hSET1 functions associate with leukemias and certain neurodevelopmental disorders. In leukemia inappropriate activity or mutation in hSET1 leads to misregulated gene expression contributing to malignancy progression. Neurodevelopmental disorders have also shown correlations with abnormal hSET1 expression possibly affecting synaptic connectivity. Proteins such as EZH2 in the context of leukemia show interactions with SET1-related pathways highlighting its potential as a therapeutic target.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

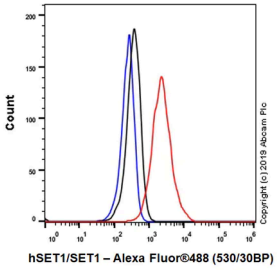
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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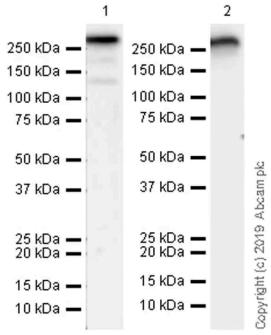
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2 product images



Flow Cytometry (Intracellular) - Anti-hSET1/SET1 antibody [EPR23173-30] - BSA and Azide free (ab268025)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling hSET1/SET1 with ab243639 at 1/50 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243639).



Western blot - Anti-hSET1/SET1 antibody [EPR23173-30] - BSA and Azide free (ab268025)

HSET1/SET1 Western blot staining using rabbit Anti-hSET1/SET1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243639).
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times.

Lane 1: 3 minutes ; Lane 2: 37 seconds.

Fresh lysates are recommended to run WB in avoiding to degradation for this target.

All lanes:
Western blot - Anti-hSET1/SET1 antibody [EPR23173-30] (ab243639) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 10 µg

Lane 2:
T47D (human ductal breast epithelial tumor epithelial cell), whole cell lysate at 10 µg

Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 186 kDa

Observed band size: 300 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.