SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2A.X (938CT5.1.1): sc-517336

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Histone H2A.X is a member of the Histone H2A family, which is involved in nucleosomal organization of chromatin. The H2AFX gene is located in close proximity to the Porphobilinogen deaminase (PBG-D) gene in both mouse and human, and maps to chromosome 9 and 11q23.3, respectively. H2A.X differs from the other members of the H2A family by the presence of a highly conserved C-terminal motif. It is rapidly phosphorylated in response to ionizing radiation and plays an important role in the recognition and repair of DNA double stranded breaks. The phosphorylated form of H2A.X, designated γ-H2A.X, forms nuclear foci at the heavy chain constant region of cells involved in class switch recombination (CSR), a region-specific DNA reaction that replaces one immunoglobulin heavy chain constant region gene with another. The phosphorylated γ-H2A.X is also thought to initiate subsequent repair factors, including Rad50, Rad51 and BRCA1.

REFERENCES

1. Ivanova, V.S., et al. 1994. Characterization of the human Histone H2A.X gene: comparison of its promoter with other H2A gene promoters. J. Biol. Chem. 269: 24189-24194.
2. Porcher, C. and Grandchamp, B. 1995. Structure of the mouse H2A.X gene and physical linkage to the UPS locus on chromosome 9: assignment of the human H2A.X gene to 11q23 by sequence anyalysis. Genomics 25: 312-313.

CHROMOSOMAL LOCATION

Genetic locus: H2AFX (human) mapping to 11q23.3.

SOURCE

Histone H2A.X (938CT5.1.1) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 115-143 in the C-terminal region of Histone H2A.X of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Histone H2A.X (938CT5.1.1) is recommended for detection of Histone H2A.X of human 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Histone H2A.X siRNA (m): sc-62465, Histone H2A.X shRNA Plasmid (m): sc-62465-SH and Histone H2A.X shRNA (m) Lentiviral Particles: sc-62465-V.

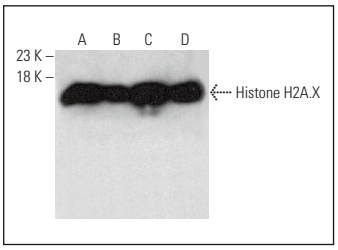
Molecular Weight of Histone H2A.X: 15 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, CCRF-CEM cell lysate: sc-2225 or Hep G2 cell lysate: sc-2227.

STORAGE

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

DATA



Histone H2A.X (938CT5.1.1): sc-517336. Western blot analysis of Histone H2A.X expression in HEK293 (**A**), CCRF-CEM (**B**), Hep G2 (**C**) and Raji (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Khaket, T.P., et al. 2018. Targeting of cathepsin C induces autophagic dysregulation that directs ER stress mediated cellular cytotoxicity in colorectal cancer cells. Cell. Signal. 46: 92-102.
2. 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.
3. Guardamagna, I., et al. 2020. A functional *in vitro* cell-free system for studying DNA repair in isolated nuclei. J. Cell Sci. 133: jcs240010.
4. Zeng, W. 2020. Bisphenol A triggers the malignancy of nasopharyngeal carcinoma cells via activation of Wnt/β-catenin pathway. Toxicol. In Vitro 66: 104881.
5. Elzayat, M.A., et al. 2020. Ameliorative effect of 2-methoxyestradiol on radiation-induced lung injury. Life Sci. 255: 117743.
6. Wang, S., et al. 2020. Mithramycin suppresses DNA damage repair via targeting androgen receptor in prostate cancer. Cancer Lett. 488: 40-49.
7. Liang, K., et al. 2020. Contrary roles of Wnt/β-catenin signaling in BMP9-induced osteogenic and adipogenic differentiation of 3T3-L1 preadipocytes. Cell Biochem. Biophys. 78: 347-356.
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9. Koustas, E., et al. 2020. Inhibition of c-MET increases the antitumour activity of PARP inhibitors in gastric cancer models. J. Cell. Mol. Med. 24: 10420-10431.
10. Chakraborty, A., et al. 2020. Replication stress induces global chromosome breakage in the fragile X genome. Cell Rep. 32: 108179.

RESEARCH USE

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