

Ac-Histone H4 (Lys 8): sc-8660

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 H4 (Lys 8) is available as either a goat (sc-8660) or rabbit (sc-8660-R) polyclonal affinity purified antibody raised against a short peptide containing acetylated Lysine 8 of Histone H4 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-8660 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.

APPLICATIONS

Ac-Histone H4 (Lys 8) is recommended for detection of Lysine 8 acetylated Histone H4 of mouse, rat and human 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 H4 or other lysine acetylation sites.

Ac-Histone H4 (Lys 8)-R is also recommended for detection of Lysine 8 acetylated Histone H4 in additional species, including equine and canine.

Molecular Weight of non-acetylated and acetylated Ac-Histone H4: 11 kDa.

Molecular Weight of hyper-acetylated Ac-Histone H4: 35 kDa.

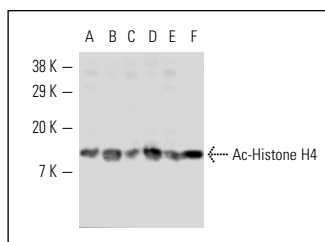
Positive Controls: SK-N-MC nuclear extract: sc-2154, IMR-32 nuclear extract: sc-2148 or HeLa nuclear extract: sc-2120.

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).

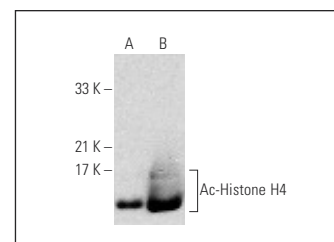
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-8662): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-8662-R): 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: for goat primary antibody (sc-8662): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-8662-R): 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



Ac-Histone H4 (Lys 8)-R: sc-8660-R. Western blot analysis of acetylated Histone H4 expression in HeLa (A), SK-N-MC (B), IMR-32 (C), K-562 (D) and NIH/3T3 (E) nuclear extracts and rat spleen tissue extract (F).



Ac-Histone H4 (Lys 8)-R: sc-8660-R. Western blot analysis of Ac-Histone H4 acetylation in untreated (A) and Trichostatin A (sc-3511) treated (B) NIH/3T3 whole cell lysates. Note upregulation of Ac-Histone H4 expression in lane B.

SELECT PRODUCT CITATIONS

1. Tavera-Mendoza, L.E., et al. 2008. Incorporation of histone deacetylase inhibition into the structure of a nuclear receptor agonist. *Proc. Natl. Acad. Sci. USA* 105: 8250-8255.
2. Kumar, P., et al. 2010. Interactive roles of Ets-1, Sp1, and acetylated histones in the retinoic acid-dependent activation of guanylyl cyclase/atrial natriuretic peptide receptor-A gene transcription. *J. Biol. Chem.* 285: 37521-37530.

RESEARCH USE

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

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Try **Ac-Histone H4 (E-5): sc-377520** or **Ac-Histone H4 (F-3): sc-377521**, our highly recommended monoclonal alternatives to Ac-Histone H4 (Lys 8).