

Histone H1⁰ (34): sc-56695

BACKGROUND

Histone H1⁰ (H1 histone family, member 0) is a lysine-rich member of the H1 family of linker histones. The H1 family of proteins interacts with linker DNA between nucleosomes and mediates compaction into higher order chromatin. Histone H1⁰ is a unique variant, considered a replacement linker histone, which is expressed and incorporated into chromatin in the absence of DNA replication. In contrast, the majority of somatic H1 histones are replication-dependent variants found in proliferating cells. Histone H1⁰ is expressed in cells that are in the terminal stages of differentiation or that have low rates of cell division. Unlike other differentiation-specific linker histones which demonstrate tissue and species-specific expression, Histone H1⁰ is widely expressed in many tissues in most vertebrates. Histone H1⁰ is derived from an intronless gene, H1F0, which has been mapped to chromosome human 22q13.1. 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

- Doenecke, D., et al. 1986. Differential distribution of lysine and arginine residues in the closely related Histones H1 and H5. Analysis of a human H1 gene. *J. Mol. Biol.* 187: 461-464.
- Albig, W., et al. 1993. All known human H1 histone genes except the H1⁰ gene are clustered on chromosome 6. *Genomics* 16: 649-654.

CHROMOSOMAL LOCATION

Genetic locus: H1F0 (human) mapping to 22q13.1; H1f0 (mouse) mapping to 15 E1.

SOURCE

Histone H1⁰ (34) is a mouse monoclonal antibody raised against amino acids 20-30 of Histone H1⁰ of bovine origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Histone H1⁰ (34) is available conjugated to agarose (sc-56695 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56695 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56695 PE), fluorescein (sc-56695 FITC), Alexa Fluor[®] 488 (sc-56695 AF488), Alexa Fluor[®] 546 (sc-56695 AF546), Alexa Fluor[®] 594 (sc-56695 AF594) or Alexa Fluor[®] 647 (sc-56695 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-56695 AF680) or Alexa Fluor[®] 790 (sc-56695 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

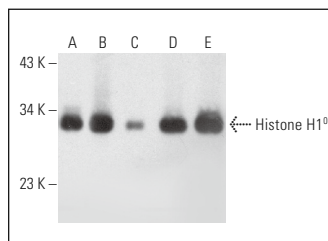
Histone H1⁰ (34) is recommended for detection of Histone H1⁰ of mouse, rat, human, bovine and *Xenopus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Histone H1⁰ siRNA (h): sc-62460, Histone H1⁰ siRNA (m): sc-62461, Histone H1⁰ shRNA Plasmid (h): sc-62460-SH, Histone H1⁰ shRNA Plasmid (m): sc-62461-SH, Histone H1⁰ shRNA (h) Lentiviral Particles: sc-62460-V and Histone H1⁰ shRNA (m) Lentiviral Particles: sc-62461-V.

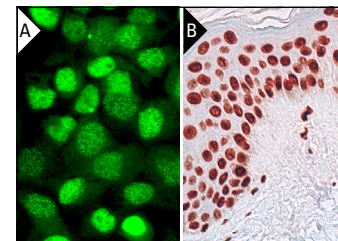
Molecular Weight of Histone H1⁰: 32 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Sol8 cell lysate: sc-2249 or RAW 264.7 whole cell lysate: sc-2211.

DATA



Histone H1⁰ (34): sc-56695. Western blot analysis of Histone H1⁰ expression in Hep G2 (A), Sol8 (B), RAW 264.7 (C), RBL-1 (D) and L8 (E) whole cell lysates.



Histone H1⁰ (34): sc-56695. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (B).

SELECT PRODUCT CITATIONS

- Medrzycki, M., et al. 2012. Profiling of linker histone variants in ovarian cancer. *Front. Biosci.* 17: 396-406.
- Medrzycki, M., et al. 2014. Histone H1.3 suppresses h19 noncoding RNA expression and cell growth of ovarian cancer cells. *Cancer Res.* 74: 6463-6473.
- Liao, R., et al. 2017. Site-specific regulation of Histone H1 phosphorylation in pluripotent cell differentiation. *Epigenetics Chromatin* 10: 29.
- Liu, H.M., et al. 2018. GW4064 attenuates lipopolysaccharide-induced hepatic inflammation and apoptosis through inhibition of the Toll-like receptor 4-mediated p38 mitogen-activated protein kinase signaling pathway in mice. *Int. J. Mol. Med.* 41: 1455-1462.

RESEARCH USE

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