

Ac-Histone H3 (Lys 24): sc-34262

BACKGROUND

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.

REFERENCES

1. Doenecke, D., et al. 1988. The H1 and core histone subtypes: differential gene expression and varied primary structures. *Adv. Enzyme Regul.* 27: 107-120.
2. Lewin, B. 1990. *GENES IV*. Oxford: Oxford University Press, 411-412.

SOURCE

Ac-Histone H3 (Lys 24) is a rabbit polyclonal antibody raised against a short amino acid sequence containing acetylated Lysine 24 of Histone H3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34262 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Ac-Histone H3 (Lys 24) is recommended for detection of Lysine 24 acetylated Histone H3 of broad species origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

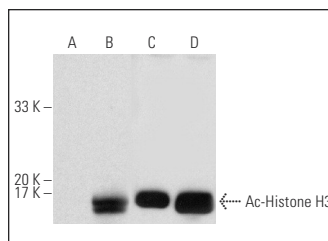
Molecular Weight of acetylated Ac-Histone H3: 17 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

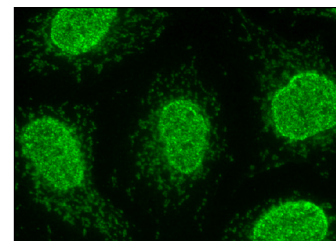
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of Ac-Histone H3 acetylation in untreated (A,C) and Trichostatin A (sc-3511) treated (B,D) NIH/3T3 whole cell lysates. Antibodies tested include Ac-Histone H3 (Lys 9/14): sc-34262 (A,B) and Histone H3 (C-16): sc-8654 (C,D).



Ac-Histone H3 (Lys 24): sc-34262. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Hong, J., et al. 2008. 1,1-bis(3'-indolyl)-1-(p-substituted phenyl)methanes decrease mitochondrial membrane potential and induce apoptosis in endometrial and other cancer cell lines. *Mol. Carcinog.* 47: 492-507.
2. Martínez, F.P. and Tang, Q. 2012. Leucine zipper domain is required for Kaposi sarcoma-associated herpesvirus (KSHV) K-bZIP protein to interact with histone deacetylase and is important for KSHV replication. *J. Biol. Chem.* 287: 15622-15634.
3. Brabec, V., et al. 2012. Valuable insight into the anticancer activity of the platinum-histone deacetylase inhibitor conjugate, *cis*-[Pt(NH₃)(2)malSAHA(-2H)]. *Mol. Pharm.* 9: 1990-1999.
4. Witt, D., et al. 2013. Valproic acid inhibits the proliferation of cancer cells by re-expressing cyclin D2. *Carcinogenesis* 34: 1115-1124.
5. Wang, Z., et al. 2014. Valproic acid reduces neuritic plaque formation and improves learning deficits in APP(Swe)/PS1(A246E) transgenic mice via preventing the prenatal hypoxia-induced down-regulation of neprilysin. *CNS Neurosci. Ther.* 20: 209-217.

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Try **Ac-Histone H3 (AH3-120): sc-56616**, our highly recommended monoclonal alternative to Ac-Histone H3 (Lys 24).