SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2A.X (C-20): sc-54606

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 (PBGD) gene in both mouse and human, and maps to chromosome 9 and 11q23, 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.

CHROMOSOMAL LOCATION

Genetic locus: H2AFX (human) mapping to 11q23.3; H2afx (mouse) mapping to 9 A5.2.

SOURCE

Histone H2A.X (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Histone H2A.X of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-54606 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and CHIP applications, sc-54606 X, 200 µg/0.1 ml.

APPLICATIONS

Histone H2A.X (C-20) is recommended for detection of histone H2A.X of human and, to a lesser extent, mouse 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 H2A.X (C-20) is also recommended for detection of histone H2A.X in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Histone H2A.X siRNA (h): sc-62464, Histone H2A.X shRNA Plasmid (h): sc-62464-SH and Histone H2A.X shRNA (h) Lentiviral Particles: sc-62464-V.

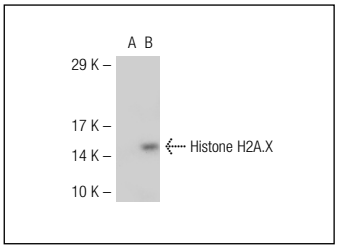
Histone H2A.X (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Histone H2A.X: 15 kDa.

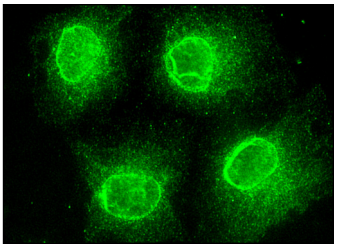
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Histone H2A.X (C-20): sc-54606. Western blot analysis of Histone H2A.X expression in non-transfected: sc-117752 (**A**) and mouse Histone H2A.X transfected: sc-120804 (**B**) 293T whole cell lysates.



Histone H2A.X (C-20): sc-54606. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Ray, A., et al. 2009. Human SNF5/INI1, a component of the human SWI/SNF chromatin remodeling complex, promotes nucleotide excision repair by influencing ATM recruitment and downstream H2AX phosphorylation. Mol. Cell. Biol. 29: 6206-6219.
2. Battu, A., et al. 2011. ASF1A and ATM regulate H3K56-mediated cell-cycle checkpoint recovery in response to UV irradiation. Nucleic Acids Res. 39: 7931-7945.
3. Ray, A., et al. 2013. NER initiation factors, DDB2 and XPC, regulate UV radiation response by recruiting ATR and ATM kinases to DNA damage sites. DNA Repair 12: 273-283.

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.

PROTOCOLS

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