SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2B (N-20): sc-8650

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fiber. Two molecules of each of the four core histones (H2A, H2B, H3 and H4) form the octamer, which consists of two H2A-H2B dimers and two H3-H4 dimers, forming two nearly symmetrical halves by tertiary structure. Over 80% of nucleosomes contain the linker Histone H1, derived from an intronless gene that interacts with linker DNA between nucleosomes and mediates compaction into higher order chromatin. Histones are subject to posttranslational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Such modifications include methylation, citrullination, acetylation, phosphorylation, sumoylation, ubiquitination and ADP-ribosylation.

REFERENCES

1. Rupp, R.A., et al. 2005. Gene regulation by Histone H1: new links to DNA methylation. Cell 123: 1178-1179.
2. Martin, C., et al. 2005. The diverse functions of histone-lysine methylation. Nat. Rev. Mol. Cell Biol. 6: 838-849.
3. Gunjan, A., et al. 2005. Regulation of histone synthesis and nucleosome assembly. Biochimie 87: 625-635.

SOURCE

Histone H2B (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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-8650 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

Histone H2B (N-20) is recommended for detection of Histone H2B of mouse, rat, human 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).

Histone H2B (N-20) is also recommended for detection of Histone H2B in additional species, including equine, canine, bovine, porcine and avian.

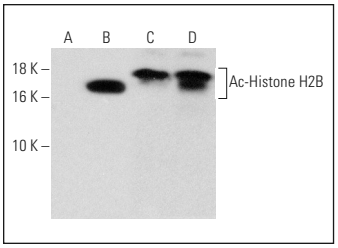
Molecular Weight of Histone H2B: 18 kDa.

Positive Controls: Panobinostat (sc-208148) treated A549 whole cell lysate, BJAB whole cell lysate: sc-2207 or BJAB nuclear extract: sc-2145.

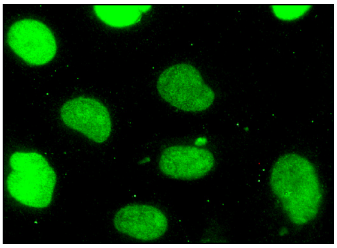
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: 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), 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 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.

DATA



Western blot analysis of Histone H2B acetylation in untreated (**A**,**C**) and Panobinostat (sc-208148) treated (**B**,**D**) A549 whole cell lysates. Antibodies tested include Ac-Histone H2B (Lys 5/12/15/20): sc-8652 (**A**,**B**) and Histone H2B (N-20): sc-8650 (**C**,**D**).



Histone H2B (N-20): sc-8650. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wen, Y., et al. 2003. Nuclear association of the cytoplasmic tail of MUC1 and β-catenin. J. Biol. Chem. 278: 38029-38039.
2. Plymate, S.R., et al. 2007. An antibody targeting the type I Insulin-like growth factor receptor enhances the castration-induced response in androgen-dependent prostate cancer. Clin. Cancer Res. 13: 6429-6439.
3. Carlisi, D., et al. 2008. Histone deacetylase inhibitors induce in human hepatoma HepG2 cells acetylation of p53 and histones in correlation with apoptotic effects. Int. J. Oncol. 32: 177-184.
4. Viiri, K.M., et al. 2009. DNA-binding and -bending activities of SAP30L and SAP30 are mediated by a zinc-dependent module and monophosphoinositides. Mol. Cell. Biol. 29: 342-356.
5. Nollet, M., et al. 2011. Activation of orexin neurons in dorsomedial/perifornical hypothalamus and antidepressant reversal in a rodent model of depression. Neuropharmacology 61: 336-346.
6. Clement, C.C., et al. 2013. Protein expression profiles of human lymph and plasma mapped by 2D-DIGE and 1D SDS-PAGE coupled with nanoLC-ESI-MS/MS bottom-up proteomics. J. Proteomics 78: 172-187.

RESEARCH USE

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