SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H3 (C-16): sc-8654

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.

REFERENCES

1. Bustin, M., et al. 2005. The dynamics of histone H1 function in chromatin. Mol. Cell 17: 617-620.
2. de la Cruz, X., et al. 2005. Do protein motifs read the histone code? Bioessays 27: 164-175.

SOURCE

Histone H3 (C-16) is available as either goat (sc-8654) or rabbit (sc-8654-R) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of Histone H3 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-8654 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Histone H3 (C-16) is recommended for detection of Histone H3 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 H3 (C-16) is also recommended for detection of Histone H3 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Histone H3: 15 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-2 OS cell lysate: sc-2295 or HeLa nuclear extract: sc-2120.

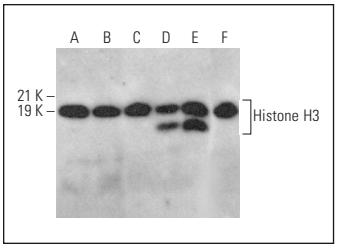
STORAGE

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

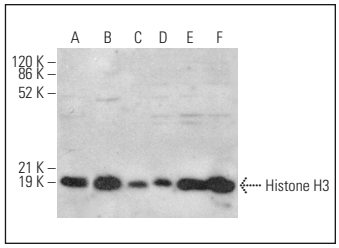
RESEARCH USE

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

DATA



Histone H3 (C-16): sc-8654. Western blot analysis of Histone H3 expression in A-431 (**A**), HL-60 (**B**), Jurkat (**C**), HEK293T (**D**) and COS (**E**) whole cell lysates and NIH/3T3 nuclear extract (**F**).



Histone H3 (C-16): sc-8654. Western blot analysis of Histone H3 expression in COLO 205 (**A**), K-562 (**B**), 3T3-L1 (**C**), HEK293 (**D**) and U-2 OS (**E**) whole cell lysates and HeLa nuclear extract (**F**).

SELECT PRODUCT CITATIONS

1. Maison, C., et al. 2002. Higher-order structure in pericentric heterochromatin involves a distinct pattern of histone modification and an RNA component. Nat. Genet. 30: 329-334.
2. Meyer, T., et al. 2002. Constitutive and IFN-γ-induced nuclear import of Stat1 proceed through independent pathways. EMBO J. 21: 344-354.
3. An, J.H., et al. 2011. Gelsolin negatively regulates the activity of tumor suppressor p53 through their physical interaction in hepatocarcinoma HepG2 cells. Biochem. Biophys. Res. Commun. 412: 44-49.
4. Zhao, H., et al. 2012. Interaction of proliferation cell nuclear antigen (PCNA) with c-Abl in cell proliferation and response to DNA damages in breast cancer. PLoS ONE 7: e29416.
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