

# Anti-Histone H3 (mono methyl K79) Antibody [PSH07-66]

## HA722848



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat, Monkey
<b>Applications:</b>	WB, IF-Cell, IHC-P, FC, ChIP
<b>Molecular Wt:</b>	Predicted band size: 15 kDa
<b>Clone number:</b>	PSH07-66

**Description:** In eukaryotes, DNA is wrapped around histone octamers to form the basic unit of chromatin structure. The octamer is composed of histones H2A, H2B, H3 and H4, and it associates with approximately 200 base pairs of DNA to form the nucleosome. The association of DNA with histones results in dense packing of chromatin, which restricts proteins involved in gene transcription from binding to DNA. p300 preferentially acetylates Histone H3 at lysines 14 and 18 and Histone H4 at lysines 5 and 8. PCAF in its native form, primarily acetylates Histone H3 at lysine 14 to a monoacetylated form, and less efficiently acetylates Histone H4 at lysine 8. Histone H4 may also be acetylated at lysines 12 and 16, and the involvement of acetylated H4 with Histones H2A, H2B and H3 suggests that acetylated histones may be involved in dynamic chromatin remodeling.

**Immunogen:** Synthetic peptide corresponding to residues surrounding mono-methyl Lys79 of human histone H3 protein.

**Positive control:** NIH/3T3 cell lysate, C2C12 cell lysate, C6 cell lysate, COS-1 cell lysate, HeLa cell lysate, HeLa, C2C12, C6, mouse brain tissue.

**Subcellular location:** Nucleus, Chromosome.

**Database links:** SwissProt: P68431 Human | P84243 Human | Q16695 Human | Q6NXT2 Human | Q71DI3 Human | P68433 Mouse | P84228 Mouse | Q6LED0 Rat

### Recommended Dilutions:

<b>WB</b>	1:1,000
<b>IF-Cell</b>	1:100
<b>IHC-P</b>	1:1,000
<b>FC</b>	1:1,000
<b>ChIP</b>	Use 0.5~2 µg for 25 µg of chromatin.

**Storage Buffer:** PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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## Images

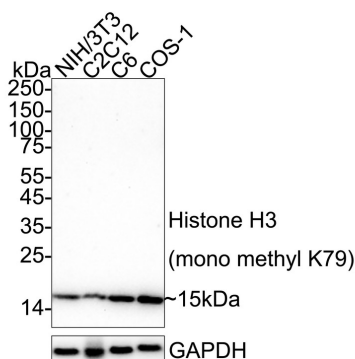
**Fig1:** Western blot analysis of Histone H3 (mono methyl K79) on different lysates with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/1,000 dilution.

Lane 1: NIH/3T3 cell lysate

Lane 2: C2C12 cell lysate

Lane 3: C6 cell lysate

Lane 4: COS-1 cell lysate



Lysates/proteins at 20 µg/Lane.

Predicted band size: 15 kDa

Observed band size: 15 kDa

Exposure time: 3 minutes; ECL: K1801;

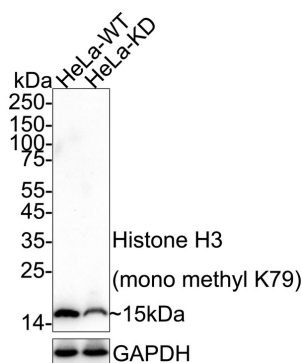
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDm/TBST for 1 hour at room temperature. The primary antibody (HA722848) at 1/1,000 dilution was used in 5% NFDm/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

**Fig2:** Western blot analysis of Histone H3 (mono methyl K79) on different lysates with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/1,000 dilution.

Lane 1: HeLa cell lysate

Lane 2: HeLa-si DOT1L cell lysate (Knockdown of DOT1L leads to decreased H3K79me1 expression levels)



Lysates/proteins at 20 µg/Lane.

Predicted band size: 15 kDa

Observed band size: 15 kDa

Exposure time: 3 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDm/TBST for 1 hour at room temperature. The primary antibody (HA722848) at 1/1,000 dilution was used in 5% NFDm/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

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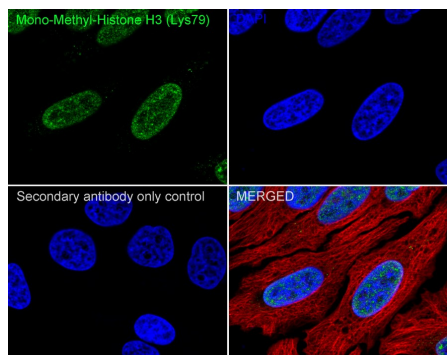
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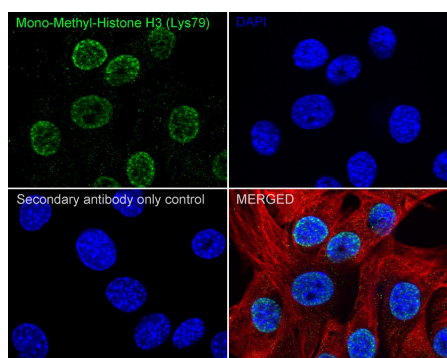
**Fig3:** Immunocytochemistry analysis of HeLa cells labeling Histone H3 (mono methyl K79) with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

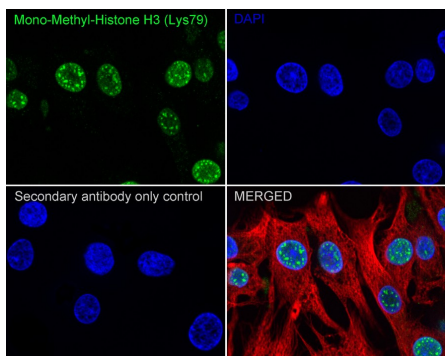
**Fig4:** Immunocytochemistry analysis of C2C12 cells labeling Histone H3 (mono methyl K79) with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

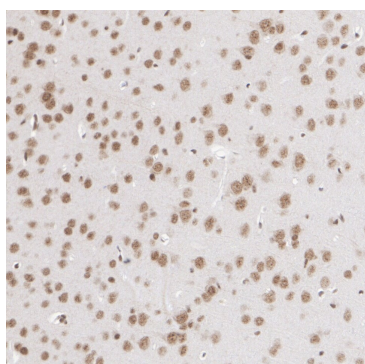
**Fig5:** Immunocytochemistry analysis of C6 cells labeling Histone H3 (mono methyl K79) with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

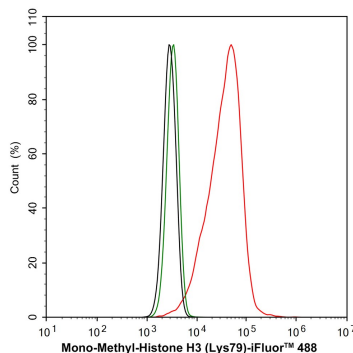
Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

**Fig6:** Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Histone H3 (mono methyl K79) antibody (HA722848) at 1/1,000 dilution.



The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA722848) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

**Fig7:** Flow cytometric analysis of HeLa cells labeling Histone H3 (mono methyl K79).



Cells were fixed and permeabilized. Then stained with the primary antibody (HA722848, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

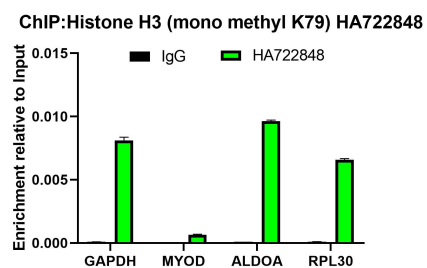
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**Fig8:** Chromatin immunoprecipitations were performed with cross-linked chromatin from HeLa cells and either Histone H3 (mono methyl K79) (HA722848) or Normal Rabbit IgG according to the ChIP protocol. The enriched DNA was quantified by real-time PCR using indicated primers. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

### Background References

1. Wani S et al. Human SCP4 is a chromatin-associated CTD phosphatase and exhibits the dynamic translocation during erythroid differentiation. *J Biochem* 160:111-20 (2016).
2. Ni JZ et al. A transgenerational role of the germline nuclear RNAi pathway in repressing heat stress-induced transcriptional activation in *C. elegans*. *Epigenetics Chromatin* 9:3 (2016).

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