SANTA CRUZ BIOTECHNOLOGY, INC.

HAT1 (G-12): sc-376200

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In the intact cell, DNA closely associates with histones and other nuclear proteins to form chromatin. The remodeling of chromatin is believed to be a critical component of transcriptional regulation and a major source of this remodeling is brought about by the acetylation of nucleosomal histones. Acetylation of lysine residues in the amino-terminal tail domain of histone results in an allosteric change in the nucleosomal conformation and an increased accessibility to transcription factors by DNA. Conversely, the deacetylation of histones is associated with transcriptional silencing. Several mammalian proteins have been identified as nuclear histone acetylases, including GCN5, PCAF (p300/CBP-associated factor), p300/CBP, HAT1 and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6 have been identified as histone deacetylases.

CHROMOSOMAL LOCATION

Genetic locus: HAT1 (human) mapping to 2q31.1; Hat1 (mouse) mapping to 2 C2.

SOURCE

HAT1 (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 391-419 at the C-terminus of HAT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376200 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HAT1 (G-12) is recommended for detection of HAT1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HAT1 (G-12) is also recommended for detection of HAT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HAT1 siRNA (h): sc-37948, HAT1 siRNA (m): sc-145898, HAT1 shRNA Plasmid (h): sc-37948-SH, HAT1 shRNA Plasmid (m): sc-145898-SH, HAT1 shRNA (h) Lentiviral Particles: sc-37948-V and HAT1 shRNA (m) Lentiviral Particles: sc-145898-V.

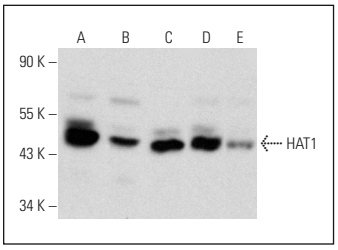
Molecular Weight of HAT1: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BT-20 cell lysate: sc-2223 or MCF7 whole cell lysate: sc-2206.

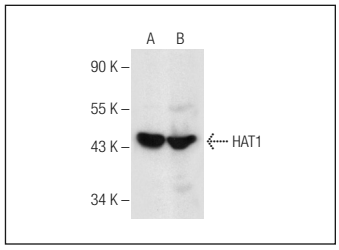
RECOMMENDED SUPPORT REAGENTS

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.

DATA



HAT1 (G-12): sc-376200. Western blot analysis of HAT1 expression in Jurkat (**A**), MCF7 (**B**), F9 (**C**), RBL-1 (**D**) and C6 (**E**) whole cell lysates.



HAT1 (G-12): sc-376200. Western blot analysis of HAT1 expression in HeLa (**A**) and BT-20 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, D., et al. 2013. Cigarette smoke component acrolein modulates chromatin assembly by inhibiting histone acetylation. J. Biol. Chem. 288: 21678-21687.
2. Zhang, Z., et al. 2015. Interferon regulatory factor 1 marks activated genes and can induce target gene expression in systemic lupus erythematosus. Arthritis Rheumatol. 67: 785-796.
3. Fang, L., et al. 2016. Mechanisms underlying acrolein-mediated inhibition of chromatin assembly. Mol. Cell. Biol. 36: 2995-3008.
4. Chen, D., et al. 2018. The effects of acetaldehyde exposure on histone modifications and chromatin structure in human lung bronchial epithelial cells. Environ. Mol. Mutagen. 59: 375-385.

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.