abcam

# ab307158

# Anti-hSET1/SET1 antibody [EPR26821-25]

Recombinant | RabMAb | 20ul selling size

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR26821-25 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.498 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Human, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/500 |
| **Notes** | Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. |

### Not recommended

| | |
|---|---|
| **Species** | Human, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Human, Rat |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IP

**Not recommended**

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **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. Part of chromatin remodeling machinery, forms H3K4me1, H3K4me2 and H3K4me3 methylation marks at active chromatin sites where transcription and DNA repair take place (By similarity). Responsible for H3K4me3 enriched promoters and transcriptional programming of inner mass stem cells and neuron progenitors during embryogenesis (PubMed:24550110, PubMed:29490266, 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. Does not methylate 'Lys-4' of histone H3 if the neighboring 'Lys-9' residue is already methylated (By similarity). Has RNA binding activity towards transcripts involved in RNA processing and the DNA damage response (By similarity).

## Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |
| **Appropriate short-term storage duration** | 1-2 weeks |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |

| | |
|---|---|
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

**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.

## 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**

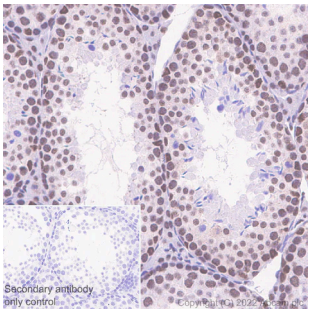
We do not recommend this combination. It is not covered by our product promise.

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.

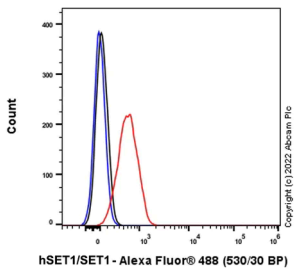
Full details and terms and conditions can be found here:
Terms & Conditions.

## 5 product images



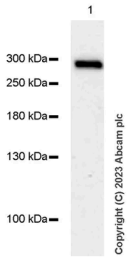

### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-hSET1/SET1 antibody [EPR26821-25] (ab307158)

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling hSET1/SET1 with ab307158 at 1/500 (0.996 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/Dab (ab209101). Nuclear staining in mouse testis. The section was incubated with ab307158 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/Dab (ab209101). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.




## Flow Cytometry (Intracellular) - Anti-hSET1/SET1 antibody [EPR26821-25] (ab307158)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized F9 (mouse embryonal carcinoma epithelial cell) cells labelling hSET1/SET1 with ab307158 at 1/50 dilution (1ug) (Red) (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, ab150081) at 1/2000 dilution was used as the secondary antibody.

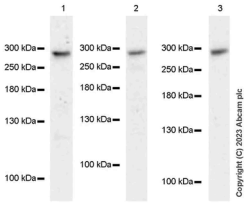



## Western blot - Anti-hSET1/SET1 antibody [EPR26821-25] (ab307158)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. Exposure time: 180 seconds
All lanes:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Observed band size: 280 kDa

Exposure time: 180s




## Western blot - Anti-hSET1/SET1 antibody [EPR26821-25] (ab307158)

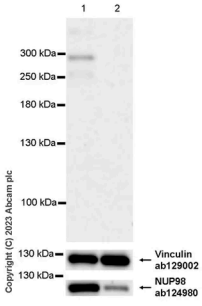
Blocking and diluting buffer and concentration: 5% NFDM/TBST Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. Exposure time: 180 seconds
Lane 1:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
MEF (mouse embryo fibroblast) whole cell lysate at 20 µg

Lane 3:
C2C12 (mouse myoblasts) whole cell lysate at 20 µg

Observed band size: 280 kDa

Exposure time: 180s




## Western blot - Anti-hSET1/SET1 antibody [EPR26821-25] (ab307158)

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

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti- Vinculin antibody (ab129002) loading control staining at 1/10000 dilution. Anti-NUP98 antibody (ab124980) loading control staining at 1/10000 dilution. Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. Exposure time: 180 seconds
Lane 1:
NIH/3T3 (mouse embryonic fibroblast) nuclear fraction at 20 µg

Lane 2:
NIH/3T3 cytoplasmic fraction

Observed band size: 280 kDa

Exposure time: 180s

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