SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2B (A-6): sc-515808

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; formed 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.

SOURCE

Histone H2B (A-6) is a mouse monoclonal antibody raised against amino acids 1-126 representing full length Histone H2B of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Histone H2B (A-6) is recommended for detection of Histone H2B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Histone H2B: 18 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, MCF7 whole cell lysate: sc-2206 or PC-12 cell lysate: sc-2250.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

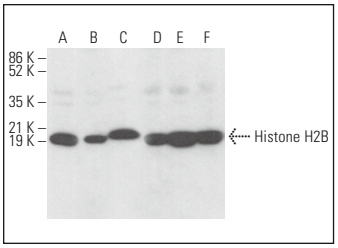
STORAGE

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

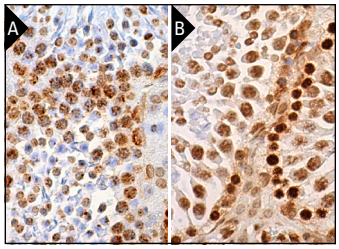
RESEARCH USE

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

DATA



Histone H2B (A-6): sc-515808. Western blot analysis of Histone H2B expression in MCF7 (**A**), NAMALWA (**B**) and PC-12 (**C**) whole cell lysates and WEHI-231 (**D**), NIH/3T3 (**E**) and MOLT-4 (**F**) nuclear extracts.



Histone H2B (A-6): sc-515808. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis (**A**) and rat testis (**B**) tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Wei, Y.L. and Yang, W.X. 2019. Kinesin-14 motor protein KIFC1 participates in DNA synthesis and chromatin maintenance. Cell Death Dis. 10: 402.
2. Jacob, J.T., et al. 2020. Keratin 17 regulates nuclear morphology and chromatin organization. J. Cell Sci. 133: jcs254094.
3. Rogerson, C., et al. 2021. Akt1-associated actomyosin remodelling is required for nuclear lamina dispersal and nuclear shrinkage in epidermal terminal differentiation. Cell Death Differ. 28: 1849-1864.
4. Arnold, M., et al. 2021. A BRD4-mediated elongation control point primes transcribing RNA polymerase II for 3'-processing and termination. Mol. Cell 81: 3589-3603.e13.
5. Li, P.F., et al. 2021. Downregulation of DNA ligases in trophoblasts contributes to recurrent pregnancy loss through inducing DNA damages. Placenta 106: 7-14.
6. Wang, X., et al. 2022. Scinderin promotes fusion of electron transport chain dysfunctional muscle stem cells with myofibers. Nat. Aging 2: 155-169.
7. Gemble, S., et al. 2022. Genetic instability from a single S phase after whole-genome duplication. Nature 604: 146-151.
8. Gou, J., et al. 2022. Transfer of IGF2BP3 through Ara-C-induced apoptotic bodies promotes survival of recipient cells. Front. Oncol. 12: 801226.
9. Itakura, M., et al. 2022. Histone functions as a cell-surface receptor for AGEs. Nat. Commun. 13: 2974.
10. Turchi, R., et al. 2022. Low sulfur amino acid, high polyunsaturated fatty acid diet inhibits breast cancer growth. Int. J. Mol. Sci. 24: 249.

PROTOCOLS

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