SANTA CRUZ BIOTECHNOLOGY, INC.

Ac-Histone H2B (Lys 5/12/15/20): sc-8652

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Histones H2A and H2B are acetylated in bulk chromatin by p300 and form acetylated H2A.H2B heterodimers. Nucleosomal particles containing acetylated H2A.H2B dimers protect 145 base pairs of DNA against micrococcal nuclease digestion. When DNA associates with intact core histone octamers that contain acetylated H2A.H2B dimers, the inhibition of transcriptional initiation significantly decreases, indicating that acetylation of their lysine residues may mediate transcription.

SOURCE

Ac-Histone H2B (Lys 5/12/15/20) is available as either goat (sc-8652) or rabbit (sc-8652-R) polyclonal affinity purified antibody raised against a short peptide containing acetylated lysines 5, 12, 15 and 20 of Histone H2B 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-8652 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ac-Histone H2B (Lys 5/12/15/20) is recommended for detection of Histone H2B acetylated at Lys 5, Lys 12, Lys 15 and Lys 20 of broad species and *Xenopus laevis* 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 H2B or other lysine acetylation sites.

Ac-Histone H2B (Lys 5/12/15/20) is also recommended for detection of Histone H2B acetylated at Lys 5, Lys 12, Lys 15 and Lys 20 in additional species, including equine, bovine and porcine.

Molecular Weight of Ac-Histone H2B: 12.5 kDa.

Positive Controls: Na^+ Butyrate-treated HeLa whole cell lysate.

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).

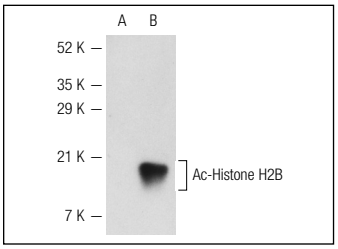
STORAGE

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

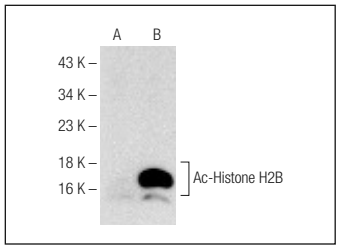
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-8652):use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000); for rabbit primary antibody (sc-8652-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-8652): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400) for rabbit primary antibody (sc-8652-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400), with UltraCruz™ Mounting Medium: sc-24941.

DATA



Ac-Histone H2B (Lys 5/12/15/20): sc-8652-R. Western blot analysis of acetylated Histone H2B expression in HeLa (**A**) and Na^+ Butyrate (sc-202341) treated HeLa (**B**) whole cell lysates.



Western blot analysis of Histone H2B acetylation in untreated (**A**) and Trapoxin A (sc-253730) treated (**B**) HeLa whole cell lysates. Antibody tested include Ac-Histone H2B (Lys 5/12/15/20)-R: sc-8652-R (**A**,**B**). Note acetylation of Histone H2B in lane **B**.

SELECT PRODUCT CITATIONS

1. Zuccotti, M., et al. 2011. Fully-mature antral mouse oocytes are transcriptionally silent but their heterochromatin maintains a transcriptional permissive histone acetylation profile. J. Assist. Reprod. Genet. 28: 1193-1196.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.