**Overview**

**Product name**  
Anti-KMT1B / SUV39H2 antibody [EPR18495]  

**Description**  
Rabbit monoclonal [EPR18495] to KMT1B / SUV39H2  

**Host species**  
Rabbit  

**Tested applications**  
Suitable for: IHC-P, IP, WB  

**Species reactivity**  
Reacts with: Mouse, Rat, Human

**Immunogen**  
Synthetic peptide within Human KMT1B/ SUV39H2 aa 350 to the C-terminus. The exact sequence is proprietary.  

Database link: Q9H5I1  

**Positive control**  
WB: HEK-293, HeLa, NIH/3T3, SH-SY5Y and MOLT-4 cell lysates; human fetal kidney lysate; human, mouse and rat testis lysates. IHC-P: Human, mouse and rat testis tissues. IP: SH-SY5Y whole cell lysate.  

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

This product is a recombinant rabbit monoclonal antibody.

**Properties**

**Form**  
Liquid  

**Storage instructions**  

**Storage buffer**  
Preservative: 0.01% Sodium azide  
Constituents: 59% PBS, 40% Glycerol, 0.05% BSA

**Purity**  
Protein A purified  

**Clonality**  
Monoclonal  

**Clone number**  
EPR18495  

**Isotype**  
IgG
Function
Histone methyltransferase that specifically trimethylates 'Lys-9' of histone H3 using monomethylated H3 'Lys-9' as substrate. H3 'Lys-9' trimethylation represents a specific tag for epigenetic transcriptional repression by recruiting HP1 (CBX1, CBX3 and/or CBX5) proteins to methylated histones. Mainly functions in heterochromatin regions, thereby playing a central role in the establishment of constitutive heterochromatin at pericentric and telomere regions. H3 'Lys-9' trimethylation is also required to direct DNA methylation at pericentric repeats. SUV39H1 is targeted to histone H3 via its interaction with RB1 and is involved in many processes, such as cell cycle regulation, transcriptional repression and regulation of telomere length. May participate in regulation of higher order chromatin organization during spermatogenesis.

Sequence similarities
Belongs to the histone-lysine methyltransferase family. Suvar3-9 subfamily. Contains 1 chromo domain. Contains 1 post-SET domain. Contains 1 pre-SET domain. Contains 1 SET domain.

Domain
Although the SET domain contains the active site of enzymatic activity, both pre-SET and post-SET domains are required for methyltransferase activity. The SET domain also participates to stable binding to heterochromatin.

Cellular localization

Applications
Our Abpromise guarantee covers the use of ab190870 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>IHC-P</td>
<td>1/500</td>
<td>Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.</td>
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<tr>
<td>IP</td>
<td>1/50</td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>1/1000</td>
<td>Detects a band of approximately 47 kDa (predicted molecular weight: 47 kDa).</td>
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Western blot - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

All lanes : Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870) at 1/1000 dilution

Lane 1 : SH-SY5Y (Human neuroblastoma cell line from bone marrow) whole cell lysate at 20 µg
Lane 2 : MOLT-4 (Human lymphoblastic leukemia cell line) whole cell lysate at 20 µg
Lane 3 : Human fetal kidney at 10 µg

Secondary
Lanes 1-2 : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution
Lane 3 : Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Developed using the ECL technique.

Predicted band size: 47 kDa
Observed band size: 47 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST
All lanes: Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870) at 1/10000 dilution

Lane 1: HEK-293 (Human epithelial cell line from embryonic kidney) cell lysate
Lane 2: HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate
Lane 3: NIH/3T3 (Mouse embryonic fibroblast cell line) cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes: Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Developed using the ECL technique.

Predicted band size: 47 kDa
Observed band size: 47.54 kDa
why is the actual band size different from the predicted?

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.

The full length SUV39H2 orthologues differ in size: human 410aa (UniProt Q9H5I1), mouse 477aa (UniProt Q9EQQ0) and rat 481aa (UniProt D3ZIH5).
Western blot - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

**All lanes**: Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870) at 1/5000 dilution

**Lane 1**: Human testis lysate
**Lane 2**: Mouse testis lysate
**Lane 3**: Rat testis lysate

Lysates/proteins at 10 µg per lane.

**Secondary**

**All lanes**: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Developed using the ECL technique.

**Predicted band size**: 47 kDa
**Observed band size**: 47,54 kDa Why is the actual band size different from the predicted?

**Exposure time**: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.

The full length SUV39H2 orthologues differ in size: human 410aa (UniProt Q9H5I1), mouse 477aa (UniProt Q9EQQ0) and rat 481aa (UniProt D3ZIH5).
Immunohistochemical analysis of paraffin-embedded human testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nuclear staining on germ cells of human testis is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nuclear staining on germ cells of mouse testis is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.
Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nuclear staining on germ cells of rat testis is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

KMT1B / SUV39H2 was immunoprecipitated from 1mg of SH-SY5Y (Human neuroblastoma cell line from bone marrow) whole cell lysate with ab190870 at 1/50 dilution.

Western blot was performed from the immunoprecipitate using ab190870 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

Lane 1: SH-SY5Y whole cell lysate 10µg (Input).
Lane 2: ab190870 IP in SH-SY5Y whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab190870 in SH-SY5Y whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 30 seconds.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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