SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H3 (1G1): sc-517576

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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.

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. and Zhang, Y. 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.
4. Bode, A.M. and Dong, Z. 2005. Inducible covalent posttranslational modification of Histone H3. Sci. STKE 2005: re4.
5. Bustin, M., et al. 2005. The dynamics of Histone H1 function in chromatin. Mol. Cell 17: 617-620.

CHROMOSOMAL LOCATION

Genetic locus: HIST1H3A (human) mapping to 6p22.2; Hist1h3a (mouse) mapping to 13 A3.1.

SOURCE

Histone H3 (1G1) is a mouse monoclonal antibody raised against recombinant Histone H3 protein fragments of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

Histone H3 (1G1) is recommended for detection of Histone H3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Histone H3 siRNA (h): sc-37980, Histone H3 siRNA (m): sc-37981, Histone H3 shRNA Plasmid (h): sc-37980-SH, Histone H3 shRNA Plasmid (m): sc-37981-SH, Histone H3 shRNA (h) Lentiviral Particles: sc-37980-V and Histone H3 shRNA (m) Lentiviral Particles: sc-37981-V.

Molecular Weight of Histone H3: 15 kDa.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Hu, F., et al. 2018. Histone demethylase KDM4D promotes gastrointestinal stromal tumor progression through HIF1β/VEGFA signalling. Mol. Cancer 17: 107.
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4. Liang, Y., et al. 2018. Elevated IL-33 promotes expression of MMP2 and MMP9 via activating Stat3 in alveolar macrophages during LPS-induced acute lung injury. Cell. Mol. Biol. Lett. 23: 52.
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6. Gonzalez-Munoz, E., et al. 2019. Zebrafish macroH2A variants have distinct embryo localization and function. Sci. Rep. 9: 8632.
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8. Wu, X., et al. 2020. Histone demethylase KDM4C activates HIF1α/VEGFA signaling through the costimulatory factor Stat3 in NSCLC. Am. J. Cancer Res. 10: 491-506.
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10. Gao, M., et al. 2020. Troxerutin attenuates cognitive decline in the hippocampus of male diabetic rats by inhibiting NADPH oxidase and activating the Nrf2/ARE signaling pathway. Int. J. Mol. Med. 46: 1239-1248.
11. Lisek, M., et al. 2020. Hexachloronaphthalene induces mitochondrial-dependent neurotoxicity via a mechanism of enhanced production of reactive oxygen species. Oxid. Med. Cell. Longev. 2020: 2479234.
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13. Gao, N., et al. 2020. A role of Lamin A/C in preventing neuromuscular junction decline in mice. J. Neurosci. 40: 7203-7215.
14. Zhao, X., et al. 2020. Polydatin inhibits ZEB1-invoked epithelial-mesenchymal transition in fructose-induced liver fibrosis. J. Cell. Mol. Med. E-published.

RESEARCH USE

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