SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H1 (H-2): sc-393358

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 H1 (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 22-47 near the N-terminus of Histone H1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393358 X, 200 µg/0.1 ml.

Histone H1 (H-2) is available conjugated to agarose (sc-393358 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393358 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393358 PE), fluorescein (sc-393358 FITC), Alexa Fluor® 488 (sc-393358 AF488), Alexa Fluor® 546 (sc-393358 AF546), Alexa Fluor® 594 (sc-393358 AF594) or Alexa Fluor® 647 (sc-393358 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393358 AF680) or Alexa Fluor® 790 (sc-393358 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393358 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Histone H1 (H-2) is recommended for detection of all Histone H1 isoforms 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Histone H1 (H-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

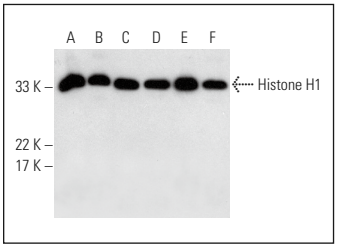
Molecular Weight of Histone H1: 32-33 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, LNCaP cell lysate: sc-2231 or HeLa whole cell lysate: sc-2200.

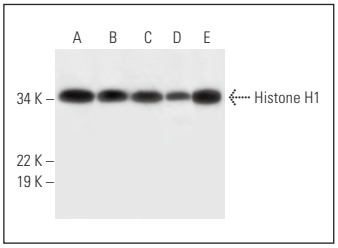
STORAGE

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

DATA



Histone H1 (H-2) HRP: sc-393358 HRP. Direct western blot analysis of Histone H1 expression in A-431 (**A**), LNCaP (**B**), HeLa (**C**), HL-60 (**D**) and SH-SY5Y (**E**) whole cell lysates and Jurkat nuclear extract (**F**).



Histone H1 (H-2): sc-393358. Western blot analysis of Histone H1 expression in A-431 (**A**), LNCaP (**B**), HeLa (**C**) and HL-60 (**D**) whole cell lysates and Jurkat nuclear extract (**E**).

SELECT PRODUCT CITATIONS

1. Ishaq, M., et al. 2014. Atmospheric pressure gas plasma-induced colorectal cancer cell death is mediated by Nox2-ASK1 apoptosis pathways and oxidative stress is mitigated by Srx-Nrf2 anti-oxidant system. Biochim. Biophys. Acta 1843: 2827-2837.
2. Szerlong, H.J., et al. 2015. Proteomic characterization of the nucleolar linker Histone H1 interaction network. J. Mol. Biol. 427: 2056-2071.
3. Chen, H., et al. 2016. Suberoylanilide hydroxamic acid, an inhibitor of histone deacetylase, induces apoptosis in rheumatoid arthritis fibroblast-like synoviocytes. Inflammation 39: 39-46.
4. Antognelli, C., et al. 2017. Glyoxalase 2 drives tumorigenesis in human prostate cells in a mechanism involving androgen receptor and p53-p21 axis. Mol. Carcinog. 56: 2112-2126.
5. Turano, M., et al. 2018. Characterisation of mesenchymal colon tumour-derived cells in tumourspheres as a model for colorectal cancer progression. Int. J. Oncol. 53: 2379-2396.
6. Rojas, D.A., et al. 2019. Increase in secreted airway mucins and partial Muc5b Stat6/FoxA2 regulation during *Pneumocystis* primary infection. Sci. Rep. 9: 2078.
7. Cammarota, F., et al. 2020. Lithium chloride increases sensitivity to photon irradiation treatment in primary mesenchymal colon cancer cells. Mol. Med. Rep. 21: 1501-1508.
8. Zhang, M., et al. 2020. SIRT2 protects peripheral neurons from cisplatin-induced injury by enhancing nucleotide excision repair. J. Clin. Invest. 130: 2953-2965.
9. Hanzlikova, H., et al. 2020. Pathogenic ARH3 mutations result in ADP-ribose chromatin scars during DNA strand break repair. Nat. Commun. 11: 3391.

RESEARCH USE

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