SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2B (FL-126): sc-10808

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. Hake, S.B., et al. 2006. Histone H3 variants and their potential role in indexing mammalian genomes: the "H3 barcode hypothesis". Proc. Natl. Acad. Sci. USA 103: 6428-6435.
2. Nightingale, K.P., et al. 2006. Histone modifications: signalling receptors and potential elements of a heritable epigenetic code. Curr. Opin. Genet. Dev. 16: 125-136.
3. Wurtele, H., et al. 2006. Histone post-translational modifications and the response to DNA double-strand breaks. Curr. Opin. Cell Biol. 18: 137-144.

SOURCE

Histone H2B (FL-126) is a rabbit polyclonal antibody raised against amino acids 1-126 representing full length 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.

APPLICATIONS

Histone H2B (FL-126) is recommended for detection of Histone H2B of mouse, rat, human, *Drosophila, Xenopus* and *C. 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).

Histone H2B (FL-126) 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: Jurkat whole cell lysate: sc-2204, BJAB whole cell lysate: sc-2207 or HeLa whole cell lysate: sc-2200.

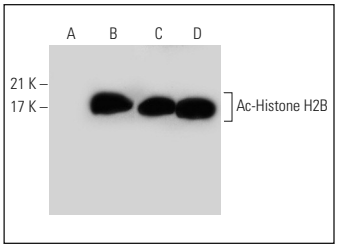
STORAGE

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

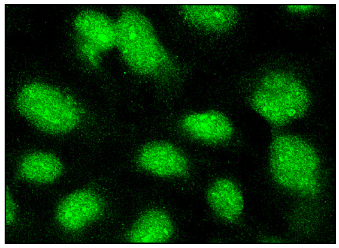
RESEARCH USE

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

DATA



Trichostatin A: sc-3511.Western blot analysis of Ac-Histone H2B acetylation in untreated (**A**,**C**) and Trichostatin A treated (**B**,**D**) NIH/3T3 whole cell lysates. Antibodies tested include: Ac-Histone H2B (Lys 5/12/15/20)-R: sc-8652-R (**A**,**B**) and Histone H2B (FL-126): sc-10808 (**C**,**D**).



Histone H2B (FL-126): sc-10808. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Sarcevic, B., et al. 2002. Regulation of the ubiquitin-conjugating enzyme hHR6A by CDK-mediated phosphorylation. EMBO J. 21: 2009-2018.
2. Marin-Husstege, M., et al. 2002. Histone deacetylase activity is necessary for oligodendrocyte lineage progression. J. Neurosci. 22: 10333-10345.
3. Kondo, S., et al. 2007. MUC1 induced by Epstein-Barr virus latent membrane protein 1 causes dissociation of the cell-matrix interaction and cellular invasiveness via STAT signaling. J. Virol. 81: 1554-1562.
4. Takenaka, Y., et al. 2007. Direct observation of histone H2B-YFP fusion proteins and transport of their mRNA between conjugating paramecia. Gene 395: 108-115.
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7. Pereg, Y., et al. 2010. Ubiquitin hydrolase Dub3 promotes oncogenic transformation by stabilizing Cdc25A. Nat. Cell Biol. 12: 400-406.
8. Okumura, F., et al. 2011. TRIM8 regulates Nanog via Hsp90β-mediated nuclear translocation of STAT3 in embryonic stem cells. Biochim. Biophys. Acta 1813: 1784-1792.
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11. Pagliei, B., et al. 2013. Garlic-derived diallyl disulfide modulates peroxisome proliferator activated receptor gamma co-activator 1 α in neuroblastoma cells. Biochem. Pharmacol. 85: 335-344.