SANTA CRUZ BIOTECHNOLOGY, INC.

GCN5 (C-16): sc-6302

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 (for p300/CBP-associated factor), p300/CBP and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1) and HDAC2 (also designated mammalian RPD3), both of which are related to the yeast transcriptional regulator Rpd3p, have been identified as histone deacetylases.

REFERENCES

1. Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. Cell 72: 73-82.
2. Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. Genes Dev. 7: 592-604.
3. Brownell, J.E., et al. 1996. Tetrahymena histone acetyltransferase A: a homolog to yeast Gcn5p linking histone acetylation to gene activation. Cell 84: 843-851.
4. Yang, X.J., et al. 1996. A p300/CBP-associated factor that competes with the adenoviral oncoprotein E1A. Nature 382: 319-324.
5. Taunton, J., et al. 1996. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. Science 272: 408-411.
6. Yang, W.M., et al. 1996. Transcrip-tional repression by YY1 is mediated by interaction with a mammalian homolog of the yeast global regulator RPD3. Proc. Natl. Acad. Sci. USA 93: 12845-12850.

CHROMOSOMAL LOCATION

Genetic locus: KAT2A (human) mapping to 17q21.2; Kat2a (mouse) mapping to 11 D.

SOURCE

GCN5 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GCN5 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.

Blocking peptide available for competition studies, sc-6302 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GCN5 (C-16) is recommended for detection of GCN5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with PCAF.

GCN5 (C-16) is also recommended for detection of GCN5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GCN5 siRNA (h): sc-37946, GCN5 siRNA (m): sc-37947, GCN5 shRNA Plasmid (h): sc-37946-SH, GCN5 shRNA Plasmid (m): sc-37947-SH, GCN5 shRNA (h) Lentiviral Particles: sc-37946-V and GCN5 shRNA (m) Lentiviral Particles: sc-37947-V.

Molecular Weight of GCN5: 90 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, K-562 nuclear extract: sc-2130 or HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Vieyra, D., et al. 2002. Human ING1 proteins differentially regulate histone acetylation. J. Biol. Chem. 277: 29832-29839.
2. Memedula, S., et al. 2003. Sequential recruitment of HAT and SWI/SNF components to condensed chromatin by VP16. Curr. Biol. 13: 241-246.
3. Chen, H., et al. 2004. Amino acid deprivation induces the transcription rate of the human asparagine synthetase gene through a timed program of expression and promoter binding of nutrient-responsive basic region/leucine zipper transcription factors as well as localized histone acetylation. J. Biol. Chem. 279: 50829-50839.

RESEARCH USE

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