

GCN5 (h): 293T Lysate: sc-111723

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., Hayes, J.J., Pruss, D. and Wolffe, A.P. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. *Cell* 72: 73-82.
2. Braunstein, M., Rose, A.B., Holmes, S.G., Allis, C.D. and Broach, J.R. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. *Genes Dev.* 7: 592-604.
3. Bauer, W.R., Hayes, J.J., White, J.H. and Wolffe, A.P. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
4. Brownell, J.E., Zhou, J., Ranalli, T., Kobayashi, R., Edmondson, D.G., Roth, S.Y. and Allis, C.D. 1996. *Tetrahymena* histone acetyltransferase A: a homolog to yeast Gcn5p linking histone acetylation to gene activation. *Cell* 84: 843-851.
5. Yang, X.J., Ogryzko, V.V., Nishikawa, J.I., Howard, B.H. and Nakatani, Y. 1996. A p300/CBP-associated factor that competes with the adenoviral oncoprotein E1A. *Nature* 382: 319-324.
6. Taunton, J., Hassig, C.A. and Schreiber, S.L. 1996. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. *Science* 272: 408-411.
7. Yang, W.M., Inouye, C., Zeng, Y., Bearss, D. and Seto, E. 1996. Transcriptional 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.
8. Bartl, S., Taplick, J., Lagger, G., Khier, H., Kuchler, K. and Seiser, C. 1997. Identification of mouse histone deacetylase 1 as a growth factor-inducible gene. *Mol. Cell. Biol.* 17: 5033-5043.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: KAT2A (human) mapping to 17q21.2.

PRODUCT

GCN5 (h): 293T Lysate represents a lysate of human GCN5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

GCN5 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive GCN5 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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