

## Product datasheet

### Anti-KMT1B / SUV39H2 antibody [EPR18495] ab190870

KO VALIDATED

Recombinant

RabMAb<sup>®</sup>

[6 References](#) [9 Images](#)

#### Overview

<b>Product name</b>	Anti-KMT1B / SUV39H2 antibody [EPR18495]
<b>Description</b>	Rabbit monoclonal [EPR18495] to KMT1B / SUV39H2
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, IP, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	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.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR18495

Isotype

IgG

## Applications

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### The Abpromise guarantee

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.

Application	Abreviews	Notes
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IP		1/50.
WB		1/1000. Detects a band of approximately 47 kDa (predicted molecular weight: 47 kDa).

## Target

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### 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.

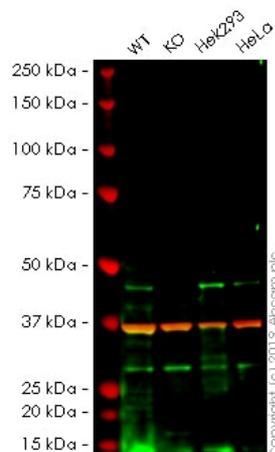
### Cellular localization

Nucleus. Chromosome > centromere. Associates with centromeric constitutive heterochromatin.

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## Images

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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 :** Wild-type U2-OS whole cell lysate

**Lane 2 :** SUV39H2 knockout U2-OS whole cell lysate

**Lane 3 :** HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate

**Lane 4 :** HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate

Lysates/proteins at 20 µg per lane.

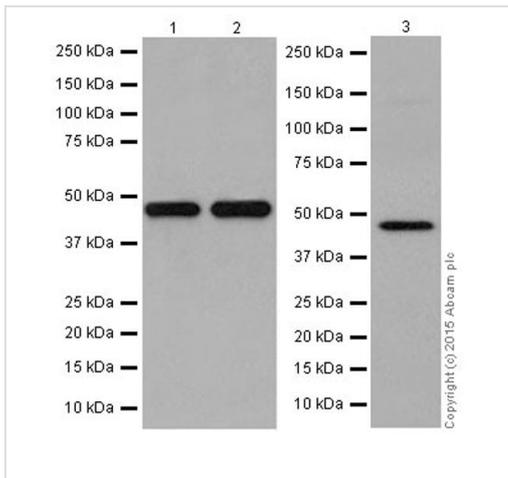
Performed under reducing conditions.

**Predicted band size:** 47 kDa

**Observed band size:** 47 kDa

**Lanes 1 - 4:** Merged signal (red and green). Green - ab190870 observed at 47 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

ab190870 was shown to recognize SUV39H2 in wild-type U2-OS cells as signal was lost at the expected MW in SUV39H2 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and SUV39H2 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% Milk. Ab190870 and **ab8245** (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



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

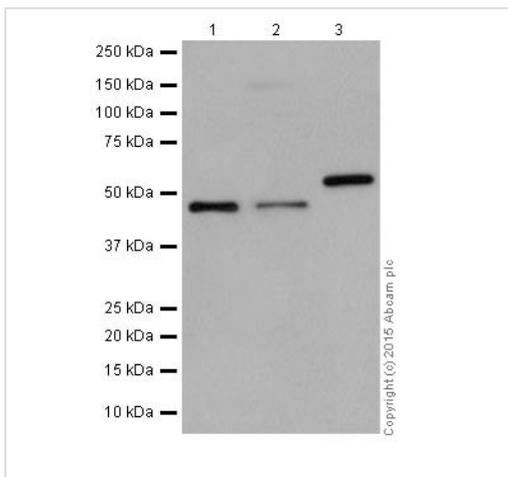
Developed using the ECL technique.

**Predicted band size:** 47 kDa

**Observed band size:** 47 kDa

**Exposure time:** 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST



Western blot - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

**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.

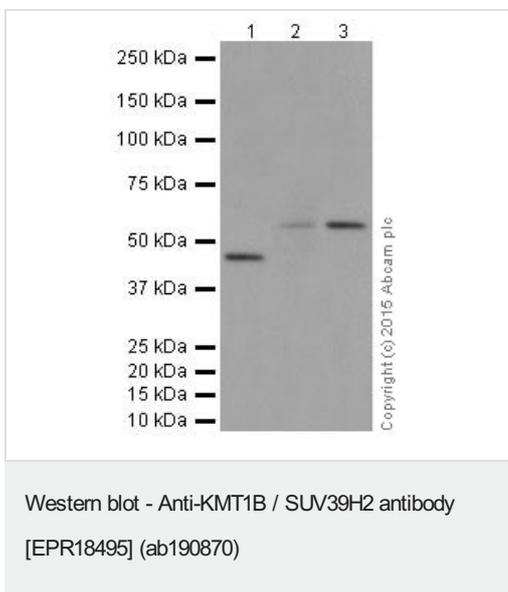
**Predicted band size:** 47 kDa

**Observed band size:** 47,54 kDa

**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).



**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.

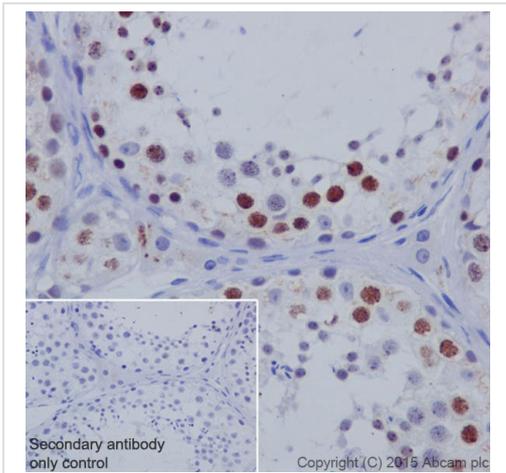
**Predicted band size:** 47 kDa

**Observed band size:** 47,54 kDa

**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).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

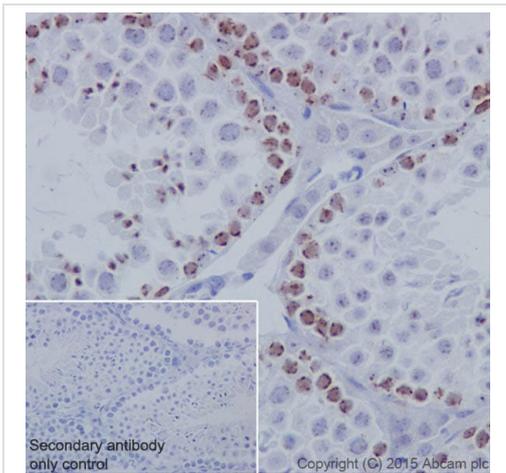
Immunohistochemical analysis of paraffin-embedded human testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

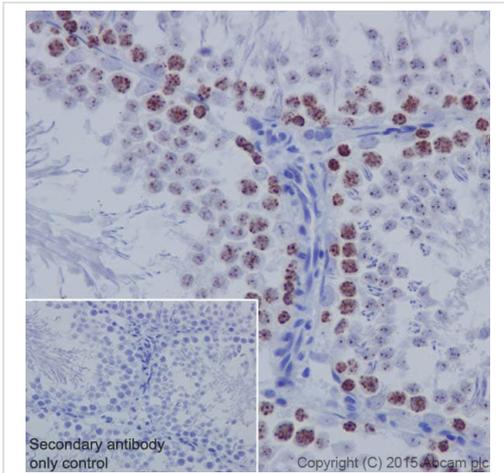
Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

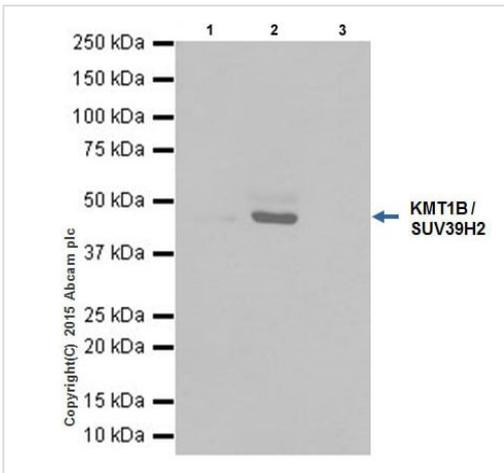
Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling KMT1B / SUV39H2 with ab190870 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-KMT1B / SUV39H2 antibody [EPR18495] (ab190870)

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.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-KMT1B / SUV39H2 antibody [EPR18495]  
(ab190870)

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

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