

Ac-Histone H3 (Lys 9/14): sc-8655

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.

SOURCE

Ac-Histone H3 (Lys 9/14) is available as either goat (sc-8655) or rabbit (sc-8655-R) polyclonal affinity purified antibody raised against a short peptide containing acetylated lysines 9 and 14 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-8655 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ac-Histone H3 (Lys 9/14) is recommended for detection of Histone H3 acetylated at Lys 9 and Lys 14 of mouse, rat, human, *Drosophila melanogaster*, *Xenopus laevis* and *Caenorhabditis elegans* 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); non cross-reactive with non-acetylated Histone H3 or other lysine acetylation sites.

Ac-Histone H3 (Lys 9/14) is also recommended for detection of Histone H3 acetylated at Lys 9 and Lys 14 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Ac-Histone H3: 17 kDa.

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

Santa Cruz Biotechnology offers several chemical inducers of acetylation, including: Apicidin (sc-202061), Panobinostat (sc-208148), Suberoylanilide Hydroxamic Acid (sc-220139), Oxamflatin (sc-205960), Ms-275 (sc-279455), M 344 (sc-203124), Scriptaid (sc-202807), Trapoxin A (sc-253730) and Trichostatin A (sc-3511).

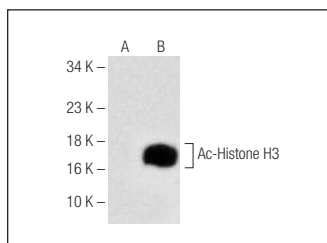
STORAGE

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

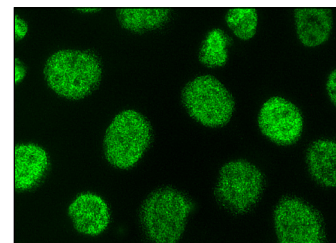
RESEARCH USE

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

DATA



Western blot analysis of Histone H3 acetylation in untreated (A) and Trapoxin A (sc-253730) treated (B) HeLa whole cell lysates. Antibody tested include Ac-Histone H3 (Lys 9/14)-R: sc-8655-R (A,B). Note acetylation of Ac-Histone H3 in lane B.



Ac-Histone H3 (Lys 9/14)-R: sc-8655-R. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Usenko, T., et al. 2003. Transient expression of E1A and Ras oncogenes causes downregulation of c-Fos gene transcription in nontransformed Ref-52 cells. *Oncogene* 22: 7661-7666.
- Stühmer, T., et al. 2010. Preclinical anti-myeloma activity of the novel HDAC-inhibitor JNJ-26481585. *Br. J. Haematol.* 149: 529-536.
- Ungaro, P., et al. 2010. Hepatocyte nuclear factor (HNF)-4 α -driven epigenetic silencing of the human PED gene. *Diabetologia* 53: 1482-1492.
- Hou, P., et al. 2010. Induction of thyroid gene expression and radioiodine uptake in thyroid cancer cells by targeting major signaling pathways. *J. Clin. Endocrinol. Metab.* 95: 820-828.
- Lackey, D.E., et al. 2010. Vitamin A upregulates matrix metalloproteinase-9 activity by murine myeloid dendritic cells through a nonclassical transcriptional mechanism. *J. Nutr.* 140: 1502-1508.
- Govindan, M.V., 2010. Recruitment of cAMP-response element-binding protein and histone deacetylase has opposite effects on glucocorticoid receptor gene transcription. *J. Biol. Chem.* 285: 4489-4510.
- Kato, K., et al. 2011. Sodium butyrate inhibits the self-renewal capacity of endometrial tumor side-population cells by inducing a DNA damage response. *Mol. Cancer Ther.* 10: 1430-1439.
- Li, Z.Y., et al. 2011. Positive regulation of hepatic miR-122 expression by HNF4 α . *J. Hepatol.* 55: 602-611.
- Lin, H., et al. 2012. Molecular mechanisms associated with the antidepressant effects of the class I histone deacetylase inhibitor MS-275 in the rat ventrolateral orbital cortex. *Brain Res.* 1447: 119-125.



Try **Ac-Histone H3 (AH3-120): sc-56616**, our highly recommended monoclonal alternative to Ac-Histone H3 (Lys 9/14).