Histone H3R17me2aK18ac antibody (pAb)

Catalog Nos: 61613, 61614
RRID: AB_2793702
Isotype: IgG
Application(s): ChIP, DB, WB
Reactivity: Human, Mouse, Wide Range Predicted

Volumes: 100 µl, 10 µl
Purification: Affinity Purified
Host: Rabbit
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). 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 residues. Acetylation of histones occurs on lysine and is typically associated with activation of gene expression. Co-occurrence of two modifications adds an additional layer of complexity and regulation to the function of these modifications. Dual modification of H3R17me2aK18ac may play a role in enhancer function.

Immunogen: This antibody was raised against a synthetic peptide containing asymmetric dimethyl arginine 17 and acetyl lysine 18 of human Histone H3.

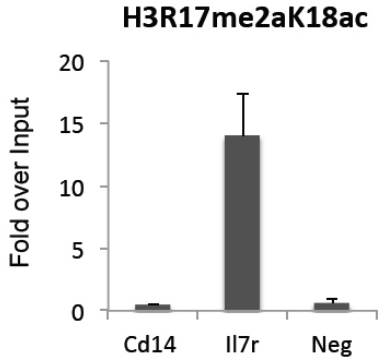
Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
ChIP: 10 µl per ChIP
WB*: 1:500 - 1:1,000 dilution

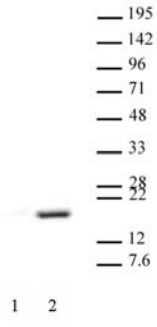
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

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.

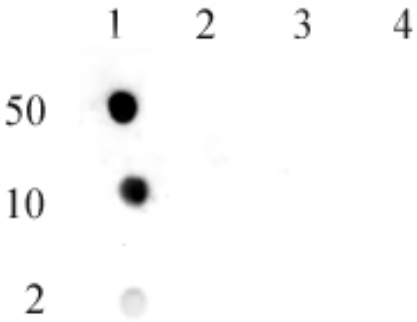
This product is for research use only and is not for use in diagnostic procedures.



Histone H3R17me2aK18ac antibody (pAb) tested by ChIP.
Chromatin immunoprecipitation (ChIP) was performed with 5 x 106 cell equivalents of chromatin from a murine HAFTL pro-B cell line and 10 µl of Histone H3R17me2aK18ac antibody. ChIP DNA was used in qPCR with a negative control primer pair (Neg) or enhancer-specific primer pairs that are “off” in B cells (Cd14) or “on” in B cells (IL7r), as indicated. This data shows that the dual modification R17me2aK18ac on Histone H3 is enriched in active enhancers. The data are presented as Fold over Input.



Histone H3R17me2aK18ac antibody (pAb) tested by Western blot.
Nuclear extract of Raji cells (20 µg per lane) was probed with H3R17me2aK18ac (pAb) at a 1:500 dilution.
Lane 1: Untreated cells.
Lane 2: Cells treated with sodium butyrate.



Histone H3R17me2aK18ac antibody (pAb) tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H3R17me2aK18ac antibody for asymmetric dimethyl-arginine 17 and acetyl-lysine 18 of histone H3. Peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with H3R17me2aK18ac antibody at a 1:500 dilution. The amount of peptide (picomoles) spotted is indicated next to each row.

Lane 1: Peptide containing asymmetric dimethyl-Arg17 and acetyl-Lys18 of Histone H3 .
Lane 2: unmodified Histone H3 peptide.
Lane 3: Asymmetric dimethyl-Arg17 of Histone H3 peptide.
Lane 4: Acetyl-Lys18 of Histone H3 peptide.