

## Histone H3K9me3 antibody (mAb)

**Catalog Nos:** 39285, 39286

**RRID:** AB\_2935892

**Clone:** 2AG-6F12-H4

**Application(s):** DB, ICC, IF, WB

**Reactivity:** Human, Wide Range Predicted

**Volumes:** 100 µl, 10 µl

**Purification:** Culture Supernatant

**Host:** Mouse

**Isotype:** IgG1, k

**Molecular Weight:** 17 kDa

**Background:** Histone H3 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 147 base pairs of DNA wrapped around an octamer of core histone proteins (two each of Histone H2A, Histone H2B, Histone H3 and Histone H4). Histone H1 is a linker histone, present at the interface between the nucleosome core and DNA entry/exit points. Histone H1 is responsible for establishing higher-order chromatin structure. Chromatin is subject to a variety of chemical modifications, including post-translational modifications of the histone proteins and the methylation of cytosine residues in the DNA. Reported histone modifications include acetylation, methylation, phosphorylation, ubiquitylation, glycosylation, ADP-ribosylation, carbonylation and SUMOylation; these modifications play a major role in regulating gene expression.

The methylation of histones can occur on two different residues: arginine or lysine. Histone methylation can be associated with transcriptional activation or repression, depending on the methylated residue. Lysine 9 of histone H3 can be mono-, di- or trimethylated by different histone methyltransferases (HMTs) such as SuvH39H1 or G9a. This methylated lysine can be demethylated by histone demethylases as JMJD1A, LSD1 or JMJD2C. Methylation of this residue is mainly associated with transcriptional repression.

**Immunogen:** This Histone H3 trimethyl Lys9 antibody was raised against a peptide containing trimethyl-lysine 9 of human histone H3.

**Buffer:** Cell culture supernatant containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

### Application Notes:

Applications Validated by Active Motif:

ICC/IF: 1:20 - 1:100 dilution

WB\*: 1:500 - 1:5,000 dilution

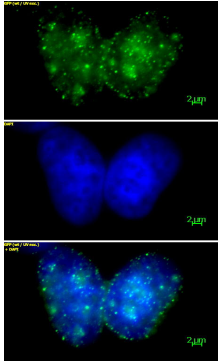
DB: 1:5,000 dilution

This antibody has not been validated in ChIP, but ChIP-validated antibodies are available for this target: Catalog No. 39161.

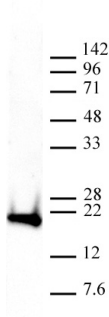
\*Note: Many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

**Storage and Guarantee:** Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

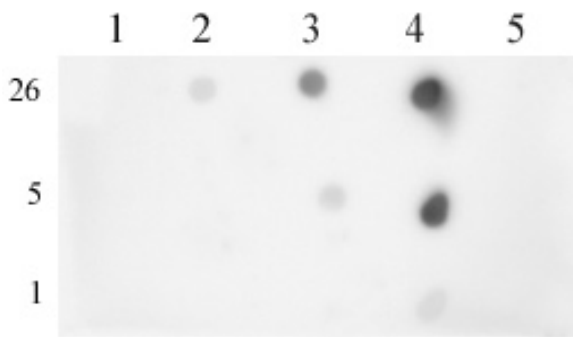
This product is for research use only and is not for use in diagnostic procedures.



**Histone H3 trimethyl Lys9 mAb (Clone 2AG-6F12-H4) tested by immunofluorescence.**  
Staining of HeLa cells with Histone H3 trimethyl Lys9 mAb (Clone 2AG-6F12-H4) (1:250 dilution, top panel) and DAPI (middle panel), and a merge of both images (bottom panel).



**Histone H3K9me3 (Clone 2AG-6F12-H4) tested by Western blot.**  
HeLa cell acid extract (20 µg) probed with Histone H3K9me3 antibody at 1:1000 dilution.



**Histone H3K9me3 (Clone 2AG-6F12-H4) tested by dot blot analysis.**

Various methylated H3 proteins were spotted onto PVDF and probed with antibody at 1:5000 dilution. The amount of protein (picomoles) spotted is indicated next to each row.

- Column 1: Histone H3 (Cat. No. 31294) .
- Column 2: Histone H3K9me1 (Cat. No. 31281).
- Column 3: Histone H3K9me2 (Cat. No. 31280).
- Column 4: Histone H3K9me3 (Cat. No. 31586).
- Column 5: Histone H3K4me3 (Cat. No. 31278).