SANTA CRUZ BIOTECHNOLOGY, INC.

# Histone $H1^0$ (34): sc-56695

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Histone $H1^0$ (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 $H1^0$ 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 $H1^0$ 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 $H1^0$ is widely expressed in many tissues in most vertebrates. Histone $H1^0$ 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


1. 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.
2. Albig, W., et al. 1993. All known human H1 histone genes except the $H1^0$ 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 $H1^0$ (34) is a mouse monoclonal antibody raised against amino acids 20-30 of Histone $H1^0$ of bovine origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Histone $H1^0$ (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.



## STORAGE

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

## APPLICATIONS

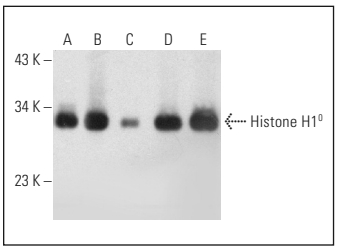
Histone $H1^0$ (34) is recommended for detection of Histone $H1^0$ of mouse, rat, human, bovine and *Xenopus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 $10^6$ cells).

Suitable for use as control antibody for Histone $H1^0$ siRNA (h): sc-62460, Histone $H1^0$ siRNA (m): sc-62461, Histone $H1^0$ shRNA Plasmid (h): sc-62460-SH, Histone $H1^0$ shRNA Plasmid (m): sc-62461-SH, Histone $H1^0$ shRNA (h) Lentiviral Particles: sc-62460-V and Histone $H1^0$ shRNA (m) Lentiviral Particles: sc-62461-V.

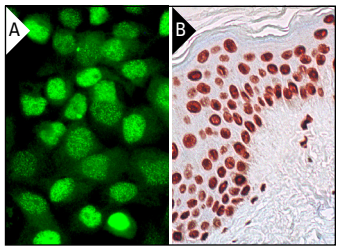
Molecular Weight of Histone $H1^0$: 32 kDa.

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

## DATA




Histone $H1^0$ (34): sc-56695. Western blot analysis of Histone $H1^0$ expression in Hep G2 (**A**), Sol8 (**B**), RAW 264.7 (**C**), RBL-1 (**D**) and L8 (**E**) whole cell lysates.




Histone $H1^0$ (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


1. Medrzycki, M., et al. 2012. Profiling of linker histone variants in ovarian cancer. Front. Biosci. 17: 396-406.
2. Liu, H.M., et al. 2017. Farnesoid X receptor agonist GW4064 ameliorates lipopolysaccharide-induced ileocolitis through TLR4/MyD88 pathway related mitochondrial dysfunction in mice. Biochem. Biophys. Res. Commun. 490: 841-848.
3. Liao, R., et al. 2017. Site-specific regulation of Histone H1 phosphorylation in pluripotent cell differentiation. Epigenetics Chromatin 10: 29.
4. 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.