SANTA CRUZ BIOTECHNOLOGY, INC.

Histone $H1^0$ (F-10): sc-377468

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.

CHROMOSOMAL LOCATION

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

SOURCE

Histone $H1^0$ (F-10) is a mouse monoclonal antibody raised against amino acids 1-85 mapping at the N-terminus of Histone $H1^0$ of human 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377468 X, 200 µg/0.1 ml.

APPLICATIONS

Histone $H1^0$ (F-10) is recommended for detection of Histone $H1^0$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

Histone $H1^0$ (F-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

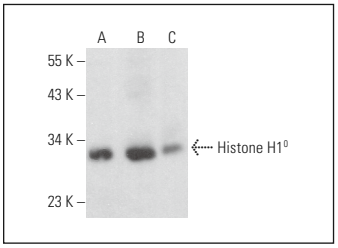
Molecular Weight of Histone $H1^0$: 32 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152, NIH/3T3 nuclear extract: sc-2138 or KNRK nuclear extract: sc-2141.

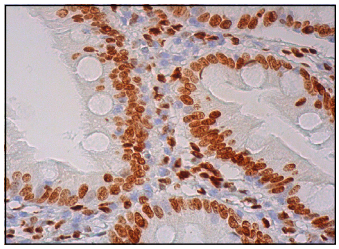
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Histone $H1^0$ (F-10): sc-377468. Western blot analysis of Histone $H1^0$ expression in PC-3 (**A**), NIH/3T3 (**B**) and KNRK (**C**) nuclear extracts.



Histone $H1^0$ (F-10): sc-377468. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Szerlong, H.J., et al. 2015. Proteomic characterization of the nucleolar linker Histone H1 interaction network. J. Mol. Biol. 427: 2056-2071.
2. Zhao, S., et al. 2021. A ubiquitin switch controls autocatalytic inactivation of the DNA-protein crosslink repair protease SPRTN. Nucleic Acids Res. 49: 902-915.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.