SANTA CRUZ BIOTECHNOLOGY, INC.

p-Ac-Histone H3 (Ser 11/Lys 15): sc-33361

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 Histone 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 Lysine 14 and 18 and Histone H4 at Lysine 5 and 8. Histone H4 may also be acetylated at Lysine 12 and 16, and the involvement of acetylated H4 with Histone H2A, H2B and H3 suggests that acetylated histones may be involved in dynamic chromatin remodeling. Phosphorylation of Histone H3 is involved in chromosome condensation during mitosis. Histone H3 phosphorylation correlates to the expression of immediate-early genes such as c-Jun, c-Fos and c-Myc. Research indicates that MSK1, a growth and stress activated kinase, also phosphorylates Histone H3 *in vitro*.

SOURCE

p-Ac-Histone H3 (Ser 11/Lys 15) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 11 and acetylated Lys 15 phosphorylated 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-33361 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

p-Ac-Histone H3 (Ser 11/Lys 15) is recommended for detection of Ser 11 phosphorylated and Lys 15 acetylated Histone H3 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 H3 or other lysine acetylation sites.

p-Ac-Histone H3 (Ser 11/Lys 15) is also recommended for detection of correspondingly phosphorylated Ac-Histone H3 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of p-Ac-Histone H3: 15 kDa.

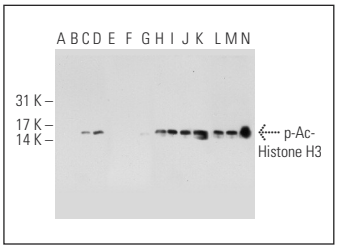
Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

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).

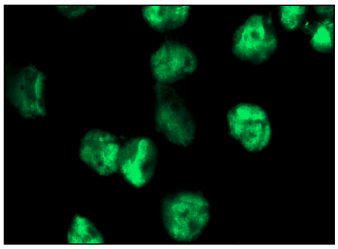
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: 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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 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 Histone H3 phosphorlation and acetylation in untreated (**A**,**H**), Trichostatin A treated (**B**,**I**), calyculin A treated (**C**,**J**), Trichostatin A and calyculin A treated (**D**,**K**), Trichostatin A and lambda protein phosphatase (sc-200312A) treated (**E**,**L**), calyculin A and lambda protein phosphatase (sc-200312A) treated (**F**,**M**) and Trichostatin A, calyculin A and lambda protein phosphatase (sc-200312A) treated (**G**,**N**) NIH/3T3 whole cell lysates. Antibodies tested include p-Ac-Histone H3 (Ser 11/Lys 15): sc-33361 (**A**,**B**,**C**,**D**,**E**,**F**,**G**) and Histone H3 (FL-136): sc-10809 (**H**,**I**,**J**,**K**,**L**,**M**,**N**).



p-Ac-Histone H3 (Ser 11/Lys 15): sc-33361. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Mediouni, S., et al. 2012. A monoclonal antibody directed against a conformational epitope of the HIV-1 *trans*-activator (tat) protein neutralizes cross-clade. J. Biol. Chem. 287: 11942-11950.
2. Treas, J.N., et al. 2012. Effects of chronic exposure to arsenic and estrogen on epigenetic regulatory genes expression and epigenetic code in human prostate epithelial cells. PLoS ONE 7: e43880.

RESEARCH USE

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