SANTA CRUZ BIOTECHNOLOGY, INC.

p-Histone H2A.X (Ser 139): sc-101696

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 Histone H2A.X gene is located in close proximity to the porphobilinogen deaminase (PBGD) gene in both mouse and human, and maps to 9 A5.2 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-Histone H2A.X (Ser 139) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 139 phosphorylated 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.

APPLICATIONS

p-Histone H2A.X (Ser 139) is recommended for detection of Ser 139 phosphorylated Histone H2A.X of human and mouse origin and correspondingly phosphorylated Ser 140 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Histone H2A.X siRNA (h): sc-62464, Histone H2A.X siRNA (m): sc-62465, Histone H2A.X shRNA Plasmid (h): sc-62464-SH, Histone H2A.X shRNA Plasmid (m): sc-62465-SH, Histone H2A.X shRNA (h) Lentiviral Particles: sc-62464-V and Histone H2A.X shRNA (m) Lentiviral Particles: sc-62465-V.

Molecular Weight of p-Histone H2A.X: 15 kDa.

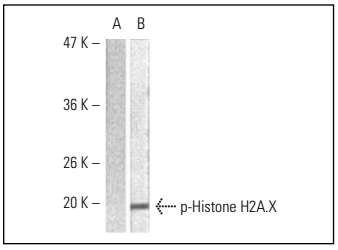
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

DATA



p-Histone H2A.X (Ser 139): sc-101696. Western blot analysis of phosphorylated Histone H2A.X expression in untreated (**A**) and UV-treated (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Verma, R., et al. 2010. DNA damage response to the Mdm2 inhibitor nutlin-3. Biochem. Pharmacol. 79: 565-574.
2. Rigatti, M.J., et al. 2012. Pharmacological inhibition of Mdm2 triggers growth arrest and promotes DNA breakage in mouse colon tumors and human colon cancer cells. Mol. Carcinog. 51: 363-378.
3. Yen, C.Y., et al. 2012. Antiproliferative effects of goniothalamin on Ca9-22 oral cancer cells through apoptosis, DNA damage and ROS induction. Mutat. Res. 747: 253-258.
4. Belluti, S., et al. 2013. Concurrent inhibition of enzymatic activity and NF-Y-mediated transcription of Topoisomerase-IIα by bis-DemethoxyCurcumin in cancer cells. Cell Death Dis. 4: e756.
5. Kaushik Tiwari, M. and Rogers, F.A. 2013. XPD-dependent activation of apoptosis in response to triplex-induced DNA damage. Nucleic Acids Res. 41: 8979-8994.
6. Zhang, C., et al. 2013. Enhanced antitumor activity by the combination of dasatinib and combretastatin A-4 *in vitro* and *in vivo*. Oncol. Rep. 29: 2275-2282.
7. Stefaniková, A., et al. 2013. ABT-737 accelerates butyrate-induced death of HL-60 cells. Involvement of mitochondrial apoptosis pathway. Gen. Physiol. Biophys. 32: 505-516.
8. Cilli, D., et al. 2014. Identification of the interactors of human nibrin (NBN) and of its 26 kDa and 70 kDa fragments arising from the NBN 657del5 founder mutation. PLoS ONE 9: e114651.
9. Zhang, J., et al. 2014. Mice deficient in Rbm38, a target of the p53 family, are susceptible to accelerated aging and spontaneous tumors. Proc. Natl. Acad. Sci. USA 111: 18637-18642.

RESEARCH USE

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