SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2A (C-19): sc-8648

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 sequentially in a left-handed super-helical turn to form chromosomal fiber. Two molecules of each of the four core histones (H2A, H2B, H3 and H4) form the octamer, which is comprised of two H2A-H2B dimers and two H3-H4 dimers, creating two nearly symmetrical halves by tertiary structure. More than 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 H2A (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Histone H2A of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8648 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Histone H2A (C-19) is recommended for detection of Histone H2A of mouse, rat, human, *Drosophila melanogaster, Xenopus laevis* and *Caenorhabditis elegans* 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 (C-19) is also recommended for detection of Histone H2A in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Histone H2A: 16 kDa.

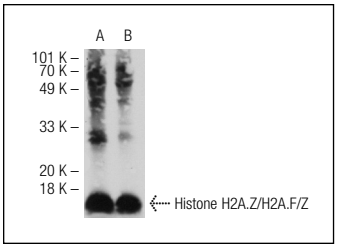
Molecular Weight of ubiquitylated Histone H2A: 24 kDa.

Positive Controls: mouse placenta extract: sc-364247 or rat placenta extract: sc-36808.

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 (C-19): sc-8648. Western blot analysis of Histone H2A expression in mouse placenta (**A**) and rat placenta (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Garrido, N., et al. 2003. Composition and dynamics of human mitochondrial nucleoids. Mol. Biol. Cell 14: 1583-1596.
2. Minami, J., et al. 2007. Purification and characterization of C-terminal truncated forms of Histone H2A in monocytic THP-1 cells. Int. J. Biochem. Cell Biol. 39: 171-180.
3. Franklin, S., et al. 2011. Specialized compartments of cardiac nuclei exhibit distinct proteomic anatomy. Mol. Cell. Proteomics 10: M110.
4. Zhu, F., et al. 2011. Phosphorylation of H2AX at Ser139 and a new phosphorylation site Ser16 by RSK2 decreases H2AX ubiquitination and inhibits cell transformation. Cancer Res. 71: 393-403.
5. Fujiwara, Y., et al. 2011. Combination paclitaxel and inhibitor of nuclear factor κB activation improves therapeutic outcome for model mice with peritoneal dissemination of pancreatic cancer. Pancreas 40: 600-607.
6. Tang, R., et al. 2012. Mouse miRNA-709 directly regulates miRNA-15a/16-1 biogenesis at the posttranscriptional level in the nucleus: evidence for a microRNA hierarchy system. Cell Res. 22: 504-515.
7. Zhou, W., et al. 2013. Characterization of nuclear localization signal in the N terminus of integrin-linked kinase-associated phosphatase (ILKAP) and its essential role in the down-regulation of RSK2 protein signaling. J. Biol. Chem. 288: 6259-6271.
8. Chen, H., et al. 2013. Systems proteomics of healthy and diseased chromatin. Methods Mol. Biol. 1005: 77-93.