Histone H3.1 / 3.2 antibody (mAb)

Catalog Nos: 61629, 61630

RRID: AB_2793710
Clone: 1D4F2
Isotype: IgG2b
Application(s): ChIP, ChIP-Seq, ICC, IF, WB
Reactivity: Human, Wide Range Predicted

Quantities: 100 µg, 10 µg
Purification: Protein A Chromatography
Host: Mouse
Concentration: 1 µg/µl
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.

There are three protein variants of Histone H3, Histone H3.1, 3.2 and 3.3. The incorporation of Histone H3.1 and H3.2 into nucleosomes is replication dependent, in contrast to Histone H3.3, which is independent of DNA synthesis and occurs throughout the cell cycle. Human Histone H3.1 and H3.2 are identical in amino acid sequences except at position 110 where H3.1 has a cysteine and H3.2 has a serine.

Immunogen: This antibody was raised against a peptide comprising amino acids 21-39 of human Histone H3.1. This region is 100% identical in human Histone H3.2.

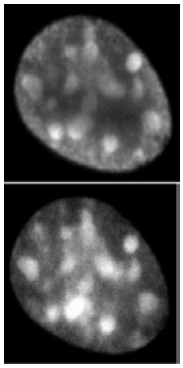
Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
ICC/IF: 0.4 - 2 µg/ml dilution
WB*: 0.2 - 2 µg/ml dilution

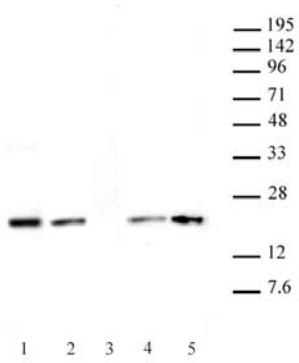
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

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 H3.1 / 3.2 antibody (mAb) (Clone 1D4F2) tested by immunofluorescence.
Top: HeLa cell stained with H3.1 / 3.2 antibody (mAb). Bottom: Hoechst.



Histone H3.1 / 3.2 antibody (mAb) (Clone 1D4F2) tested by Western blot.
HeLa nuclear extract (20 µg) and recombinant human Histones (100 ng) were probed with Histone H3.1 / 3.2 antibody (mAb) at a 1 µg/ml dilution in lanes 1, 2, & 3. Histone H3 (mAb) (Catalog No. 61475) is also shown at a 0.25 µg/ml dilution in lanes 4 & 5.
Lane 1: Nuclear extract of untreated HeLa cells.
Lane 2: 100 ng recombinant human Histone H3.1 protein.
Lane 3: 100 ng recombinant human Histone H3.3 protein.
Lane 4: 100 ng recombinant human Histone H3.1 protein.
Lane 5: 100 ng recombinant human Histone H3.3 protein.