

Histone H1 (FL-219): sc-10806

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, which is comprised 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. Rupp, R.A., et al. 2005. Gene regulation by Histone H1: new links to DNA methylation. *Cell* 123: 1178-1179.
2. Martin, C., et al. 2005. The diverse functions of histone lysine methylation. *Nat. Rev. Mol. Cell Biol.* 6: 838-849.

CHROMOSOMAL LOCATION

Genetic locus: HIST1H1E (human) mapping to 6p22.2; Hrh1 (mouse) mapping to 6 E3.

SOURCE

Histone H1 (FL-219) is a rabbit polyclonal antibody raised against amino acids 1-219 representing full-length Histone H1 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.

APPLICATIONS

Histone H1 (FL-219) is recommended for detection of all Histone H1 isoforms of mouse, rat, human and *Xenopus laevis* 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 H1 (FL-219) is also recommended for detection of all Histone H1 isoforms in additional species, including equine and bovine.

Molecular Weight of Histone H1: 32-33 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, LNCaP cell lysate: sc-2231 or Jurkat nuclear extract: sc-2132.

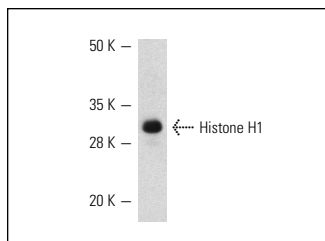
STORAGE

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

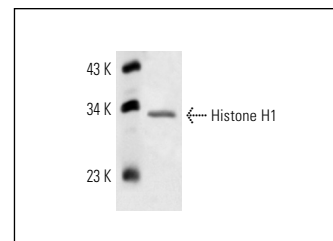
RESEARCH USE

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

DATA



Histone H1 (FL-219): sc-10806. Western blot analysis of recombinant Histone H1.



Histone H1 (FL-219): sc-10806. Western blot analysis of Histone H1 expression in LNCaP whole cell lysate.

SELECT PRODUCT CITATIONS

1. Alekseev, O.M., et al. 2003. Overexpression of the linker histone-binding protein tNASP affects progression through the cell cycle. *J. Biol. Chem.* 278: 8846-8852.
2. Antonsson, A., et al. 2003. Regulation of c-Rel nuclear localization by binding of Ca²⁺/calmodulin. *Mol. Cell. Biol.* 23: 1418-1427.
3. Yuan, L., et al. 2003. DNA damage-induced G₂/M checkpoint in SV40 large T antigen-immortalized embryonic fibroblast cells requires SHP-2 tyrosine phosphatase. *J. Biol. Chem.* 278: 42812-42820.
4. Liang, C.J., et al. 2011. Viscolin reduces VCAM-1 expression in TNF- α -treated endothelial cells via the JNK/NF κ B and ROS pathway. *Free Radic. Biol. Med.* 51: 1337-1346.
5. Bauska, H., et al. 2011. Structure-function analysis of vitamin D₂ analogs as potential inducers of leukemia differentiation and inhibitors of prostate cancer proliferation. *J. Steroid Biochem. Mol. Biol.* 126: 46-54.
6. Zheng, J.Y., et al. 2011. Tumor necrosis factor- α increases angiotensin-like protein 2 gene expression by activating Foxo1 in 3T3-L1 adipocytes. *Mol. Cell. Endocrinol.* 339: 120-129.
7. Flaman, A.S., et al. 2011. The effect of interferon- α on the expression of cytochrome P450 3A4 in human hepatoma cells. *Toxicol. Appl. Pharmacol.* 253: 130-136.
8. Hojka-Osinska, A., et al. 2012. Combined treatment with fenretinide and indomethacin induces AIF-mediated, non-classical cell death in human acute T-cell leukemia Jurkat cells. *Biochem. Biophys. Res. Commun.* 419: 590-595.

MONOS
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Try **Histone H1 (H-2): sc-393358** or **Histone H1 (AE-4): sc-8030**, our highly recommended monoclonal alternatives to Histone H1 (FL-219). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Histone H1 (H-2): sc-393358**.